

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY)	
UTILITIES COMPANY FOR AN ADJUSTMENT)	
OF ITS ELECTRIC RATES, A CERTIFICATE OF)	
PUBLIC CONVENIENCE AND NECESSITY TO)	CASE NO. 2020-00350
DEPLOY ADVANCED METERING)	
INFRASTRUCTURE, APPROVAL OF CERTAIN)	
REGULATORY AND ACCOUNTING)	
TREATMENTS, AND ESTABLISHMENT OF A)	
ONE-YEAR SUR-CREDIT)	

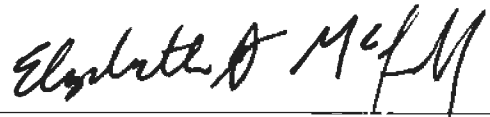
RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
COMMISSION STAFF'S EIGHTH REQUEST FOR INFORMATION
DATED AUGUST 3, 2021

FILED: AUGUST 13, 2021

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Elizabeth J. McFarland**, being duly sworn, deposes and says that she is Vice President, Transmission for Louisville Gas and Electric Company and Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge, and belief.



Elizabeth J. McFarland

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 11th day of August 2021.

 (SEAL)
Notary Public

Notary Public, ID No. **603967**

My Commission Expires:

July 11, 2022

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 1

Responding Witness: Robert M. Conroy

- Q-1. Refer to the Supplemental Testimony of Robert M. Conroy (Supplemental Conroy Testimony), page 10, lines 16–20. Explain why LG&E is removing the lines that tie NMS-2 compensation to Rider SQF rates and, instead maintaining a fixed \$/kWh, even when the SQF 2-year rates change.
- A-1. The Companies filed their applications in these proceedings in November 2020, including their proposal to link NMS-2 compensation to SQF rates. Subsequently, the Commission issued orders in the recent Kentucky Power Company rate case and in these proceedings specifying an approach to net metering compensation rates, i.e., the seven avoided cost component approach plus a consideration of jobs and economic development impacts. Most of the eight total net metering compensation components do not apply to QF rates under 807 KAR 5:054, which defines avoided costs as the “incremental costs to an electric utility of electric energy or capacity or both which, if not for the purchase from the qualifying facility, the utility would generate itself or purchase from another source.” Therefore, the Companies are now proposing not to link NMS-2 compensation to SQF such that NMS-2 rates would automatically change every two years when QF rates are updated, but rather to adjust NMS-2 compensation rates in base rate cases when all of the Commission’s cost categories can be fully evaluated.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 2

Responding Witness: Robert M. Conroy

- Q-2. Refer to the Supplemental Testimony of William Steven Seelye (Supplemental Seelye Testimony) in general.-3- Case No. 2020-00350
- a. Confirm whether LG&E is still proposing an instantaneous netting approach for NMS-2 customers. In other words, confirm whether customer-generators will only be able to “self-supply”, i.e., use their own production kWh to offset their billed consumption kWh, during the precise intervals when their generators are producing. If LG&E is not proposing instantaneous netting, explain the proposed netting approach in detail and provide a numerical example.
 - b. Explain whether LG&E is proposing to compensate at the avoided cost export rate all excess generation that customer-generators supply to the grid, or whether the excess kWh generation will directly reduce billed kWh during other time intervals when consumption exceeds production.
 - c. In the first day of the billing period, from 12–1 p.m., if a customer-generator produces 10 kWh and consumes only 7 kWh, explain whether the customer will be able to utilize those excess 3 kWh to offset their billable kWh later in the evening.
- A-2. The definition of “Net Metering” contained in contained in KRS 278.465(4) and as used in KRS 278.465 to 278.468 is:
- (4) "Net metering" means the difference between the:
 - (a) Dollar value of all electricity generated by an eligible customer-generator that is fed back to the electric grid over a billing period and priced as prescribed in KRS 278.466; and
 - (b) Dollar value of all electricity consumed by the eligible customer-generator over the same billing period and priced using the applicable tariff of the retail electric supplier.

Thus the “netting” is no longer based on a one-to-one (1:1) kilowatt-hour denominated energy credit and is in the form of a dollar-denominated bill credit (See KRS 278.466(4)).

- a. Confirmed. The Companies’ proposal remains that NMS-2 customers be compensated at NMS-2 rates for every kWh supplied to the Companies’ grid. See the responses to Joint Intervenors 1-3, KSIA 1-17, and Joint Intervenors 2-27.
- b. See the response to part a.
- c. In this example, assuming 3 kWh is the amount of energy produced to the Companies’ grid in that hour, the Companies would compensate the customer at the NMS-2 compensation rate for 3 kWh. The Companies would not use the 3 kWh excess energy to offset the customer’s prior or future consumption. Such a kWh energy offset goes against the definition of net metering contained in KRS 278.465(4).

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 3

Responding Witness: William Steven Seelye / David S. Sinclair

Q-3. Refer to the Supplemental Seelye Testimony, page 2, lines 12–14. Mr. Seelye states loss of load probability (LOLP) “is a key measure that has been used by KU and LG&E for many years to plan their generation resources.”

- a. Describe how and why the LOLP is useful for generation resource planning.
- b. Describe how LG&E calculates LOLPs for generation planning and how those values are an input in planning processes.
- c. Provide the number of years LOLP values have been calculated by LG&E, and how these values have change based on differences in planned generation resources.
- d. Provide the LOLP values that LG&E has calculated for each year of the planning time horizon, in this case and within LG&E's previous IRPs. Provide all workpapers for calculating LOLP values and all workpapers using those values in the planning process.

A-3.

- a. In generation resource planning, the Companies primarily rely on reserve margin analysis based on winter and summer peak demands to develop their generation resource plans. The Companies use a metric related to LOLP -- loss-of-load events (“LOLE”) -- to aid in the identification of target reserve margins and to assess the likelihood that the Companies' existing generation fleet can reliably serve load.

Specifically, the Companies use LOLEs to maintain consistency in the selection of the high-end reserve margins used in resource planning. In the 2014 and 2018 IRP reserve margin analysis, the Companies examined high-end reserve margins that would meet a 1-in-10 LOLE (i.e., one loss of load event in ten years). Neither LOLP nor LOLE is used to determine which generation resources have the lowest reasonable cost. See pages 19-20 of the Supplemental Rebuttal Testimony of David Sinclair and page 3 of Supplemental Rebuttal Exhibit DSS-3.

Hourly LOLPs for a test year with normal temperatures, as was used in Mr. Barnes's proposed fixed cost allocation scheme, are not used in the determination of the Companies' target reserve margin range. From a generation planning perspective, LOLPs for a forecasted test year based on normal temperatures are too heavily skewed to summer peak hours for use in the analysis of reserve margins. In the Companies' service territory, annual peak demands occur both in summer and winter months, with the greatest risk of the highest demands, and the greatest consequence from loss-of-load events, such as are analyzed in the Companies' IRP, occurring during the winter months. See page 18 of the Mr. Sinclair's Supplemental Rebuttal Testimony.

In its Order in these proceedings dated June 30, 2021, the Commission rejected the use of LOLP to allocate fixed production costs, stating, "The Commission concludes that LOLP methodology raises significant questions regarding reliability due to the significant quantity of data inputs, most of which are estimated forecasts."

- b. The Companies use Hitachi ABB's Power System Production Simulation Software, PROSYM, to calculate hourly LOLP. See the response to AG 1-121. For descriptions of methodologies used to calculate LOLP, see R. Billinton, "Bibliography on the Application of Probability Method in Power System Reliability" IEEE Transactions, vol. PAS-91, pp. 649-660, 1972; and R. Billinton, "Power System Reliability Evaluation, New York: Gordon and Breach, Science Publishers, 1970. See the response to part (a).
- c. The Companies have used LOLE for seven years, since the 2014 IRP. The upper end of the target reserve margin range increased from 21% to 25% in the 2018 IRP due primarily to an increase in the assumed variability of winter peak demands. All other things equal, resource additions would have the effect of decreasing LOLE and resource retirements would have the effect of increasing LOLE.
- d. The Companies have not calculated the requested LOLP values. See the response to part (a). The response to AG-KIUC 1-122(a) provides the hourly LOLP for the period July 2021 through June 2022.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 4

Responding Witness: William Steven Seelye

- Q-4. Refer to the Supplemental Seelye Testimony in general. In regards to the LOLP, explain whether LG&E has historically used the LOLP to calculate a Loss of Load Expectation (LOLE) or Expected Load Carrying Capacity (ELCC) for distributed resources.
- A-4. No. The Companies' use LOLP to calculate loss-of-load events to aid in the selection of the high-end reserve margins used in resource planning. See the response to Question No. 3. The Companies have not performed a Loss of Load Expectation or Expected Load Carrying Capacity study for distributed resources.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 5

Responding Witness: Elizabeth J. McFarland / John K. Wolfe

Q-5. Refer to the Supplemental Seelye Testimony, page 26, line 6, and page 27, lines 17–18. Explain how LG&E determines what transmission and distribution plant investment is related to load growth. Provide all workpapers and documents used to support this position. Also provide the source of all planning information and calculations (including supporting filings and internal analysis), with page numbers or cell references, as applicable.

A-5. Transmission:

All Transmission Expansion Plan (“TEP”) projects included in the 2021 Business Plan determined to add incremental capacity or voltage support to serve the load forecasts for LG&E/KU retail load on the transmission network were assumed to be transmission plant investments related to load growth.

TEP projects are the result of an annual assessment (i.e., Transmission Expansion Plan) required by TPL-001 of the NERC Reliability Standards. The Companies perform this annual assessment per the Companies’ Transmission Planning Guidelines, as accepted by the Independent Transmission Organization (“ITO”), TranServ International. When completed, the assessment is delivered to the ITO for final approval. This process is outlined in the Companies’ Open Access Transmission Tariff (“OATT”).

See attachments - NERC TPL Standard, Transmission Planning Guidelines, and the OATT. See the attachment to Question No. 6 for a Project List. See the response to PSC 6-25 for the TEP.

Distribution:

See attachments provided in response to PSC 5-16 and Question No. 18, and the response to Question No. 21.b.

A. Introduction

1. **Title:** Transmission System Planning Performance Requirements
2. **Number:** TPL-001-4
3. **Purpose:** Establish Transmission system planning performance requirements within the planning horizon to develop a Bulk Electric System (BES) that will operate reliably over a broad spectrum of System conditions and following a wide range of probable Contingencies.
4. **Applicability:**
 - 4.1. **Functional Entity**
 - 4.1.1. Planning Coordinator.
 - 4.1.2. Transmission Planner.
5. **Effective Date:** Requirements R1 and R7 as well as the definitions shall become effective on the first day of the first calendar quarter, 12 months after applicable regulatory approval. In those jurisdictions where regulatory approval is not required, Requirements R1 and R7 become effective on the first day of the first calendar quarter, 12 months after Board of Trustees adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

Except as indicated below, Requirements R2 through R6 and Requirement R8 shall become effective on the first day of the first calendar quarter, 24 months after applicable regulatory approval. In those jurisdictions where regulatory approval is not required, all requirements, except as noted below, go into effect on the first day of the first calendar quarter, 24 months after Board of Trustees adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

For 84 calendar months beginning the first day of the first calendar quarter following applicable regulatory approval, or in those jurisdictions where regulatory approval is not required on the first day of the first calendar quarter 84 months after Board of Trustees adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities, Corrective Action Plans applying to the following categories of Contingencies and events identified in TPL-001-4, Table 1 are allowed to include Non-Consequential Load Loss and curtailment of Firm Transmission Service (in accordance with Requirement R2, Part 2.7.3.) that would not otherwise be permitted by the requirements of TPL-001-4:

- P1-2 (for controlled interruption of electric supply to local network customers connected to or supplied by the Faulted element)
- P1-3 (for controlled interruption of electric supply to local network customers connected to or supplied by the Faulted element)
- P2-1
- P2-2 (above 300 kV)
- P2-3 (above 300 kV)
- P3-1 through P3-5
- P4-1 through P4-5 (above 300 kV)
- P5 (above 300 kV)

B. Requirements

R1. Each Transmission Planner and Planning Coordinator shall maintain System models within its respective area for performing the studies needed to complete its Planning Assessment. The models shall use data consistent with that provided in accordance with the MOD-010 and MOD-012 standards, supplemented by other sources as needed, including items represented in the Corrective Action Plan, and shall represent projected System conditions. This establishes Category P0 as the normal System condition in Table 1. [*Violation Risk Factor: High*] [*Time Horizon: Long-term Planning*]

1.1. System models shall represent:

1.1.1. Existing Facilities

1.1.2. Known outage(s) of generation or Transmission Facility(ies) with a duration of at least six months.

1.1.3. New planned Facilities and changes to existing Facilities

1.1.4. Real and reactive Load forecasts

1.1.5. Known commitments for Firm Transmission Service and Interchange

1.1.6. Resources (supply or demand side) required for Load

R2. Each Transmission Planner and Planning Coordinator shall prepare an annual Planning Assessment of its portion of the BES. This Planning Assessment shall use current or qualified past studies (as indicated in Requirement R2, Part 2.6), document assumptions, and document summarized results of the steady state analyses, short circuit analyses, and Stability analyses. [*Violation Risk Factor: High*] [*Time Horizon: Long-term Planning*]

2.1. For the Planning Assessment, the Near-Term Transmission Planning Horizon portion of the steady state analysis shall be assessed annually and be supported by current annual studies or qualified past studies as indicated in Requirement R2, Part 2.6. Qualifying studies need to include the following conditions:

2.1.1. System peak Load for either Year One or year two, and for year five.

2.1.2. System Off-Peak Load for one of the five years.

2.1.3. P1 events in Table 1, with known outages modeled as in Requirement R1, Part 1.1.2, under those System peak or Off-Peak conditions when known outages are scheduled.

2.1.4. For each of the studies described in Requirement R2, Parts 2.1.1 and 2.1.2, sensitivity case(s) shall be utilized to demonstrate the impact of changes to the basic assumptions used in the model. To accomplish this, the sensitivity analysis in the Planning Assessment must vary one or more of the following conditions by a sufficient amount to stress the System within a range of credible conditions that demonstrate a measurable change in System response :

- Real and reactive forecasted Load.
- Expected transfers.
- Expected in service dates of new or modified Transmission Facilities.
- Reactive resource capability.
- Generation additions, retirements, or other dispatch scenarios.

- Controllable Loads and Demand Side Management.
 - Duration or timing of known Transmission outages.
- 2.1.5.** When an entity's spare equipment strategy could result in the unavailability of major Transmission equipment that has a lead time of one year or more (such as a transformer), the impact of this possible unavailability on System performance shall be studied. The studies shall be performed for the P0, P1, and P2 categories identified in Table 1 with the conditions that the System is expected to experience during the possible unavailability of the long lead time equipment.
- 2.2.** For the Planning Assessment, the Long-Term Transmission Planning Horizon portion of the steady state analysis shall be assessed annually and be supported by the following annual current study, supplemented with qualified past studies as indicated in Requirement R2, Part 2.6:
- 2.2.1.** A current study assessing expected System peak Load conditions for one of the years in the Long-Term Transmission Planning Horizon and the rationale for why that year was selected.
- 2.3.** The short circuit analysis portion of the Planning Assessment shall be conducted annually addressing the Near-Term Transmission Planning Horizon and can be supported by current or past studies as qualified in Requirement R2, Part 2.6. The analysis shall be used to determine whether circuit breakers have interrupting capability for Faults that they will be expected to interrupt using the System short circuit model with any planned generation and Transmission Facilities in service which could impact the study area.
- 2.4.** For the Planning Assessment, the Near-Term Transmission Planning Horizon portion of the Stability analysis shall be assessed annually and be supported by current or past studies as qualified in Requirement R2, Part 2.6. The following studies are required:
- 2.4.1.** System peak Load for one of the five years. System peak Load levels shall include a Load model which represents the expected dynamic behavior of Loads that could impact the study area, considering the behavior of induction motor Loads. An aggregate System Load model which represents the overall dynamic behavior of the Load is acceptable.
- 2.4.2.** System Off-Peak Load for one of the five years.
- 2.4.3.** For each of the studies described in Requirement R2, Parts 2.4.1 and 2.4.2, sensitivity case(s) shall be utilized to demonstrate the impact of changes to the basic assumptions used in the model. To accomplish this, the sensitivity analysis in the Planning Assessment must vary one or more of the following conditions by a sufficient amount to stress the System within a range of credible conditions that demonstrate a measurable change in performance:
- Load level, Load forecast, or dynamic Load model assumptions.
 - Expected transfers.
 - Expected in service dates of new or modified Transmission Facilities.
 - Reactive resource capability.
 - Generation additions, retirements, or other dispatch scenarios.

- 2.5. For the Planning Assessment, the Long-Term Transmission Planning Horizon portion of the Stability analysis shall be assessed to address the impact of proposed material generation additions or changes in that timeframe and be supported by current or past studies as qualified in Requirement R2, Part 2.6 and shall include documentation to support the technical rationale for determining material changes.
- 2.6. Past studies may be used to support the Planning Assessment if they meet the following requirements:
 - 2.6.1. For steady state, short circuit, or Stability analysis: the study shall be five calendar years old or less, unless a technical rationale can be provided to demonstrate that the results of an older study are still valid.
 - 2.6.2. For steady state, short circuit, or Stability analysis: no material changes have occurred to the System represented in the study. Documentation to support the technical rationale for determining material changes shall be included.
- 2.7. For planning events shown in Table 1, when the analysis indicates an inability of the System to meet the performance requirements in Table 1, the Planning Assessment shall include Corrective Action Plan(s) addressing how the performance requirements will be met. Revisions to the Corrective Action Plan(s) are allowed in subsequent Planning Assessments but the planned System shall continue to meet the performance requirements in Table 1. Corrective Action Plan(s) do not need to be developed solely to meet the performance requirements for a single sensitivity case analyzed in accordance with Requirements R2, Parts 2.1.4 and 2.4.3. The Corrective Action Plan(s) shall:
 - 2.7.1. List System deficiencies and the associated actions needed to achieve required System performance. Examples of such actions include:
 - Installation, modification, retirement, or removal of Transmission and generation Facilities and any associated equipment.
 - Installation, modification, or removal of Protection Systems or Special Protection Systems
 - Installation or modification of automatic generation tripping as a response to a single or multiple Contingency to mitigate Stability performance violations.
 - Installation or modification of manual and automatic generation runback/tripping as a response to a single or multiple Contingency to mitigate steady state performance violations.
 - Use of Operating Procedures specifying how long they will be needed as part of the Corrective Action Plan.
 - Use of rate applications, DSM, new technologies, or other initiatives.
 - 2.7.2. Include actions to resolve performance deficiencies identified in multiple sensitivity studies or provide a rationale for why actions were not necessary.
 - 2.7.3. If situations arise that are beyond the control of the Transmission Planner or Planning Coordinator that prevent the implementation of a Corrective Action Plan in the required timeframe, then the Transmission Planner or Planning Coordinator is permitted to utilize Non-Consequential Load Loss and curtailment of Firm Transmission Service to correct the situation that would normally not be permitted in Table 1, provided that the Transmission Planner

or Planning Coordinator documents that they are taking actions to resolve the situation. The Transmission Planner or Planning Coordinator shall document the situation causing the problem, alternatives evaluated, and the use of Non-Consequential Load Loss or curtailment of Firm Transmission Service.

- 2.7.4. Be reviewed in subsequent annual Planning Assessments for continued validity and implementation status of identified System Facilities and Operating Procedures.
- 2.8. For short circuit analysis, if the short circuit current interrupting duty on circuit breakers determined in Requirement R2, Part 2.3 exceeds their Equipment Rating, the Planning Assessment shall include a Corrective Action Plan to address the Equipment Rating violations. The Corrective Action Plan shall:
 - 2.8.1. List System deficiencies and the associated actions needed to achieve required System performance.
 - 2.8.2. Be reviewed in subsequent annual Planning Assessments for continued validity and implementation status of identified System Facilities and Operating Procedures.
- R3. For the steady state portion of the Planning Assessment, each Transmission Planner and Planning Coordinator shall perform studies for the Near-Term and Long-Term Transmission Planning Horizons in Requirement R2, Parts 2.1, and 2.2. The studies shall be based on computer simulation models using data provided in Requirement R1. [*Violation Risk Factor: Medium*] [*Time Horizon: Long-term Planning*]
 - 3.1. Studies shall be performed for planning events to determine whether the BES meets the performance requirements in Table 1 based on the Contingency list created in Requirement R3, Part 3.4.
 - 3.2. Studies shall be performed to assess the impact of the extreme events which are identified by the list created in Requirement R3, Part 3.5.
 - 3.3. Contingency analyses for Requirement R3, Parts 3.1 & 3.2 shall:
 - 3.3.1. Simulate the removal of all elements that the Protection System and other automatic controls are expected to disconnect for each Contingency without operator intervention. The analyses shall include the impact of subsequent:
 - 3.3.1.1. Tripping of generators where simulations show generator bus voltages or high side of the generation step up (GSU) voltages are less than known or assumed minimum generator steady state or ride through voltage limitations. Include in the assessment any assumptions made.
 - 3.3.1.2. Tripping of Transmission elements where relay loadability limits are exceeded.
 - 3.3.2. Simulate the expected automatic operation of existing and planned devices designed to provide steady state control of electrical system quantities when such devices impact the study area. These devices may include equipment such as phase-shifting transformers, load tap changing transformers, and switched capacitors and inductors.
 - 3.4. Those planning events in Table 1, that are expected to produce more severe System impacts on its portion of the BES, shall be identified and a list of those Contingencies

to be evaluated for System performance in Requirement R3, Part 3.1 created. The rationale for those Contingencies selected for evaluation shall be available as supporting information.

- 3.4.1. The Planning Coordinator and Transmission Planner shall coordinate with adjacent Planning Coordinators and Transmission Planners to ensure that Contingencies on adjacent Systems which may impact their Systems are included in the Contingency list.
- 3.5. Those extreme events in Table 1 that are expected to produce more severe System impacts shall be identified and a list created of those events to be evaluated in Requirement R3, Part 3.2. The rationale for those Contingencies selected for evaluation shall be available as supporting information. If the analysis concludes there is Cascading caused by the occurrence of extreme events, an evaluation of possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts of the event(s) shall be conducted.
- R4.** For the Stability portion of the Planning Assessment, as described in Requirement R2, Parts 2.4 and 2.5, each Transmission Planner and Planning Coordinator shall perform the Contingency analyses listed in Table 1. The studies shall be based on computer simulation models using data provided in Requirement R1. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]*
 - 4.1. Studies shall be performed for planning events to determine whether the BES meets the performance requirements in Table 1 based on the Contingency list created in Requirement R4, Part 4.4.
 - 4.1.1. For planning event P1: No generating unit shall pull out of synchronism. A generator being disconnected from the System by fault clearing action or by a Special Protection System is not considered pulling out of synchronism.
 - 4.1.2. For planning events P2 through P7: When a generator pulls out of synchronism in the simulations, the resulting apparent impedance swings shall not result in the tripping of any Transmission system elements other than the generating unit and its directly connected Facilities.
 - 4.1.3. For planning events P1 through P7: Power oscillations shall exhibit acceptable damping as established by the Planning Coordinator and Transmission Planner.
 - 4.2. Studies shall be performed to assess the impact of the extreme events which are identified by the list created in Requirement R4, Part 4.5.
 - 4.3. Contingency analyses for Requirement R4, Parts 4.1 and 4.2 shall :
 - 4.3.1. Simulate the removal of all elements that the Protection System and other automatic controls are expected to disconnect for each Contingency without operator intervention. The analyses shall include the impact of subsequent:
 - 4.3.1.1. Successful high speed (less than one second) reclosing and unsuccessful high speed reclosing into a Fault where high speed reclosing is utilized.
 - 4.3.1.2. Tripping of generators where simulations show generator bus voltages or high side of the GSU voltages are less than known or assumed generator low voltage ride through capability. Include in the assessment any assumptions made.

Table 1 – Steady State & Stability Performance Planning Events

Steady State & Stability:

- a. The System shall remain stable. Cascading and uncontrolled islanding shall not occur.
- b. Consequential Load Loss as well as generation loss is acceptable as a consequence of any event excluding P0.
- c. Simulate the removal of all elements that Protection Systems and other controls are expected to automatically disconnect for each event.
- d. Simulate Normal Clearing unless otherwise specified.
- e. Planned System adjustments such as Transmission configuration changes and re-dispatch of generation are allowed if such adjustments are executable within the time duration applicable to the Facility Ratings.

Steady State Only:

- f. Applicable Facility Ratings shall not be exceeded.
- g. System steady state voltages and post-Contingency voltage deviations shall be within acceptable limits as established by the Planning Coordinator and the Transmission Planner.
- h. Planning event P0 is applicable to steady state only.
- i. The response of voltage sensitive Load that is disconnected from the System by end-user equipment associated with an event shall not be used to meet steady state performance requirements.

Stability Only:

- j. Transient voltage response shall be within acceptable limits established by the Planning Coordinator and the Transmission Planner.

Category	Initial Condition	Event ¹	Fault Type ²	BES Level ³	Interruption of Firm Transmission Service Allowed ⁴	Non-Consequential Load Loss Allowed
P0 No Contingency	Normal System	None	N/A	EHV, HV	No	No
P1 Single Contingency	Normal System	Loss of one of the following: 1. Generator 2. Transmission Circuit 3. Transformer ⁵ 4. Shunt Device ⁶	3Ø	EHV, HV	No ⁹	No ¹²
		5. Single Pole of a DC line	SLG			
P2 Single Contingency	Normal System	1. Opening of a line section w/o a fault ⁷	N/A	EHV, HV	No ⁹	No ¹²
		2. Bus Section Fault	SLG	EHV	No ⁹	No
				HV	Yes	Yes
		3. Internal Breaker Fault ⁸ (non-Bus-tie Breaker)	SLG	EHV	No ⁹	No
HV	Yes			Yes		
4. Internal Breaker Fault (Bus-tie Breaker) ⁸	SLG	EHV, HV	Yes	Yes		

Category	Initial Condition	Event ¹	Fault Type ²	BES Level ³	Interruption of Firm Transmission Service Allowed ⁴	Non-Consequential Load Loss Allowed
P3 Multiple Contingency	Loss of generator unit followed by System adjustments ⁹	Loss of one of the following: 1. Generator 2. Transmission Circuit 3. Transformer ⁵ 4. Shunt Device ⁶	3Ø	EHV, HV	No ⁹	No ¹²
		5. Single pole of a DC line	SLG			
P4 Multiple Contingency (Fault plus stuck breaker ¹⁰)	Normal System	Loss of multiple elements caused by a stuck breaker ¹⁰ (non-Bus-tie Breaker) attempting to clear a Fault on one of the following: 1. Generator 2. Transmission Circuit 3. Transformer ⁵ 4. Shunt Device ⁶ 5. Bus Section	SLG	EHV	No ⁹	No
		6. Loss of multiple elements caused by a stuck breaker ¹⁰ (Bus-tie Breaker) attempting to clear a Fault on the associated bus		SLG	HV	Yes
		Delayed Fault Clearing due to the failure of a non-redundant relay ¹³ protecting the Faulted element to operate as designed, for one of the following: 1. Generator 2. Transmission Circuit 3. Transformer ⁵ 4. Shunt Device ⁶ 5. Bus Section	SLG	EHV, HV	Yes	Yes
P5 Multiple Contingency (Fault plus relay failure to operate)	Normal System	Delayed Fault Clearing due to the failure of a non-redundant relay ¹³ protecting the Faulted element to operate as designed, for one of the following: 1. Generator 2. Transmission Circuit 3. Transformer ⁵ 4. Shunt Device ⁶ 5. Bus Section	SLG	EHV	No ⁹	No
				HV	Yes	Yes
P6 Multiple Contingency (Two overlapping singles)	Loss of one of the following followed by System adjustments. ⁹ 1. Transmission Circuit 2. Transformer ⁵ 3. Shunt Device ⁶ 4. Single pole of a DC line	Loss of one of the following: 1. Transmission Circuit 2. Transformer ⁵ 3. Shunt Device ⁶	3Ø	EHV, HV	Yes	Yes
		4. Single pole of a DC line	SLG	EHV, HV	Yes	Yes

Category	Initial Condition	Event ¹	Fault Type ²	BES Level ³	Interruption of Firm Transmission Service Allowed ⁴	Non-Consequential Load Loss Allowed
P7 Multiple Contingency (Common Structure)	Normal System	The loss of: 1. Any two adjacent (vertically or horizontally) circuits on common structure ¹¹ 2. Loss of a bipolar DC line	SLG	EHV, HV	Yes	Yes

Table 1 – Steady State & Stability Performance Extreme Events

Table 1 – Steady State & Stability Performance Extreme Events	
<p>Steady State & Stability For all extreme events evaluated:</p> <ol style="list-style-type: none"> a. Simulate the removal of all elements that Protection Systems and automatic controls are expected to disconnect for each Contingency. b. Simulate Normal Clearing unless otherwise specified. 	
<p>Steady State</p> <ol style="list-style-type: none"> 1. Loss of a single generator, Transmission Circuit, single pole of a DC Line, shunt device, or transformer forced out of service followed by another single generator, Transmission Circuit, single pole of a different DC Line, shunt device, or transformer forced out of service prior to System adjustments. 2. Local area events affecting the Transmission System such as: <ol style="list-style-type: none"> a. Loss of a tower line with three or more circuits.¹¹ b. Loss of all Transmission lines on a common Right-of-Way¹¹. c. Loss of a switching station or substation (loss of one voltage level plus transformers). d. Loss of all generating units at a generating station. e. Loss of a large Load or major Load center. 3. Wide area events affecting the Transmission System based on System topology such as: <ol style="list-style-type: none"> a. Loss of two generating stations resulting from conditions such as: <ol style="list-style-type: none"> i. Loss of a large gas pipeline into a region or multiple regions that have significant gas-fired generation. ii. Loss of the use of a large body of water as the cooling source for generation. iii. Wildfires. iv. Severe weather, e.g., hurricanes, tornadoes, etc. v. A successful cyber attack. vi. Shutdown of a nuclear power plant(s) and related facilities for a day or more for common causes such as problems with similarly designed plants. b. Other events based upon operating experience that may result in wide area disturbances. 	<p>Stability</p> <ol style="list-style-type: none"> 1. With an initial condition of a single generator, Transmission circuit, single pole of a DC line, shunt device, or transformer forced out of service, apply a 3Ø fault on another single generator, Transmission circuit, single pole of a different DC line, shunt device, or transformer prior to System adjustments. 2. Local or wide area events affecting the Transmission System such as: <ol style="list-style-type: none"> a. 3Ø fault on generator with stuck breaker¹⁰ or a relay failure¹³ resulting in Delayed Fault Clearing. b. 3Ø fault on Transmission circuit with stuck breaker¹⁰ or a relay failure¹³ resulting in Delayed Fault Clearing. c. 3Ø fault on transformer with stuck breaker¹⁰ or a relay failure¹³ resulting in Delayed Fault Clearing. d. 3Ø fault on bus section with stuck breaker¹⁰ or a relay failure¹³ resulting in Delayed Fault Clearing. e. 3Ø internal breaker fault. f. Other events based upon operating experience, such as consideration of initiating events that experience suggests may result in wide area disturbances

**Table 1 – Steady State & Stability Performance Footnotes
(Planning Events and Extreme Events)**

1. If the event analyzed involves BES elements at multiple System voltage levels, the lowest System voltage level of the element(s) removed for the analyzed event determines the stated performance criteria regarding allowances for interruptions of Firm Transmission Service and Non-Consequential Load Loss.
2. Unless specified otherwise, simulate Normal Clearing of faults. Single line to ground (SLG) or three-phase (3Ø) are the fault types that must be evaluated in Stability simulations for the event described. A 3Ø or a double line to ground fault study indicating the criteria are being met is sufficient evidence that a SLG condition would also meet the criteria.
3. Bulk Electric System (BES) level references include extra-high voltage (EHV) Facilities defined as greater than 300kV and high voltage (HV) Facilities defined as the 300kV and lower voltage Systems. The designation of EHV and HV is used to distinguish between stated performance criteria allowances for interruption of Firm Transmission Service and Non-Consequential Load Loss.
4. Curtailment of Conditional Firm Transmission Service is allowed when the conditions and/or events being studied formed the basis for the Conditional Firm Transmission Service.
5. For non-generator step up transformer outage events, the reference voltage, as used in footnote 1, applies to the low-side winding (excluding tertiary windings). For generator and Generator Step Up transformer outage events, the reference voltage applies to the BES connected voltage (high-side of the Generator Step Up transformer). Requirements which are applicable to transformers also apply to variable frequency transformers and phase shifting transformers.
6. Requirements which are applicable to shunt devices also apply to FACTS devices that are connected to ground.
7. Opening one end of a line section without a fault on a normally networked Transmission circuit such that the line is possibly serving Load radial from a single source point.
8. An internal breaker fault means a breaker failing internally, thus creating a System fault which must be cleared by protection on both sides of the breaker.
9. An objective of the planning process should be to minimize the likelihood and magnitude of interruption of Firm Transmission Service following Contingency events. Curtailment of Firm Transmission Service is allowed both as a System adjustment (as identified in the column entitled 'Initial Condition') and a corrective action when achieved through the appropriate re-dispatch of resources obligated to re-dispatch, where it can be demonstrated that Facilities, internal and external to the Transmission Planner's planning region, remain within applicable Facility Ratings and the re-dispatch does not result in any Non-Consequential Load Loss. Where limited options for re-dispatch exist, sensitivities associated with the availability of those resources should be considered.
10. A stuck breaker means that for a gang-operated breaker, all three phases of the breaker have remained closed. For an independent pole operated (IPO) or an independent pole tripping (IPT) breaker, only one pole is assumed to remain closed. A stuck breaker results in Delayed Fault Clearing.
11. Excludes circuits that share a common structure (Planning event P7, Extreme event steady state 2a) or common Right-of-Way (Extreme event, steady state 2b) for 1 mile or less.
12. An objective of the planning process is to minimize the likelihood and magnitude of Non-Consequential Load Loss following planning events. In limited circumstances, Non-Consequential Load Loss may be needed throughout the planning horizon to ensure that BES performance requirements are met. However, when Non-Consequential Load Loss is utilized under footnote 12 within the Near-Term Transmission Planning Horizon to address BES performance requirements, such interruption is limited to circumstances where the Non-Consequential Load Loss meets the conditions shown in Attachment 1. In no case can the planned Non-Consequential Load Loss under footnote 12 exceed 75 MW for US registered entities. The amount of planned Non-Consequential Load Loss for a non-US Registered Entity should be implemented in a manner that is consistent with, or under the direction of, the applicable governmental authority or its agency in the non-US jurisdiction.
13. Applies to the following relay functions or types: pilot (#85), distance (#21), differential (#87), current (#50, 51, and 67), voltage (#27 & 59), directional (#32, &

Table 1 – Steady State & Stability Performance Footnotes
(Planning Events and Extreme Events)

67), and tripping (#86, & 94).

Attachment 1

I. Stakeholder Process

During each Planning Assessment before the use of Non-Consequential Load Loss under footnote 12 is allowed as an element of a Corrective Action Plan in the Near-Term Transmission Planning Horizon of the Planning Assessment, the Transmission Planner or Planning Coordinator shall ensure that the utilization of footnote 12 is reviewed through an open and transparent stakeholder process. The responsible entity can utilize an existing process or develop a new process. The process must include the following:

1. Meetings must be open to affected stakeholders including applicable regulatory authorities or governing bodies responsible for retail electric service issues
2. Notice must be provided in advance of meetings to affected stakeholders including applicable regulatory authorities or governing bodies responsible for retail electric service issues and include an agenda with:
 - a. Date, time, and location for the meeting
 - b. Specific location(s) of the planned Non-Consequential Load Loss under footnote 12
 - c. Provisions for a stakeholder comment period
3. Information regarding the intended purpose and scope of the proposed Non-Consequential Load Loss under footnote 12 (as shown in Section II below) must be made available to meeting participants
4. A procedure for stakeholders to submit written questions or concerns and to receive written responses to the submitted questions and concerns
5. A dispute resolution process for any question or concern raised in #4 above that is not resolved to the stakeholder's satisfaction

An entity does not have to repeat the stakeholder process for a specific application of footnote 12 utilization with respect to subsequent Planning Assessments unless conditions spelled out in Section II below have materially changed for that specific application.

II. Information for Inclusion in Item #3 of the Stakeholder Process

The responsible entity shall document the planned use of Non-Consequential Load Loss under footnote 12 which must include the following:

1. Conditions under which Non-Consequential Load Loss under footnote 12 would be necessary:
 - a. System Load level and estimated annual hours of exposure at or above that Load level
 - b. Applicable Contingencies and the Facilities outside their applicable rating due to that Contingency
2. Amount of Non-Consequential Load Loss with:
 - a. The estimated number and type of customers affected

- b. An explanation of the effect of the use of Non-Consequential Load Loss under footnote 12 on the health, safety, and welfare of the community
3. Estimated frequency of Non-Consequential Load Loss under footnote 12 based on historical performance
4. Expected duration of Non-Consequential Load Loss under footnote 12 based on historical performance
5. Future plans to alleviate the need for Non-Consequential Load Loss under footnote 12
6. Verification that TPL Reliability Standards performance requirements will be met following the application of footnote 12
7. Alternatives to Non-Consequential Load Loss considered and the rationale for not selecting those alternatives under footnote 12
8. Assessment of potential overlapping uses of footnote 12 including overlaps with adjacent Transmission Planners and Planning Coordinators

III. Instances for which Regulatory Review of Non-Consequential Load Loss under Footnote 12 is Required

Before a Non-Consequential Load Loss under footnote 12 is allowed as an element of a Corrective Action Plan in Year One of the Planning Assessment, the Transmission Planner or Planning Coordinator must ensure that the applicable regulatory authorities or governing bodies responsible for retail electric service issues do not object to the use of Non-Consequential Load Loss under footnote 12 if either:

1. The voltage level of the Contingency is greater than 300 kV
 - a. If the Contingency analyzed involves BES Elements at multiple System voltage levels, the lowest System voltage level of the element(s) removed for the analyzed Contingency determines the stated performance criteria regarding allowances for Non-Consequential Load Loss under footnote 12, or
 - b. For a non-generator step up transformer outage Contingency, the 300 kV limit applies to the low-side winding (excluding tertiary windings). For a generator or generator step up transformer outage Contingency, the 300 kV limit applies to the BES connected voltage (high-side of the Generator Step Up transformer)
2. The planned Non-Consequential Load Loss under footnote 12 is greater than or equal to 25 MW

Once assurance has been received that the applicable regulatory authorities or governing bodies responsible for retail electric service issues do not object to the use of Non-Consequential Load Loss under footnote 12, the Planning Coordinator or Transmission Planner must submit the information outlined in items II.1 through II.8 above to the ERO for a determination of whether there are any Adverse Reliability Impacts caused by the request to utilize footnote 12 for Non-Consequential Load Loss.

C. Measures

- M1.** Each Transmission Planner and Planning Coordinator shall provide evidence, in electronic or hard copy format, that it is maintaining System models within their respective area, using data consistent with MOD-010 and MOD-012, including items represented in the Corrective Action Plan, representing projected System conditions, and that the models represent the required information in accordance with Requirement R1.
- M2.** Each Transmission Planner and Planning Coordinator shall provide dated evidence, such as electronic or hard copies of its annual Planning Assessment, that it has prepared an annual Planning Assessment of its portion of the BES in accordance with Requirement R2.
- M3.** Each Transmission Planner and Planning Coordinator shall provide dated evidence, such as electronic or hard copies of the studies utilized in preparing the Planning Assessment, in accordance with Requirement R3.
- M4.** Each Transmission Planner and Planning Coordinator shall provide dated evidence, such as electronic or hard copies of the studies utilized in preparing the Planning Assessment in accordance with Requirement R4.
- M5.** Each Transmission Planner and Planning Coordinator shall provide dated evidence such as electronic or hard copies of the documentation specifying the criteria for acceptable System steady state voltage limits, post-Contingency voltage deviations, and the transient voltage response for its System in accordance with Requirement R5.
- M6.** Each Transmission Planner and Planning Coordinator shall provide dated evidence, such as electronic or hard copies of documentation specifying the criteria or methodology used in the analysis to identify System instability for conditions such as Cascading, voltage instability, or uncontrolled islanding that was utilized in preparing the Planning Assessment in accordance with Requirement R6.
- M7.** Each Planning Coordinator, in conjunction with each of its Transmission Planners, shall provide dated documentation on roles and responsibilities, such as meeting minutes, agreements, and e-mail correspondence that identifies that agreement has been reached on individual and joint responsibilities for performing the required studies and Assessments in accordance with Requirement R7.
- M8.** Each Planning Coordinator and Transmission Planner shall provide evidence, such as email notices, documentation of updated web pages, postal receipts showing recipient and date; or a demonstration of a public posting, that it has distributed its Planning Assessment results to adjacent Planning Coordinators and adjacent Transmission Planners within 90 days of having completed its Planning Assessment, and to any functional entity who has indicated a reliability need within 30 days of a written request and that the Planning Coordinator or Transmission Planner has provided a documented response to comments received on Planning Assessment results within 90 calendar days of receipt of those comments in accordance with Requirement R8.

D. Compliance

1. Compliance Monitoring Process

1.1 Compliance Enforcement Authority

Regional Entity

1.2 Compliance Monitoring Period and Reset Timeframe

Not applicable.

1.3 Compliance Monitoring and Enforcement Processes:

Compliance Audits
Self-Certifications
Spot Checking
Compliance Violation Investigations
Self-Reporting
Complaints

1.4 Data Retention

The Transmission Planner and Planning Coordinator shall each retain data or evidence to show compliance as identified unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The models utilized in the current in-force Planning Assessment and one previous Planning Assessment in accordance with Requirement R1 and Measure M1.
- The Planning Assessments performed since the last compliance audit in accordance with Requirement R2 and Measure M2.
- The studies performed in support of its Planning Assessments since the last compliance audit in accordance with Requirement R3 and Measure M3.
- The studies performed in support of its Planning Assessments since the last compliance audit in accordance with Requirement R4 and Measure M4.
- The documentation specifying the criteria for acceptable System steady state voltage limits, post-Contingency voltage deviations, and transient voltage response since the last compliance audit in accordance with Requirement R5 and Measure M5.
- The documentation specifying the criteria or methodology utilized in the analysis to identify System instability for conditions such as Cascading, voltage instability, or uncontrolled islanding in support of its Planning Assessments since the last compliance audit in accordance with Requirement R6 and Measure M6.
- The current, in force documentation for the agreement(s) on roles and responsibilities, as well as documentation for the agreements in force since the last compliance audit, in accordance with Requirement R7 and Measure M7.

The Planning Coordinator shall retain data or evidence to show compliance as identified unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- Three calendar years of the notifications employed in accordance with Requirement R8 and Measure M8.

If a Transmission Planner or Planning Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant or the time periods specified above, whichever is longer.

1.5 Additional Compliance Information

None

2. Violation Severity Levels

	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	The responsible entity's System model failed to represent one of the Requirement R1, Parts 1.1.1 through 1.1.6.	The responsible entity's System model failed to represent two of the Requirement R1, Parts 1.1.1 through 1.1.6.	The responsible entity's System model failed to represent three of the Requirement R1, Parts 1.1.1 through 1.1.6.	The responsible entity's System model failed to represent four or more of the Requirement R1, Parts 1.1.1 through 1.1.6. OR The responsible entity's System model did not represent projected System conditions as described in Requirement R1. OR The responsible entity's System model did not use data consistent with that provided in accordance with the MOD-010 and MOD-012 standards and other sources, including items represented in the Corrective Action Plan.
R2	The responsible entity failed to comply with Requirement R2, Part 2.6.	The responsible entity failed to comply with Requirement R2, Part 2.3 or Part 2.8.	The responsible entity failed to comply with one of the following Parts of Requirement R2: Part 2.1, Part 2.2, Part 2.4, Part 2.5, or Part 2.7.	The responsible entity failed to comply with two or more of the following Parts of Requirement R2: Part 2.1, Part 2.2, Part 2.4, or Part 2.7. OR The responsible entity does not have a completed annual Planning Assessment.
R3	The responsible entity did not identify planning events as described in Requirement R3, Part 3.4 or extreme events as described in Requirement R3, Part 3.5.	The responsible entity did not perform studies as specified in Requirement R3, Part 3.1 to determine that the BES meets the performance requirements for one of the categories (P2 through P7) in Table 1.	The responsible entity did not perform studies as specified in Requirement R3, Part 3.1 to determine that the BES meets the performance requirements for two of the categories (P2 through P7) in	The responsible entity did not perform studies as specified in Requirement R3, Part 3.1 to determine that the BES meets the performance requirements for three or more of the categories (P2 through P7) in Table 1.

	Lower VSL	Moderate VSL	High VSL	Severe VSL
		OR The responsible entity did not perform studies as specified in Requirement R3, Part 3.2 to assess the impact of extreme events.	Table 1. OR The responsible entity did not perform Contingency analysis as described in Requirement R3, Part 3.3.	OR The responsible entity did not perform studies to determine that the BES meets the performance requirements for the P0 or P1 categories in Table 1. OR The responsible entity did not base its studies on computer simulation models using data provided in Requirement R1.
R4	The responsible entity did not identify planning events as described in Requirement R4, Part 4.4 or extreme events as described in Requirement R4, Part 4.5.	The responsible entity did not perform studies as specified in Requirement R4, Part 4.1 to determine that the BES meets the performance requirements for one of the categories (P1 through P7) in Table 1. OR The responsible entity did not perform studies as specified in Requirement R4, Part 4.2 to assess the impact of extreme events.	The responsible entity did not perform studies as specified in Requirement R4, Part 4.1 to determine that the BES meets the performance requirements for two of the categories (P1 through P7) in Table 1. OR The responsible entity did not perform Contingency analysis as described in Requirement R4, Part 4.3.	The responsible entity did not perform studies as specified in Requirement R4, Part 4.1 to determine that the BES meets the performance requirements for three or more of the categories (P1 through P7) in Table 1. OR The responsible entity did not base its studies on computer simulation models using data provided in Requirement R1.
R5	N/A	N/A	N/A	The responsible entity does not have criteria for acceptable System steady state voltage limits, post-Contingency voltage deviations, or the transient voltage response for its System.
R6	N/A	N/A	N/A	The responsible entity failed to define and document the criteria or methodology for System instability used within its analysis as described in Requirement R6.

	Lower VSL	Moderate VSL	High VSL	Severe VSL
R7	N/A	N/A	N/A	The Planning Coordinator, in conjunction with each of its Transmission Planners, failed to determine and identify individual or joint responsibilities for performing required studies.
R8	<p>The responsible entity distributed its Planning Assessment results to adjacent Planning Coordinators and adjacent Transmission Planners but it was more than 90 days but less than or equal to 120 days following its completion.</p> <p>OR,</p> <p>The responsible entity distributed its Planning Assessment results to functional entities having a reliability related need who requested the Planning Assessment in writing but it was more than 30 days but less than or equal to 40 days following the request.</p>	<p>The responsible entity distributed its Planning Assessment results to adjacent Planning Coordinators and adjacent Transmission Planners but it was more than 120 days but less than or equal to 130 days following its completion.</p> <p>OR,</p> <p>The responsible entity distributed its Planning Assessment results to functional entities having a reliability related need who requested the Planning Assessment in writing but it was more than 40 days but less than or equal to 50 days following the request.</p>	<p>The responsible entity distributed its Planning Assessment results to adjacent Planning Coordinators and adjacent Transmission Planners but it was more than 130 days but less than or equal to 140 days following its completion.</p> <p>OR,</p> <p>The responsible entity distributed its Planning Assessment results to functional entities having a reliability related need who requested the Planning Assessment in writing but it was more than 50 days but less than or equal to 60 days following the request.</p>	<p>The responsible entity distributed its Planning Assessment results to adjacent Planning Coordinators and adjacent Transmission Planners but it was more than 140 days following its completion.</p> <p>OR</p> <p>The responsible entity did not distribute its Planning Assessment results to adjacent Planning Coordinators and adjacent Transmission Planners.</p> <p>OR</p> <p>The responsible entity distributed its Planning Assessment results to functional entities having a reliability related need who requested the Planning Assessment in writing but it was more than 60 days following the request.</p> <p>OR</p> <p>The responsible entity did not distribute its Planning Assessment results to functional entities having a reliability related need who requested the Planning Assessment in writing.</p>

E. Regional Variances

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	February 8, 2005	BOT Approval	Revised
0	June 3, 2005	Fixed reference in M1 to read TPL-001-0 R2.1 and TPL-001-0 R2.2	Errata
0	July 24, 2007	Corrected reference in M1. to read TPL-001-0 R1 and TPL-001-0 R2.	Errata
0.1	October 29, 2008	BOT adopted errata changes; updated version number to "0.1"	Errata
0.1	May 13, 2009	FERC Approved – Updated Effective Date and Footer	Revised
1	Approved by Board of Trustees February 17, 2011	Revised footnote 'b' pursuant to FERC Order RM06-16-009	Revised (Project 2010-11)
2	August 4, 2011	Revision of TPL-001-1; includes merging and upgrading requirements of TPL-001-0, TPL-002-0, TPL-003-0, and TPL-004-0 into one, single, comprehensive, coordinated standard: TPL-001-2; and retirement of TPL-005-0 and TPL-006-0.	Project 2006-02 – complete revision
2	August 4, 2011	Adopted by Board of Trustees	
1	April 19, 2012	FERC issued Order 762 remanding TPL-001-1, TPL-002-1b, TPL-003-1a, and TPL-004-1. FERC also issued a NOPR proposing to remand TPL-001-2. NERC has been directed to revise footnote 'b' in accordance with the directives of Order Nos. 762 and 693.	
3	February 7, 2013	Adopted by the NERC Board of Trustees. TPL-001-3 was created after the Board of Trustees approved the revised footnote 'b' in TPL-002-2b, which was balloted and appended to: TPL-001-0.1, TPL-002-0b, TPL-003-0a, and TPL-004-0.	
4	February 7, 2013	Adopted by the NERC Board of Trustees. TPL-001-4 was adopted by the Board of Trustees as TPL-001-3, but a discrepancy in numbering was identified and corrected prior to filing with the regulatory agencies.	
4	October 17, 2013	FERC Order issued approving TPL-001-4 (Order effective December 23, 2013).	
4	May 7, 2014	NERC Board of Trustees adopted change to VRF in Requirement 1 from Medium to High.	Revision
4	November 26, 2014	FERC issued a letter order approving change to VRF in	

		Requirement 1 from Medium to High.	
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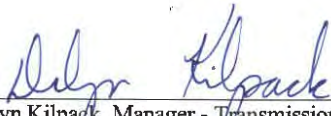
Planning Coordinator and/or Transmission Planner

**TRANSMISSION SYSTEM PLANNING
GUIDELINES**

Effective Date: November 20, 2020

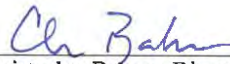
TRANSMISSION SYSTEM PLANNING GUIDELINES

Approved by:



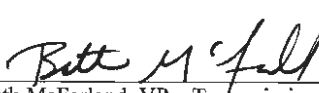
Delyn Kilpack, Manager - Transmission Strategy & Planning

Date: 11/9/2020



Christopher Balmer, Director - Transmission Strategy & Planning

Date: 11/16/2020



Beth McFarland, VP - Transmission

Date: 11/19/20

Revision History

Date	Version	Description
November 20, 2020	19.0	Updated signature page. Revised language so the off-peak model can be anytime in Near Term. Updated the outside world generator contingency list. Removed expired language in section 10.6.
October 29, 2019	18.0	Clarified language for identifying 90/10 projects. Revised language for the Generation Replacement scenarios. Various other sections were modified to enhance clarity.
September 28, 2018	17.0	Revised language for material change in the 10 year stability model requirement to accommodate the RC request from the 2018 TEP. Added language for technical rationale in selecting contingencies which result in more severe impacts to the BES. Removed maximum TSR import and export studies per change to OATT Attachment C. Change from BCS models to starting point models. Added switch shunt outages since new 138 kV capacitor will be added. Added language for identifying 90/10 projects.
September 11, 2017	16.0	Various sections were modified to enhance clarity; pointed reader to NERC Glossary terms; added filtering criteria in Section 6.1; made changes to the off-peak model; removed NITS capacity sensitivity scenario. Effective for the 2018 TEP and Planning Assessment performed in 2017 and 2019 TEP and Planning Assessment performed in 2018
September 28, 2016	15.0	Make changes for MOD-032 data requests. Change identification of Cascading/Instability; Correct error in 7.7.1 that says "single line to ground". Clarify which 69 kV buses are monitored for voltage (Section 8.2); corrected angular stability in Section 8.3.1; made criteria for generator synchronism match TPL-001-4 (Section 8.3.5 through 8.3.7).
September 15, 2015	14.0	Section 1: applicability to 2015 TEP removed; section 5.4 details of load scenarios described; section 5.6 DNR changed to NITS capacity; added section 5.8 to described ratings in off-peak models; removed unnecessary paragraph 5.10.1; section 5.12 added language in case ERAG models are late; section 6 and 6.7 removed flowgate analysis requirement; added section 6.2.1.1 details of sensitivity study requirements; section 6.6 added language to match TPL-001-4 2.5; section 6.7 added NITS capacity sensitivity study; previous section 8.2 "Corrective Action Plan" moved to new section 10; section 8.2 added clarification for TPL-001-4 footnote 12; revised stability criteria to accommodate load inductor model section 8 and 9.2; RC requested changes to Instability Identification Section 9.1 and 9.2.
October 30, 2014	13.0	Make corrections; section 5.8, 5.10, 6.4, 7.2, 7.5.2, 8.2, Attachment A
July 30, 2014	12.0	Changes required to address new TPL-001-4 standard

Date	Version	Description
December 30, 2013	11.0	Correct error in footnote 13 on page 8
December 20, 2013	10.0	General Update; added detail to multiple sections to provide clarification
September 1, 2012	9.0	General Update; Added detail to stability analysis section
November 30, 2010	8.0	Changed Company name from E.ON to LG&E/KU; edited to match other guidelines; added detail to stability section
August 14, 2009	7.0	Added statement reiterating comparable treatment of service requests per FERC Order.
July 1, 2008	6.0	Updated performance requirements and incorporated SOL Methodology
May 1, 2008	5.0	Added effective date, signatures, Revision History, Contingency Selection criteria, updated Tables 2 & 3 and updated certain references
September 11, 2007	4.0	Added section describing how Guidelines exceed NERC requirements
May 7, 2007	3.0	Better quantified thermal overload and voltage violations and added Section 4 – Impacted Facilities
March 1, 2007	2.0	Added NERC Categories to Table 1 and expanded
March 11, 2005	1.0	Expanded Table 1
June 6, 1998	0.0	Initial LG&E/KU document to establish guidelines applicable to both LG&E/KU

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1 Purpose

This *Transmission System Planning Guidelines* Document (this “Document”) describes the requirements for planning Louisville Gas & Electric Company and Kentucky Utilities Company’s (collectively “LG&E/KU”) Transmission System and related Transmission Expansion Plan (“TEP”). This Document is developed in accordance with NERC Reliability Standard TPL-001-4. LG&E/KU is registered as both a Planning Coordinator (“PC”) and Transmission Planner (“TP”). The LG&E/KU Transmission Planning Group performs the functions for both the PC and TP. This Document establishes the minimum planning criteria for the LG&E/KU Transmission System, including equipment and facilities operated at 69 kV and above.

2 Overview

The primary purpose of LG&E/KU's Transmission System is to reliably transmit electrical energy from Designated Network Resources to Network Loads. Interconnections to other transmission systems have been established to increase the reliability of LG&E/KU's Transmission System and to provide access to emergency generation sources for Network Customers.

The Federal Energy Regulatory Commission (“FERC”) requires all public utilities that own, control or operate facilities used for transmitting electric energy in interstate commerce have a non-discriminatory Open Access Transmission Tariff (“OATT”). LG&E/KU have an OATT on file with FERC to provide Point to Point Transmission Service and Network Integration Transmission Service.

3 NERC Reliability Standards Compliance

NERC Reliability Standard TPL-001-4 governs the requirements for planning the interconnected Bulk Electric System (BES) such that the network can be operated to supply real and reactive forecasted loads and projected Firm (non-recallable reserved) Transmission Services. LG&E and KU's Transmission System Planning Guidelines is intended to meet or exceed the requirements of TPL-001-4.

4 Definitions

The following is a list of NERC definitions used in these Planning Guidelines and can be found in the NERC Glossary or the TPL-001-4 Standard:

Balancing Authority (BA)
Bulk Electric System (BES)
Bus-tie Breaker
Cascading

Capacity Benefit Margin (CBM)
Consequential Load
Contingency
Corrective Action Plan(s)
Demand Side Management (DSM)
Element
Extra High Voltage (EHV)
Facility
Facility Rating
Fault:
Firm Transmission Service
High Voltage (HV)
Load
Load Serving Entity (LSE)
Long-Term Transmission Planning Horizon
Near-Term Transmission Planning Horizon:
Network Integration Transmission Service
Non-Consequential Load Loss
Off-Peak
On-Peak
Operating Reserve
Planning Assessment
Planning Authority
Planning Coordinator (PC)
Point to Point Transmission Service
Protection System
Real-time Assessment
Resource Planner
Scenario
Special Protection System (SPS) or Remedial Action Scheme
Stability
System
Transmission
Transmission Reliability Margin (TRM)
Transmission Planner (TP)
Year One

The following are LG&E/KU defined terms:

50/50 Load Forecast: On Peak Demand which represents a 50% probability of Load being higher than forecast and 50% probability of Load being lower than forecast

90/10 Load Forecast: Loads for more extreme weather and On-Peak Demand have a 90% probability of being below this forecast and a 10% probability of being higher than this forecast.

Starting Point Models: A set of models which includes year two for summer peak, winter peak; year five for summer peak, winter peak; and year ten for summer peak, winter peak, plus one Near Term off peak model. The models are developed using the MOD-032 data received using a 50/50 and 90/10 Load Forecast. The Starting Point Models do not include revisions for Long Lead items, Sensitivities as described in TPL-001-4 2.1.4 and 2.4.3 or Other Models as described in these Planning Guidelines.

NITS Capacity: Maximum net capacity for each resource over the 10 year horizon as submitted by the Network Customer in their annual 10 year forecast submitted in compliance with MOD-032. See *LG&E/KU Business Practices* for additional information.

Extreme Event Report: Report of the results for the extreme events studies for TPL-001-4 Table 1 extreme events.

5 Models

This section describes the models that are built for compliance with TPL-001-4. NERC has defined Year One as, “*The first twelve month period that a Planning Coordinator or a Transmission Planner is responsible for assessing. For an assessment started in a given calendar year, Year One includes the forecasted peak Load period for one of the following two calendar years. For example, if a Planning Assessment was started in 2011, then Year One includes the forecast peak Load period for either 2012 or 2013.*” Based on this, LG&E/KU has elected to utilize year two and year five for the near-term models and a year ten model for the Long-Term Transmission Planning Horizon.

5.1 Normal System Condition Models

In accordance with TPL-001-4 R1, LG&E/KU maintains normal System condition models for its respective area in order to perform the studies needed to satisfy TPL-001-4. The models use data consistent with data collected via MOD-032 (which has superseded the now retired MOD-010 and MOD-012 standards), supplemented by other sources as needed, and shall represent projected System conditions. The process for developing the steady state and stability models are described in this section. Normal System condition models shall include:

- Existing Elements¹: model of 69 kV and above lines, transformers, substations etc. Some 34.5 kV will be modeled.
- Known Outage (s) of generation or Transmission facilities described in Section 5.2 below.
- New planned Elements and Facilities and changes to existing Elements and Facilities as described in Section 5.3 below.
- Real and Reactive Forecasted Load as described in Section 5.4 below.

¹ TPL-001-4 1.1.1

- Known commitments for Firm Transmission Service as described in Section 5.5 below.
- Resources (supply or demand side) required for Load as described in Section 5.6 below.

The models represent normal System conditions and must meet the performance requirements of TPL-001-4 Table 1 Category P0.² The applicable Facility Rating for TPL-001-4 Table 1 Category P0 is the seasonal Normal Rating also known as Rate A in the PSS/E software. For purposes of these Planning Guidelines the Normal System Condition Models are called Starting Point Models and include Forecasted Loads that represent 50/50 and 90/10 peak Load Forecast defined above as well as Off-Peak models. The models using the 90/10 peak Load Forecast meet the sensitivity study requirements per TPL-001-4 part 2.1.4 and 2.4.3.

5.2 Known Outages

Known outages in the Near -Term Transmission Planning Horizon of either generation or transmission Elements and Facilities with an outage duration of at least six months will be modeled in separate cases as necessary for the seasons and years in which the outage is scheduled in both the System Peak and Off-Peak models³. Models will be developed, and an assessment of the System with these outages will be completed by analyzing P0 and P1 planning events in Table 1 of TPL-001-4⁴. A list of facilities with an outage duration longer than six months are supplied by the GO and TO to the PC through the MOD-032 data submittal.

5.3 New and Existing Elements and Facilities

The steady state and stability models developed will include projects as documented in the Planning Assessment including new planned Elements and Facilities and changes to existing and planned Elements and Facilities.⁵ All projects that were completed after the completion of the previous year's TEP will be included in the Starting Point Models. Prior TEP projects under construction are included in the Starting Point Models.

Since the group that performs the functions for the LG&E/KU TP also performs the functions for the LG&E/KU PC, there is no need for a MOD-032 data submittal from the LG&E/KU TP to PC for new planned Elements and Facilities.

5.4 Real and Reactive Forecasted Load

² TPL-001-4 R1

³ TPL-001-4 1.1.2

⁴ TPL-001-4 2.1.3

⁵ TPL-001-4 1.1.3

Load Serving Entities (LSEs) and Distribution Providers submit delivery point load forecast for real power and power factor per the MOD-032 data submittal. The reactive load is calculated with the real power and power factor by the TP. The LSE load forecast for network load levels are included in the models.⁶

Load forecasts are typically provided for the following conditions:

- Summer and Winter Peak – 50/50 peak forecast
- Summer and Winter Peak – 90/10 peak forecast
- Off-Peak⁷ –
 - 60% of the 50/50 summer scalable peak Load Forecast or forecasted load for a 60 degree ambient temperature; ratings of Facilities are based on a 60 degree Fahrenheit ambient temperature. Some customers have non-scalable loads which are the same during On-Peak or Off-Peak seasons
 - Light Load – Lowest loads typically observed in the middle of the night or early morning on a spring day (e.g., Easter morning)
 - Summer Shoulder – 70% to 80% of summer peak load

Additional forecasts may be requested on an as needed basis. The alternative delivery points are not considered guaranteed (firm) delivery points and should not be included in the load forecast.

5.5 Transmission Service Request (TSR)

For both steady state and stability models, firm transmission service requests that are annual, confirmed, and have a contract period of five or more years are included⁸ in the models when there is enough generation resources to support the TSR. A list of the TSRs included in the Starting Point Models are documented in the Planning Assessment report. Confirmed Firm TSRs with a contract period of five or more years that are not included in the models will be evaluated per Section 6.8 “Other Studies” of this Document.

TSR information is supplied to the LG&E/KU PC from the MOD-032 data submittal and OASIS.

5.6 Real Power Resource Modeling

This section applies to real power resource modeling of units connected to the LG&E/KU transmission system.

⁶ TPL-001-4 1.1.4

⁷ TPL-001-4 2.1.2; not all Off-Peak models are analyzed in the Planning Assessment but are required for SERC and other groups.

⁸ TPL-001-4 1.1.5

The real power resource modeling, for generating units connected to the LG&E/KU transmission system, for steady state and stability models is provided by GO and/or RP, and includes capabilities for both On-Peak and Off-Peak Scenarios⁹. Off-Peak Scenarios are described in Section 5.4 “Real and Reactive Forecasted Load”. The generation that is on-line initially comes from a merit order that is also provided to the TP by the RP. Operating Reserves are modeled if sufficient generation is available. The process of modeling Operating Reserves dispatches large units (20 MW or greater) to some value less than their maximum output, so that the sum total of available output for online units meets or exceeds the reserve requirements.

Maximum output will be the value provided by the Generator Owner (GO) in their MOD-032 data submittal or the Network Integrated Transmission Service (NITS) Capacity value posted on the LG&E/KU OASIS plus firm point to point transmission, whichever is lower except in the case of Solar Generating units. Units are dispatched using the Merit Order (MO) provided by the RP in their MOD-032 data submittal.

Solar Generating units attached to the LG&E/KU transmission system will be modeled at output expected for the time of day represented by the load forecasted in the model. Solar units will be modeled at 100% output during the off-peak models, 80% output in the summer peak models, and 0% output in the winter peak and light load models.

There could be instances where there are not enough generation resources identified in MOD-032 submittals to cover the load for any LSE of the LG&E and KU Transmission System, particularly in the Long-Term Transmission Planning Horizon. In those instances, the TP may choose to model a future expected generating unit, fictitious generating Facility, energy imports, or the use of any other generation resources to serve LSE load. The TP will not utilize these options solely to meet Operating Reserves.

5.7 Reactive Power Resource Modeling¹⁰

This section applies to reactive power resource modeling of units connected to the LG&E/KU transmission system.

The reactive power resource capability for the steady state and stability models is supplied by the Generator Owner (GO) and/or RP to the LG&E/KU PC per the MOD-032 data submittal. The transmission level voltage at the power plants will be regulated in the Starting Point Models to the target voltage in Table 1 of the LG&E/KU *Voltage and Reactive Power Schedule (VAR-001)* document. The Voltage and Reactive Power Schedules are supplied to the PC from the TOP per the MOD-032 data submittal.

Capacitor banks will be modeled with the actual control voltages (or typical settings for future installations) at which the capacitor bank turns on and off for voltage regulation.

⁹ TPL-001-4 1.1.6

¹⁰ TPL-001-4 1.1.6

5.8 Facility Ratings

Facility Ratings are based on the ambient temperature in the seasonal models. The TP models Facility Ratings based on the following ambient temperatures:

- Summer Peak: 104°F
- Winter Peak: 23°F
- Light Load: 60°F
- Off-Peak: 60°F

The LG&E/KU PC has access to the LG&E/KU Transmission Owner Facility Ratings through LOAD database. Generator Owner Facility Ratings are provided to the TP/PC through a MOD-032 data submittal.

5.9 Starting Point Models

Steady state Starting Point Models are developed for Near-Term Transmission Planning Horizon and Long-Term Transmission Planning Horizon.

Each model in the Starting Point Models contains a detailed representation of the LG&E/KU PC Area from 69 kV through 500 kV.

Portions of the models outside the LG&E/KU model area are taken from the most recent NERC Eastern Interconnection Reliability Assessment Group (ERAG) Base Case Series. The specific ERAG model used will be the same time-frame as, or a model nearest the time-frame of the target model being built. LG&E/KU may coordinate models with neighboring TPs, and may alter their Systems in the ERAG models to reflect that coordination.

Steady State models are developed for winter On-Peak, summer On-Peak and Off-Peak Load conditions. Transmission Starting Point Models for steady state analysis are developed on an annual basis to reflect the most current information and assumptions available concerning the modeling of future years' System load level and load distribution (provided by the LSE) and generation (provided by the GO). Generation levels must not exceed the NITS Capacity levels. The forecasted loads must not exceed 5 MW higher than the previous year's forecast for the same season and year without a confirmed TSR for a 69 kV load or 10 MW on a BES load per the business practices posted on OASIS. Generation and/or load will be capped, if MOD-032 data exceeds what is allowed in the business practices.

The Starting Point Models contain existing system topology and ratings with added changes for projects under construction.

Steady state models in the Near-Term Transmission Planning Horizon will include summer and winter On-Peak load models for year two and year five¹¹; a single Off-Peak model in

¹¹ TPL-001-4 2.1.1

the Near Term. Long-term Transmission Planning Horizon On-Peak Load models will generally include year ten only. A year ten model is considered more severe since it is expected that the loads will be higher in year ten than in years six through nine¹².

Starting Point Models with an upto date list of projects under-construction and completed projects since the prior TEP will be provided to the ITO for review as soon as available after all data checks are complete.

Starting Point Models are the starting point for the annual Planning Assessment, and are used for the development of the TEP.

5.10 Final Planning Assessment Models

At the completion of the annual Planning Assessment, TEP projects are identified and timed. A set of final models are created which includes the projects in the TEP for use in future studies. Both steady state, stability and short circuit final models are created. At the completion of the Planning Assessment process, the final models are delivered to both the Reliability Coordinator (RC) and the ITO.

5.11 Stability Models

Stability models are developed using the final steady state models described in Section 5.10 “Final Planning Assessment Models” which include the steady state projects identified in the current Planning Assessment. Stability models are developed for summer On-Peak and Off-Peak conditions. Year two and year five On-Peak models and one Off-Peak model in the Near-Term Transmission Planning Horizon will be developed. A single year ten stability On-Peak model will be built for the Long-Term Transmission Planning Horizon.

A minimum of at least one stability model with maximized generation, utilizing the generation interconnection capacity (GIC) values (posted on OASIS), within the LG&E/KU BA will be developed. The LG&E/KU Business Practices document posted on OASIS defines GIC. Other stability models may be developed as necessary. The GIC maximized generation model is the sensitivity meeting requirements of TPL-001-4 R2.4.3 related to 2.4.1. An Off-Peak stability model in the Near Term Transmission Planning Horizon with changes in generation dispatch is developed to meet requirements of TPL-001-4 R2.4.3 related to 2.4.2. Corrective Action Plans will be identified to meet the performance requirements of TPL-001-4 in the GIC Maximized Model. The GIC maximized model is described in the business practice posted on OASIS.

The LG&E/KU dynamics parameters are also updated to the latest available data. Per MOD-026 and MOD-027, dynamics data can be revised as a result of actual tests performed on the generator owners’ equipment providing this does not violate the GO’s

¹² TPL-001-4 2.2.1

LGIA for that particular unit. Test results revising the stability data as a result of MOD-026 and MOD-027 tests must be received by the PC no later than the MOD-032 due date for stability data in order to be incorporated into the models during that Planning Assessment.

All dynamics models are tested under no-fault conditions to ensure that voltage and rotor angles have no oscillation (flat line) for twenty seconds.

The stability models for areas outside LG&E/KU transmission System for the Planning Assessment come from the ERAG MMWG set of models. Currently, ERAG is the designee for model development in the eastern interconnection (MOD-032-1 R4). The ERAG stability models have roots in a previous year's ERAG steady state models. The ERAG dynamic models from the previous year will be utilized for the outside world.

The ERAG stability models are updated within the LG&E/KU BA with the most recent load forecast. Generation levels use merit order and also incorporate Operating Reserves as described in Section 5.6 "Real Power Resource Modeling".

The final stability models will match the topology of the steady state models for the LG&E/KU PC Area. Due to the ERAG Dynamic Model Building process, the outside world may not match between the stability and steady state models.

5.12 Short Circuit Models

LG&E/KU maintains a perpetually updated short circuit model that reflects the current topology of the LG&E/KU Transmission System with Elements and Facilities in their normal status. LG&E/KU participates in the SERC Short Circuit Database Working Group (SCDWG) process in which a SERC regional model is developed annually, in accordance with the SCDWG procedure manual. The procedure manual requires models be developed for the Near-Term Transmission Planning Horizon and Long-Term Transmission Planning Horizon and the SCDWG coordinates its schedules with the SERC Multi-Regional Modeling Working Group (MMWG) process. In conjunction with SCDWG process, LG&E/KU incorporates a reduction of the most recent SCDWG near-term model each year to represent the Transmission Network outside LG&E/KU, and also incorporates a current detailed model of East Kentucky Power Cooperative (EKPC) short circuit model during the annual update.

The current short circuit model is used to perform the annual breaker duty study of the current Transmission System¹³. It will be modified as needed to perform other ad hoc studies, including, where appropriate, replacing the outside world model with a reduced SCDWG long-term model.

The short circuit model is limited to one model in the Near-Term Transmission Planning Horizon and one model in the Long-Term Transmission Planning Horizon.

¹³ TPL-001-4 2.3

6 Annual Planning Assessment per TPL-001-4 R2

LG&E/KU conducts an annual Planning Assessment in order to plan the Transmission System to meet performance requirements in TPL-001-4. The annual Planning Assessment includes analysis of both the Near-Term Transmission Planning Horizon and Long-Term Transmission Planning Horizon. The Planning Assessment simulates contingencies for steady state, Stability analysis, and short circuit studies¹⁴. Due to load differences between the near term and long term, a Stability analysis will be performed on a ten year On-Peak model.¹⁵

6.1 Non-BES Annual Assessment

The *LG&E/KU BES Definition* document does not include any 69 kV Facilities. BES transformers are those transformers with a primary and at least one secondary voltage operated above 100 kV. An annual planning assessment of the 69 kV facilities is performed for the Near-Term and Long-Term Transmission Planning Horizon. The 69 kV facilities are planned to meet performance requirements for P0, P1 and P3 of TPL-001-4 Table 1. The 69 kV facilities are not monitored and faults on 69 kV is not performed in the stability analysis. There are no 69 kV contingencies analyzed in steady state analysis of P2, P4-P7 and extreme events nor are 69 kV facilities monitored for these events.

The non-BES annual Planning Assessment may utilize a qualified past study or a current study to meet the requirements of TPL-001-4 Table 1 P0, P1 and P3. If a qualified past study is used, it must meet the requirements of TPL-001-4 2.6. Material changes in determination of a qualified past study would include whether the past study reasonably represents the system today. If a qualified past study is used, the study reports will be included as attachments in the Planning Assessment.

6.2 Steady State BES Assessment for the Near-Term Transmission Planning Horizon

The Planning Assessment in the Near-Term Transmission Planning Horizon will include steady state analysis of the BES based on computer simulations of contingency events¹⁶. The study is performed using computer simulations of planning and extreme events to determine whether the BES meets the performance requirements of TPL-001-4 Table 1¹⁷. The contingency selection for the planning events is discussed in section 7 “Contingencies” of this document. The annual Planning Assessment for the Near-Term Transmission Planning Horizon may utilize a qualified past study or a current study to meet the requirements of TPL-001-4. If used, a qualified past study must meet the requirements of TPL-001-4 part 2.6. Material changes in determination of a qualified past study would

¹⁴ TPL-001-4 2.3

¹⁵ TPL-001-4 2.5

¹⁶ TPL-001-4 R3

¹⁷ TPL-001-4 3.1

include substantial changes to the System represented in the study. If a qualified past study is used, the prior study reports will be included as attachments in the Planning Assessment report. The Near-Term Transmission Planning Horizon assessment will simulate P1 through P7 planning events and extreme events for BES Facilities using the performance requirements of TPL-001-4 Table 1¹⁸. In the event that the Contingency analyzed does not meet the respective performance requirements of TPL-001-4 Table 1 P1 through P7, a Corrective Action Plan(s) will be developed. The Corrective Action Plan(s) are documented in the Planning Assessment report.

The extreme event analysis for Near-Term Transmission Planning Horizon will use the identification of System instability for conditions such as Cascading, voltage instability, or uncontrolled islanding criteria described in section 9 “System Instability Criteria Methodology.” If the extreme event shows potential for System instability, then an evaluation of possible actions designed to reduce the likelihood or mitigate the consequences is conducted and documented in the Extreme Event Report.

6.2.1 Steady State Sensitivity Studies for Near-Term Transmission Planning Horizon

The Near-Term Transmission Planning Horizon portion of the steady state analysis will include an assessment of at least one of the following varying conditions¹⁹:

- Real and reactive forecasted Load
- Expected transfers not included in the Starting Point Models
- Expected in service dates of new or modified Transmission facilities that may or may not have all required approvals.
- Reactive resource capability.
- Generation additions that have not yet completed a large generation interconnection agreement and/or anticipated retirement of generation not yet announced.
- Controllable Loads and Demand Side Management (modeled in selected Off-Peak).
- Duration or timing of known Transmission outages (when outages are known to occur in the Near-Term or Long Term Transmission Planning Horizon).

¹⁸ TPL-001-4 3.2

¹⁹ TPL-001-4 2.1.4

For the sensitivity portion, the Planning Assessment may utilize a qualified past study or a current study to meet the requirements of TPL-001-4. A qualified past study must meet the requirements of TPL-001-4 2.6. Material changes in determination of a qualified past study would include substantial changes to the System represented in the study. If a qualified past study is used, the lack of material changes justifying the past study will be documented in the Planning Assessment. If a qualified past study is used, the study reports from the previous Planning Assessments will be included in the current Planning Assessment report. The Near-Term Transmission Planning Horizon steady state analysis sensitivities described above will include P0, P1 and P3 for non-BES Elements. The Near-Term Transmission Planning Horizon steady state analysis sensitivities will include P0 through P7 and extreme events for BES Facilities. Corrective Action Plan(s) may be developed but are not required in accordance with Requirements TPL-001-4 parts 2.1.4, 2.4.3 and 2.7.²⁰

6.2.2 Unavailable Long Lead Item BES Assessment

A list of BES equipment with a lead time of one year or more will be identified by the appropriate LG&E/KU department. A year two On-Peak, year five On-Peak model for both summer and winter and an Off-Peak will be used. Other equipment with long lead times and no spares will be included, if such exist. A steady state assessment is performed on models with long lead item equipment out of service for TPL-001-4 Table 1 Categories P0, P1 and P2²¹. The impact of this possible unavailability of certain equipment on System performance shall be studied as a portion of the Near-Term Transmission Planning Horizon Planning Assessment. The result of the analysis of potential unavailable equipment is included in the Planning Assessment report. Corrective Action Plans will be developed, if performance requirement violations are identified.

6.3 Steady State BES Assessment for Long-Term Transmission Planning Horizon

The Planning Assessment in the Long-Term Transmission Planning Horizon will include steady state analysis of the BES based on a computer simulation of contingency events²². The study is performed using a computer simulation of planning and extreme events to determine whether the BES meets the performance requirements of TPL-001-4 Table 1²³. The contingency selection for the planning events is described in section 7 “Contingencies” of this document.²⁴ The annual Planning Assessment for the Long-Term Transmission Planning Horizon may be supported by a current study and supplemented with a qualified past study to meet the performance requirements of TPL-001-4. At least one winter On-Peak model and one summer On-Peak steady state model will be developed for the Long-Term Transmission Planning Horizon. The model is used to simulate P1 through P7

²⁰ TPL-001-4 2.7

²¹ TPL-001-4 2.1.5

²² TPL-001-4 R3

²³ TPL-001-4 3.1

²⁴ TPL-001-4 2.2

planning events and extreme events for BES Facilities using the performance requirements of TPL-001-4 Table 1²⁵. In the event that the Contingency analyzed does not meet the respective performance requirements of TPL-001-4 Table 1 P1 through P7, Corrective Action Plan(s) will be developed to ensure that the System meets the required performance requirements. The Corrective Action Plan(s) are documented in the Planning Assessment report.

The extreme event analysis for Long-Term Transmission Planning Horizon will use the identification of System instability for conditions such as Cascading, voltage instability, or uncontrolled islanding criteria described in section 9 “System Instability Criteria Methodology”. If the extreme event shows potential for system instability, then an evaluation of possible actions designed to reduce the likelihood or mitigate the consequences is conducted and documented in the Extreme Event report which is a portion of the Planning Assessment report.

6.4 Steady State NITS Capacity Assessment

The NITS Capacity for specific generating units in the LG&E/KU System will be represented in at least one of the models discussed in Section 5 “Models”. If the GO MOD-032 data for a unit determines the NITS capacity in a season or year which is not one of the models developed, an earlier model will be used to test the NITS capacity for that unit. To test the NITS capacity of each plant site, generation dispatch Scenarios in which individual plant sites are maximized to their NITS capacity plus firm point to point levels will be developed. These dispatch Scenarios will be tested with the transmission system intact against normal facility ratings, and with a transmission outage (P1) against emergency facility ratings. The NITS Capacity for generation is tested in the annual Planning Assessment and will not be treated as a separate sensitivity study.

6.5 Short Circuit Analysis

The short circuit analysis portion of the Planning Assessment shall be conducted annually utilizing one model in the Near-Term Transmission Planning Horizon and one model in the Long-Term Transmission Planning Horizon²⁶. The short circuit analysis may utilize a qualified past study or a current study to meet the requirements of TPL-001-4. A qualified past study must meet the requirements of TPL-001-4 2.6. Material changes in determination of a qualified past study would include substantial changes to the System represented in the study. If a qualified past study is used, the prior study reports will be included in the current year’s Planning Assessment report.

The interrupting requirements of LG&E/KU circuit breakers must remain within circuit breaker interrupting capabilities. LG&E/KU calculates circuit breaker interrupting duty

²⁵ TPL-001-4 3.2

²⁶ TPL-001-4 2.8

utilizing a recognized industry standard software application for short circuit analysis. The software calculates the breaking currents using procedures recommended by ANSI/IEEE.

Breaker duty studies are performed with all Transmission Facilities, and all generators in service. Studies are performed on the Transmission System in its current topology at least annually, and internal ad hoc studies are performed as necessary to determine short circuit impacts of projects under consideration. For ad hoc studies, the model will be modified to simulate as accurately as possible the Transmission System configuration when the project is expected to go into service.

In service circuit breakers with fault duties in excess of interrupting capabilities will have a TEP project for breaker replacement. The project schedule will follow the rules of TEP project schedule considering lead times necessary to complete breaker replacements. When the scheduled date is beyond the need date for a breaker replacement, the first Corrective Action Plan tested will be to disable automatic reclosing. If the breaker duty still exceeds the breaker interrupting capability additional Corrective Action Plan measures will be tested. A Corrective Action Plan which mitigates all criteria violations will be documented in the Planning Assessment report. The Planning Assessment report will list short circuit study deficiencies and the associated actions needed to achieve the required System performance²⁷. The TEP projects identified in the short circuit analysis will include a list of breaker replacements required so as not to overload the breaker duty rating. The list of breaker replacements will be reviewed in subsequent annual Planning Assessments for continued validity and implementation status of identified System Facilities and Operating Procedures²⁸.

6.6 Near Term Transmission Planning Horizon Stability BES Analysis

Per TPL-001-4 R4, the Near-Term Transmission Planning Horizon Stability Planning Assessment will only be analyzed for BES Facility disturbances. Only BES Facilities will be monitored for the performance requirements of TPL-001-4. The Stability Planning Assessment will include TPL-001-4 P1 through P7 planning events and extreme events²⁹. For the Stability portion of the Planning Assessment, the Near-Term Transmission Planning Horizon may utilize a qualified past study, five calendar years old or less, or a current study to meet the requirements of TPL-001-4. A qualified past study must meet the requirements of TPL-001-4 2.6. Material changes in determination of a qualified past study would include substantial changes to the System represented in the study. If a qualified past study is used, the prior study reports will be copied in the Planning Assessment report. Documentation to support the technical rationale for determining material changes will also be included in the Planning Assessment.

TPL-001-4 Table 1 P1 through P7 faults on the near-term models shall be analyzed. The respective performance requirements of P1 through P7 will be used as well as the

²⁷ TPL-001-4 2.8.1

²⁸ TPL-001-4 2.8.2

²⁹ TPL-001-4 4.1 and 4.2

performance requirements of section 8 “Performance Requirements” in these planning guidelines. Where a fault does not pass the respective performance requirements, Corrective Action Plan(s) will be developed to ensure the problem is mitigated and therefore meeting the performance requirements. The Corrective Action Plan(s) are documented in the Planning Assessment.

Stability analysis will be performed on the following models:

- At least one near-term Off-Peak Load model³⁰
- At least one near-term On-Peak Load model

These models will represent the expected dynamic behavior of Loads that could impact the study area, considering the behavior of induction motor Loads³¹. The model uses an aggregate System Load model which represents the overall dynamic behavior of the Load.

6.6.1 BES Stability Sensitivity Studies for Near-Term Transmission Planning Horizon

The annual assessment for the Near-Term Transmission Planning Horizon portion of the Stability analysis shall be performed for at least one of the following varying conditions³²:

- Load level, Load forecast, or dynamic Load model assumptions
- Expected transfers not previously included in the stability models
- Expected in service dates of new or modified Transmission Facilities that may or may not have all required approvals.
- Reduced reactive resource capability.
- Generation additions that have not yet completed a large generation interconnection agreement and/or anticipated retirement of generation not yet announced.

For the sensitivity portion, the Planning Assessment may utilize a qualified past study or a current study to meet the requirements of TPL-001-4. A qualified past study must meet the requirements of TPL-001-4 2.6. Material changes in determination of a qualified past study would include substantial changes to the System represented in the study. If a qualified past study is used, the study reports will be copied in the current Planning Assessment report. The near-term Stability analysis sensitivity will include P1 through P7 and extreme events for BES Facilities only. Corrective Action Plan(s) do not need to be developed solely to meet the performance requirements for a single sensitivity study

³⁰ TPL-001-4 2.4.2

³¹ TPL-001-4 2.4.1

³² TPL-001-4 2.4.3

analyzed in accordance with TPL-001-4 2.1.4 and 2.4.1.³³ Corrective Action Plan(s) may be developed but are not required in accordance with Requirements TPL-001-4 2.1.4 and 2.4.3.³⁴

6.7 Stability BES Assessment for the Long-Term Transmission Planning Horizon

Per TPL-001-4 R4 the Long-Term Transmission Planning Horizon Stability portion of the Planning Assessment will only be analyzed for BES Facility disturbances. Only BES Facilities will be monitored for the performance requirements of TPL-001-4. At least one model in the Long-Term Transmission Planning Horizon will be used in the Stability studies. The Stability assessment may utilize a qualified past study or a current study to meet the requirements of TPL-001-4. A qualified past study must meet the requirements of TPL-001-4 2.6. Material changes in determination of a qualified past study would include substantial changes to the System represented in the study.³⁵ The material changes may or may not include proposed generation that does not have a signed large generation interconnection agreement. The long-term model will include proposed transmission elements and Facilities. The Stability analysis will include TPL-001-4 Table 1 P1-P7 and extreme events. Where analysis does not pass the performance requirements of TPL-001-4 Table 1 P1 through P7, a Corrective Action Plan will be developed to ensure the problem is mitigated meeting the performance requirements. Additionally, extreme event analysis will be performed using the criteria detailed in Section 9.2 “Identification of Instability for Dynamics Simulations”. If the extreme event shows a potential for System instability, then an evaluation of possible actions designed to reduce the likelihood or mitigate the consequences is conducted and documented in the Extreme Event Report.

6.8 Other Studies

The study Scenarios described in sections 6.2.1 “Steady State Sensitivity Studies for Near-Term Transmission Planning Horizon” and 6.6.1 “BES Stability Sensitivity Studies for Near-Term Transmission Planning Horizon” are performed on models for the Near-Term Transmission Planning Horizon only. There are other studies, described below, performed on both the Near-Term Transmission Planning Horizon and the Long-Term Transmission Planning Horizon models. If counter flows are modeled, justification for the modeling of counter flows will be documented in the Planning Assessment. Other studies include but are not limited to:

- **TSR Study:** This study ensures that confirmed firm TSRs can be served by the LG&E/KU Transmission System. Only steady state analysis for P0, P1, P2 (EHV only), P3, P4 (EHV only) category events are simulated. The TSR study will be performed using the off peak and the 50/50 summer and winter peak models only. Corrective Action Plan(s) will be developed for criteria violations identified on the

³³ TPL-001-4 2.7

³⁴ TPL-001-4 2.7

³⁵ TPL-001-4 2.6

LG&E/KU Transmission System. If performance requirements are not met for the additional TSR study, Corrective Action Plan(s) will be developed and documented in the annual Planning Assessment. This will include operating guides for criteria violations associated with TSRs with a contract period of less than five years. Confirmed firm export or import TSRs that were not included at the maximum level in the Starting Point Models are modeled in the appropriate time frame. The TSRs must be firm and have a contract period of at least one year. TSRs linked to DNR resources utilized to serve LSE load on the LG&E/KU Transmission system will only be re-dispatched if a single generator outage would remove the full DNR resource.

7 Contingencies

The contingencies of TPL-001-4 Table 1 P1 through P7 and extreme events simulated for the assessment will only include those that are expected to produce more severe System impacts on the LG&E/KU portion of the BES³⁶. The list of Contingencies being simulated is included in the appropriate Planning Assessment report.

Category P1-5, P3-5, P6-4, and P7-2 refer to HVDC outages. There are no HVDC lines within or near the LG&E/KU PC area that affect the LG&E/KU System. The Planning Assessment does not evaluate HVDC contingencies and no P1-5, P3-5, P6-4, or P7-2 contingencies are simulated in either the steady state or Stability analyses.

7.1 Contingency List Coordination

Per TPL-001-4 3.4.1 and 4.4.1, LG&E/KU TP will coordinate with adjacent PCs and TPs to ensure that Contingencies on adjacent Systems which may impact the LG&E/KU System are included in the Contingency list. The LG&E/KU BES Contingency list will be shared with the LG&E/KU neighbor TP with a request for the neighbor TP to recommend contingencies in its System that should also be evaluated in the LG&E/KU Planning Assessment. All contingencies recommended by neighboring TPs and/or PCs will be assessed for inclusion in the LG&E/KU Contingency list for evaluation in the LG&E/KU annual Planning Assessment.

7.2 Generation Replacement Scenarios

Generation unit outages require an increase in generation in order to replace the lost unit to accurately study the system under a generator contingency.

To maintain the capability to serve LSE load after loss of a LSE's affiliate generator within the LG&E/KU PC area, replacement generation shall be initially selected from available dispatchable LSE affiliate generation resources within the LG&E/KU PC area based on the

³⁶ TPL-001-4 3.4

merit order in the year two summer peak model. Any deficit in replacement generation not covered from affiliate resources within the LG&E/KU PC area shall be replaced with an import from Tennessee Valley Authority (TVA), Midcontinent Independent System Operator (MISO) or PJM unless customer discussions indicate that some of these scenarios are not required.

For other generator contingencies outside the LG&E/KU PC area, generation will be replaced from the contingent generator's PC area.

7.3 Maximizing Generation at a Plant Site

In addition to simulating generator outages, the maximum output of each generation plant site within the LG&E/KU PC area is studied. Each unit at the plant site shall be increased to the unit's seasonal maximum capacity as provided by the annual MOD-032 submittal, not to exceed the associated NITS capacity. Other resources within the plant site's PC area are reduced to offset this increase in generation. For LG&E/KU affiliate generation, the reduction shall be accomplished by proportionally scaling other affiliate generation in the LG&E/KU PC area. For non-LG&E/KU generation in the LG&E/KU PC area, the largest Transmission Service Reservation (TSR) affiliated with the unit shall be reduced as appropriate or generation is exported to the non-affiliate PC area.

7.4 Automatic Control Inclusion

³⁷The simulated contingencies must remove all elements that the Protection System and other automatic controls are expected to disconnect for each Contingency without operator intervention. Information from LG&E/KU protection group supplies transmission planning with clearing times, breakers which will open to clear a fault and other data required to accurately analyze a contingency.

The LG&E/KU System does not currently have any Special Protection Systems. Simulations of Protection System responses during a fault or Contingency are analyzed with that Contingency. The LG&E/KU PC area does not currently have any generation tripping or run back scheme other than what would be tripped as a result of clearing a fault. If generation is tripped as a result of fault clearing, then that tripping scheme will be studied as part of the Contingency analyzed.

Per TPL-001-4 3.3.1.1, LG&E/KU will build a project to ensure that generators do not trip due to low voltage on the generator bus after a P1 or P3 planning event. Information on generator relay tripping is obtained by the protection group to ensure that requirements of PRC-024 are achieved.

³⁷ TPL-001-4 3.3.1 & 4.3.1

7.4.1 Steady State Automatic Control Inclusion

If the results of the steady state analysis show an overload of Facility (ies) above the criteria outlined in NERC standard PRC-023-4, prior to loss of load if allowed by TPL-001-4 Table 1, the steady state simulation will include the outage of that Facility(ies) unless verification of the relay loadability values indicate the Facility(ies) would not trip on the resulting flow. Verification is done via the CASCADE database or through communication with the Protection department.

The LG&E/KU transmission System does not contain any phase-shifting transformers. There are switched capacitors on the LG&E/KU transmission System and those facilities are modeled with the voltage levels at which they are switched on and off³⁸. Transmission capacitor status (on/off) are simulated consistent with automatic voltage control (on/off) settings and operating practice during normal transmission System conditions. Therefore, when the solution of the power flow analysis has capacitor bank switching enabled, the automatic switching of capacitor banks is simulated.

7.4.2 Stability Assessment Protection System Inclusion

Per TPL-001-4 4.3.1.1 the Stability simulation will include successful high speed (less than one second) reclosing and unsuccessful high speed reclosing into a Fault where high speed reclosing is utilized.

Per TPL-001-4 4.3.1.2 the Stability simulations will include the tripping of generators where the GO has indicated that generators will trip as a result of either low/high voltage or frequency. The relay protection models shall be provided by the GO. If assumptions are made they will be included in the Planning Assessment report.

Generation is not tripped as a result of low/high voltages or low/high frequency unless the GO has provided relay models. However, the generator must meet the LGIA/LGIP/SGIA/SGIP and PRC-024-2 low/high voltage ride through (LVRT and HVRT) and low/high frequency ride through (LFRT and HFRT) requirements.

7.5 Load Restoration and Switching Procedure.

During breaker to breaker outages, some Consequential Load loss is possible. The simulation of the load restoration and switching procedure is performed as part of the Planning Assessment. Post-fault conditions and conditions after load restoration, switching, or transmission re-configuration are evaluated. Post-contingency operator-initiated actions including switching may be simulated. Load that is off-line as a result of the Contingency (consequential load loss) being evaluated may be switched to alternate

³⁸ TPL-001-4 3.3.2

sources during the load restoration assessment. However, load is not taken off-line to perform switching.

7.6 Steady State Planning Events

The steady state Planning Assessment studies are performed based on a Contingency list created to meet requirements of TPL-001-4 R3. The Contingency list includes those planning events in TPL-001-4 Table 1 that are expected to produce more severe System impacts on its portion of the BES. The Contingency list is documented in the Planning Assessment. This section of the Planning Guidelines will document the methodology used to develop the Contingency list which will produce the most severe System impacts.

The Extreme Event Report will also list those contingencies analyzed and expected to produce more severe System impacts. The extreme event analysis may utilize a qualified past study or a current study to meet the requirements of TPL-001-4. A qualified past study must meet the requirements of TPL-001-4 2.6. Material changes in determination of a qualified past study would include substantial changes to the System represented in the study.

7.6.1 TPL-001-4 Table 1 Category P1 Contingency Selection

TPL-001-4 Table 1 Category P1 are single contingencies including loss of generator, transmission circuit, transformer, or shunt device. The LG&E/KU Planning Assessment includes all single transmission circuits and transformers that are operated at 69 kV (secondary voltage) and above. Shunt devices operated at 69 kV are not included in the contingency list. In order to achieve the removal of all elements that the Protection System and other automatic controls are expected to disconnect for each Contingency without operator intervention all breaker to breaker contingencies for transmission circuits and transformers are simulated for Category P1 events³⁹.

The single generator Contingency includes single generator units connected to the LG&E/KU System which are 50 MW or higher. When more than one generator is connected to the same transmission bus, only the largest generator unit outage is simulated at each transmission bus. The largest generator at a bus is considered to produce more severe System impacts than smaller units connected to the same bus, since larger units have the largest amount of reactive power loss to support the transmission system. Similarly, single generator contingencies not connected to the LG&E/KU System, but that are in close proximity are also simulated by taking the outage of only the largest unit at the point of interconnection.

All single lines, transformers and BES shunt equipment within the LG&E/KU PC area are analyzed as a P1 event.

³⁹ TPL-001-4 3.3.1

7.6.2 TPL-001-4 Table 1 Category P2 Contingency Selection

- Opening a line section without a fault: All line section outages of BES Facilities will be simulated to ensure the performance requirements of TPL-001-4 Table 1. A technical rationale for determining a set of contingencies for opening a line section without a fault is not required, since all BES line sections are opened without a fault for this analysis.
- Technical rationale for identifying bus section faults which produce more severe impacts to the BES: Many LGE&E/KU BES substations are designed with a breaker and a half or ring bus design. A bus section fault for a ring bus results in the same Contingency as P1, while a bus section fault of a breaker and a half design results in no transmission circuit outage or a P1 outage depending on the location of the bus. Therefore, bus section faults which produce more severe impacts to the BES are buses with a straight bus design. All BES Facilities in a straight bus configuration are simulated for Category P2-2.
- Technical rationale for internal Breaker Faults (non-Bus-tie Breaker) which result in more severe impacts to the BES: An internal breaker fault means a breaker failing internally, thus creating a System fault which must be cleared by protection on both sides of the breaker. An internal breaker fault on a ring bus design is a double Contingency of the two Facilities that share a breaker in the ring. An internal breaker fault on a breaker in a breaker and a half design, results in a double Contingency of the two Facilities that share a breaker in the same bay. The contingency which results in more severe impacts to the BES are internal faults of breakers which result in two BES Facilities that share a breaker for either a ring bus or breaker and a half design. Additionally, an internal breaker fault for a breaker on a straight bus will be simulated when the fault causes more than just a disconnected bus, for example, an internal breaker fault where the breaker connected to a BES straight bus protects a three terminal line.
- Internal Breaker Fault (Bus-Tie Breaker): An internal breaker fault means a breaker failing internally, thus creating a System fault which must be cleared by protection on both sides of the breaker. This contingency results in opening all breakers connected to both buses connected by the bus-tie breaker. For the annual Planning Assessment, all internal breaker faults for bus-tie breakers are simulated. Since all of the internal faults of bus-tie breakers are included, a technical rationale for selecting a reduced set of internal faults of bus-tie breakers is not required.

7.6.3 TPL-001-4 Table 1 Category P3 Contingency Selection

Category P3 includes the loss of a single generator unit, as described in section 7.2, followed by system adjustments. After system adjustments, all P1 contingencies are simulated. This includes generator, transmission circuit, transformer, and shunt device (BES only) contingencies. For P3 events, LG&E/KU runs all single contingencies of 69

kV and above combined with a generator outage as described in section 7.2. LG&E/KU also runs combinations of two generator outages.

Technical rationale for determining P3 contingencies which result in more severe impacts to the BES:

The initial generator outage (units 50 MW or higher) is analyzed on the largest unit at the same point of interconnection. After the generator outage and system adjustments described in Section 7.2, all P1 contingencies are analyzed.

Additionally, “Outside World” generator Contingencies are determined using the same criteria as LG&E/KU PC area plants if the generator plant is connected to the BES system within five busses of the LG&E/KU PC area. The following generator Contingencies are selected outside the LG&E/KU PC area:

1. TVA’s Bull Run
2. SIGE’s Cannelton
3. OVEC’s Clifty Creek
4. EKPC’s Cooper
5. AEP’s Clinch River
6. DOE&K’s East Bend
7. DEI’s Gibson
8. BREC’s Green
9. AEP’s Industrial Drive
10. EKPC’s JK Smith
11. EEI’s Joppa
12. Dayton P&L Killen
13. OVEC’s Kyger
14. EKPC’s Laurel Lake
15. AEP’s Lawrenceburg
16. DOE&K’s Miami Fort
17. TVA’s Norris
18. TVA’s Paradise
19. AEP’s Rockport
20. TVA’s Sequoila
21. TVA’s Shawnee
22. EKPC’s Spurlock
23. Dayton P&L Stuart
24. AEP’s Virginia City
25. TVA’s Watts Bar
26. BREC’s Wilson
27. TVA’s Wolf Creek
28. AEP’s V3-007 (New unit, name subject to change)
29. Dayton P&L AB1-169 C OP (new unit, name subject to change)

Outages of all solar generation within 5 miles radius will be studied as a single generator unit to accommodate clouds or storm which results in loss of solar generation in the same area.

7.6.4 TPL-001-4 Table 1 Category P4 Contingency Selection

Category P4 contingencies in steady state are multiple contingencies caused by a stuck breaker where backup and/or delayed clearing is required to clear a fault. A fault followed by a breaker failure where the breaker is attached to a straight bus is the same disturbance as a fault on the bus itself which is analyzed as a P2 disturbance. Therefore, these are not analyzed as a P4 disturbance.

Technical rationale for identifying P4 contingencies which result in more severe impacts to the BES: BES Facilities that share a common breaker in a ring bus or breaker and a half design result in two BES Facilities taken out of service at the same time in order to clear the fault. A fault and a subsequent loss of two BES Facilities without system adjustments result in more severe impacts to the BES.

7.6.5 TPL-001-4 Table 1 Category P5 Contingency Selection

The contingencies for TPL-001-4 Table 1 Category P5 are simulated using Stability results. The Stability analysis identifies which breakers will open for a category P5 event and subsequent tripping of generation. The contingency selection is determined by the Stability analysis described in Section 7.8.2 “ for P5 events. If the Stability results for the Planning Assessment identifies additional outaged Facilities to eventually clear the fault, for a P5 event, then the steady state analysis is performed by tripping all facilities that trip in the stability analysis.

7.6.6 TPL-001-4 Table 1 Category P6 Contingency Selection

The following technical rationale for contingencies selected for Category P6 that produce more severe System impacts to the BES: All tested BES contingencies are analyzed to determine impacts on BES Facilities remaining in-service. When a BES Contingency shows an impact on any BES Facility, that Contingency will be paired with all other BES Contingencies that impact the same BES Facility. Category P6 contingencies include transmission circuits, transformer, and shunt devices (BES only). This contingency list of two BES Facilities are tested using an automatic program and the resultant contingency file is developed by the same program. The resultant contingency list contains both internal and external BES Facilities.

7.6.7 TPL-001-4 Table 1 Category P7 Contingency Selection

LG&E/KU maintains a list of adjacent circuits greater than one mile in length that reside on a common structure. Loss of all BES double circuit Facilities that reside on a common

structure longer than a mile are simulated for Category P7. Since all Category P7 contingencies are analyzed, a technical rationale for selecting a smaller list of contingencies is not required.

7.7 Steady State Extreme Events

LG&E/KU simulates the System performance for TPL-001-4 Table 1 extreme events. The extreme events are selected that are expected to produce more severe System impacts. When LG&E/KU evaluates in steady state the performance of Category P6, there are no System adjustments after the first Contingency. Therefore, the P6 planning event is the same as the extreme event for steady state part 1. The extreme events that are simulating in the TPL performance assessment include:

- Loss of a tower line that has three or more BES circuits when the common structure lines are more than one mile in length. Since all BES Facilities on a common structure are simulated, no technical rationale for determining a smaller list of contingencies is required.
- Loss of all BES transmission lines on a common Right-of-Way when the common right of way is longer than one mile in length. All BES Facilities on a common right-of-way are simulated, therefore no technical rationale for determining a smaller list of contingencies is required.
- Loss of a substation (one BES voltage level plus transformers) which are analyzed in the Planning Assessment process. A list of substations selected for this extreme event will be included in the Planning Assessment report including a technical rationale for selecting the group of substations.
- The technical rationale for selecting loss of all generating units at a station includes the largest generation sites greater than 500 MW total generation capability in the LG&E/KU System. Loss of the largest generation site also results in loss of the largest amount of reactive power which is used to support the BES, therefore, this results in more severe impacts to the BES.
- Loss of a large load or major load center which is analyzed in the Planning Assessment process includes tripping the load from the LG&E/KU largest single customers. This also includes large municipal loads. Loss of these largest customers are analyzed as part of the Planning Assessment.
- Loss of all gas-fired generation (two plants) served by a common large gas pipeline. The technical rationale for determining loss of which two plant sites result in more severe impacts to the BES: The two largest generation sites serviced from the same natural gas pipeline will be analyzed. The largest amount of generation loss is more severe since it is also the largest amount of reactive power available to support the

BES. The study assumes the loss of generation can be replaced by existing off-line generation and importing power from TVA, PJM and MISO.

7.8 Stability Planning Events

The contingencies selected that produce the most severe impacts to the BES in steady state are not always the same as those selected for Stability analysis. LG&E/KU's Contingency Selection Criteria describes the rationale for Contingency selection that is consistent with TPL-001-4 R3 and is considered to produce more severe System impacts. The Stability portion of the Planning Assessment shall be performed for planning events to meet performance requirements in TPL-001-4 Table 1. The Stability portion of the Planning Assessment will only include analysis of disturbances on BES Facilities. The Stability analysis may use a current or qualified past study per TPL-001-4 2.6.

FAC-010-3 require stability analysis that is similar to analysis required in TPL-001-4. Therefore, the annual Planning Assessment will include language required by FAC-010-3.

7.8.1 Category P1 Stability Disturbances Analyzed

Category P1 disturbances are selected to comply with NERC reliability standards including faults on generators, Transmission Circuits, Transformers and BES switched shunt devices. Three phase faults with normal clearing (assumed six cycles) are initially analyzed for breaker to breaker BES Facilities in the stability model. A clearing time of six cycles is an assumed conservative clearing time. In the event that a Category P1 disturbance does not meet the performance requirements of TPL-001-4 Table 1, the Protection group is contacted to acquire the actual clearing time. The disturbance is then re-simulated with the actual clearing time.

A test or study is done in the prior year's TEP on the near term maximized model to determine the list of P1 disturbances that results in more severe impacts to the BES. The test including the technical rationale is described in the annual Planning Assessment report.

7.8.2 Categories P2 through P7 Stability Disturbances Analyzed

TPL-001-4 Table 1 Categories P2 through P7 disturbances are selected such that only the disturbances that produce the more severe System results or impacts are analyzed.⁴⁰ A test or study is done in the prior year's TEP on the near term maximized model to determine the list of P2 through P7 disturbances that result in more severe impacts to the BES. The test including the technical rationale is described in the annual Planning Assessment report.

For Category P2.1 selections are made from the near term maximized model from the previous years TEP.

⁴⁰ TPL-001-4 4.4

All BES lines that are on a common tower are simulated for a P7 event. Therefore, a technical rationale for determining which P7 events produce more severe impacts to the BES is not required.

7.9 Stability Extreme Event Assessment

The Stability portion of the Planning Assessment will perform studies to assess the impact of extreme events detailed in TPL-001-4 Table 1⁴¹. The events selected for evaluation are those that are expected to produce more severe System impacts. This section describes the rationale for the Contingencies selected for extreme events analyzed in the stability portion of the Planning Assessment. If the Stability portion of the Planning Assessment for extreme events concludes there is instability (see section 9.2 “Identification of Instability for Dynamics Simulations”) caused by the occurrence of extreme events, an evaluation of possible actions designed to reduce the likelihood or mitigate the consequences of the event will be conducted. This evaluation will be documented in the Extreme Event Report.

Technical Rationale for Extreme Event Contingency Selection: Extreme events that are expected to produce more severe System impacts will be identified. These extreme events are selected based on analyzing a three phase fault on large generators, transmission circuits above 300 kV, transformers with high side voltage above 300 kV, straight line bus sections followed by a stuck breaker, or relay failure resulting in delayed clearing. These disturbances are analyzed in models from the prior year’s Planning Assessment using very long clearing times. Those disturbances which result in the most severe impact to the BES are identified using long clearing times. The Contingency list is included in the Planning Assessment report. The extreme event assessment analyzes these disturbances using actual clearing times in the current Planning Assessment. The performance of the extreme events are checked for potential instability (see section 9.2 “Identification of Instability for Dynamics Simulations”).

8 Performance Requirements

This section documents acceptable System steady state voltage limits, thermal limits, and the transient Stability performance requirements for the LG&E/KU System⁴². Additionally performance requirements for P0 through P7 and extreme events described in TPL-001-4 Table 1 are included in the Planning Assessment report.

Specific criteria in the stability portion of the Planning Assessment for P1 planning events will be tested for TPL-001-4 part 4.1.1; P2 through P7 performance requirements in TPL-001-4 part 4.1.2 and P1 through P7 performance requirements in TPL-001-4 part 4.1.3.

8.1 Special Protection System

⁴¹ TPL-001-4 4.5

⁴² TPL-001-4 R5

LG&E/KU transmission does not currently own or operate any Special Protection System (SPS) or Remedial Action Scheme (RAS). Neither SPS(s) nor RAS(s) remedial action schemes should be considered when developing the Corrective Action Plan(s).

8.2 Steady State Voltage Performance Criteria

Per TPL-001-4 R5, the following is the steady state voltage criteria: A steady state System voltage violation will occur when the percent nominal voltage, rounded to one decimal place, is outside the applicable performance requirements.

The following are detailed voltage criteria for each of the TPL-001-4 Table 1 Categories.

1. Category P0 with all Elements and Facilities in service, the LG&E/KU Elements and Facilities of 69 kV and above shall perform within the following:
 - The minimum acceptable voltage criteria for Facilities of 69 kV (load serving buses) and above are 0.94 pu of their nominal value. The maximum voltage criteria of any 500 kV System bus should not exceed 1.10 pu of the nominal value. All other transmission Elements and Facilities 69 kV to 345 kV should not exceed 1.05 pu of the nominal value.
2. Category P1 and P3 voltage criteria:
 - The minimum acceptable voltage criteria for Elements 69 kV (load serving buses) and above are 0.90 pu of their nominal value. The maximum voltage criteria of any 500 kV System bus should not exceed 1.10 pu of the nominal value. All other transmission Elements and Facilities 69 kV to 345 kV should not exceed 1.05 pu of the nominal value.
 - Load shed using TPL-001-4 footnote 12 is not used as a mitigation for categories P1 and P3.
3. Category P2, P4 through P7: Additional voltage criteria for P2, P4 through P7 and limits to Non-Consequential Load Loss when load shed is allowed in TPL-001-4 Table 1.
 - A maximum load shed of ten percent in the LG&E/KU PC area as modeled for P2 and P7 planning events. A maximum load shed of five percent for P4, P5 and P6 planning events.
 - After allowed Non-Consequential Load Loss and interruption of Firm Transmission Service, the minimum acceptable voltage criteria for BES Facilities is 0.90 pu of their nominal value.

- Load shed using TPL-001-4 footnote 12 is not used as a mitigation for P1 through P7 planning events.
4. Steady state extreme events: Extreme events are only checked against the criteria in section 9.1 “Identification of Instability for Steady State Simulations” of these planning guidelines.

8.2.1 Steady State Thermal Facilities Limits

The applicable Facility Rating for TPL-001-4 Table 1 Category P0 is the seasonal normal Facility Rating (Rate A). The applicable Facility Rating for TPL-001-4 Table 1 Categories P1 through P7 is the seasonal emergency rating (Rate B).

8.3 Transient Stability Performance Requirements

Transient Stability studies shall be performed to meet TPL-001-4 Table 1 performance requirements. The System must remain stable per identification of System instability per Section 9 “System Instability Criteria Methodology” for TPL-001-4 Table 1 Categories P1 through P7 events.

8.3.1 Angular Stability

The angular Stability criteria for a generator are defined as: a generator rotor angle must remain less than 180 degrees with respect to the relative angle. LG&E/KU chooses the TVA’s Brown Ferry, a nuclear unit, as the relative machine.

8.3.2 Damping Criteria

For TPL-001-4 Table 1 Categories P1-P7 Power Oscillations shall exhibit acceptable damping as established by the PC and TP⁴³. This damping criteria is: The angular variation of a machine must be tested showing visual damping for a five second simulation. If the angular variation is not visually damped after the five second simulation, a 20 second simulation will be completed. If after the 20 second simulation, the angular variation is still not visually damped, then the System will be determined to be unstable. LG&E/KU examines the Stability plots as part of the Stability analysis.

8.3.3 Voltage Ride Through Criteria

Tripping of a generator will be simulated when the GO has indicated that generators will trip as a result of either low/high voltage or frequency. The acceptable limit of LG&E/KU

⁴³ TPL-001-4 4.1.3

BA generator tripping is 3500 MW per Section 9 “System Instability Criteria Methodology”.

8.3.4 TPL-001-4 Table 1 Categories P1 Generator Synchronism

For TPL-001-4 Table 1 Category P1: No generating unit shall pull out of synchronism. A generator being disconnected from the System by fault clearing action or by a SPS) or RAS is not considered to be pulling out of synchronism⁴⁴. LG&E/KU does not currently have an SPS or RAS.

8.3.5 TPL-001-4 Table 1 Categories P2-P7 Generator Synchronism

For TPL-001-4 Table 1 Category P2 through P7: Tripping of generating units will be simulated when the analysis indicates that a unit(s) is pulling out of synchronism. The acceptable limit for total generation loss is 3500 MW per Section 9 “System Instability Criteria Methodology”.

8.3.6 TPL-001-4 Table 1 Categories P1 and P3 Transient Voltage Stability Performance Requirements:

Per TPL-001-4 R5, the following is the transient voltage Stability criteria for P1 and P3 events: LG&E/KU’s transmission System voltage must recover to 0.8 p.u. within 4 seconds after the fault is cleared. TPL-001-4 Table 1 Categories P1 and P3 Stability faults must also pass the angular and damping Stability performance requirements described in this section. P1 disturbances must be in compliance with TPL-001-4 part 4.1.1.

8.3.7 TPL-001-4 Table 1 Categories P2, and P4-P7 Transient Voltage Stability Performance Requirements:

Per TPL-001-4 R5, the following is the Stability voltage criteria for P2 and P4-P7 events: These disturbances are less probable and may involve loss of non-consequential load (when allowed by TPL-001-4) and/or generation tripping within the LG&E/KU BA. These disturbances must pass the angular and damping Stability performance requirements described in this section. Within 4 seconds after a fault is cleared, there cannot be more than 6 BES substations with voltages less than 0.80 pu.

8.4 Extreme Events Stability Performance Requirements:

Stability disturbances for TPL-001-4 Table 1 extreme events are analyzed for those contingencies that would produce more severe System results or impacts⁴⁵. If the analysis concludes there is potential instability per Section 9.2 “Identification of Instability for

⁴⁴ TPL-001-4 4.1.1

⁴⁵ TPL-001-4 3.5, 4.5

Dynamics Simulations”, caused by the occurrence of the extreme events, an evaluation of the possible actions designed to reduce the likelihood of or mitigate the consequences and adverse impacts of the event(s) will be conducted.

9 System Instability Criteria Methodology

As required by TPL-001-4 R6 this section defines and documents the criteria or methodology used in the analysis to identify System instability for conditions such as Cascading, voltage instability, or uncontrolled islanding. It is the intent of the Planning Assessment to identify potential System instability before that instability actually occurs giving some margin in the assessment. The identification of potential instability in the power System simulation is different between the steady state study and the stability study.

9.1 Identification of Instability for Steady State Simulations

LG&E/KU has considered Cascading, voltage instability and uncontrolled islanding in the steady state power flow analysis. Instability could result if load loss in the LG&E/KU area load (area 363 in the model) is 10% or more.

9.2 Identification of Instability for Dynamics Simulations

For purposes of these planning guidelines, LG&E/KU has considered dynamic instability, Cascading, voltage instability, or uncontrolled islanding. For dynamics analysis, instability could result after one or more of the following occurs:

- The event is considered to be uncontrolled if, for a simulated disturbance in the LG&E/KU BA, the total generation loss is more than one plant located external to the LG&E/KU BA, or if the total loss of LG&E/KU BA generation is greater than 3500 MW.
- 4 seconds after a fault is cleared, there exists more than six BES substations whose voltages are below 0.8 p.u.
- Violation of damping criteria per Damping Criteria in Section 8.3.2 “Damping Criteria”.
- Increasing angular swings of some LG&E/KU generators lead to their loss of synchronism with other generators.

10 Corrective Action Plan(s)

For planning events shown in TPL-001-4 Table 1, when the analysis indicates an inability of the System to meet the performance requirements in TPL-001-4 Table 1, the Planning Assessment shall include Corrective Action Plan(s) addressing how the performance requirements will be met⁴⁶. Revisions to the ITO approved projects in the Corrective Action Plan are allowed, but the planned System shall continue to meet the performance requirements of TPL-001-4 Table 1. Revisions to an ITO approved project will be communicated to the ITO as soon as feasible along with supporting documentation demonstrating the proposed project continues to meet the performance requirements of TPL-001-4. The ITO, after review, will post a notification of the revised project on OASIS and stakeholders will have 15 calendar days to comment on the revised project. The ITO will make its best effort to review and approve the revised project within 45 calendar days from initial notification from LG&E/KU, taking into consideration any stakeholder comments.

Corrective Action Plan(s) may be developed but are not required for sensitivity studies in accordance with TPL-001-4 2.1.4 and 2.4.3⁴⁷. The Corrective Action Plan(s) are documented in the Planning Assessment report.⁴⁸ The Planning Assessment report lists the System deficiencies and the associated actions needed to achieve the required System performance.

The LG&E/KU Planning Assessment will NOT use Non-Consequential Load Loss when allowed per TPL-001-4 footnote 12 to satisfy the performance requirements of TPL-001-4.

The LG&E/KU BA does not have any automatic generation tripping or run back scheme other than what would be tripped as a result of clearing a fault. If generation is tripped as a result of the fault clearing, then that tripping will be studied as part of the Contingency analyzed. Automatic generator tripping or automatic generator run-back other than fault clearing should not be considered in the Corrective Action Plan(s) since this would be a RAS.

Some LSEs in the LG&E/KU PC area have DSM programs but not all. The majority of the loads for entities that have DSM programs contain reductions in load as a result of the DSM programs in the load forecast that was submitted. Therefore, since the majority of DSM was accounted for in the load forecast, DSM programs are not utilized in the Corrective Action Plan(s).

The previous year's Planning Assessment Corrective Action Plans are reviewed in subsequent annual Planning Assessments for continued validity and implementation status of identified of Systems Facilities or improvements to existing Systems Facilities⁴⁹.

⁴⁶ TPL-001-4 2.7

⁴⁸ TPL-001-4 2.7.1

⁴⁹ TPL-001-4 2.7.4

10.1 Projects for Extreme Load Sensitivity

For the seasonal peak extreme load sensitivity analysis, projects will be developed for specific performance requirement violations of NERC TPL-001-4 category P0, P1, and P3. Projects will be developed to mitigate performance requirement violations for P0 and P1. Projects will be built for P3 when the violation exists in the year ten model and re-dispatch of Brown and Trimble Co CTs cannot mitigate the violation.

10.2 Operating Guides

Operating Guides may be an acceptable Corrective Action Plan in order to meet the performance requirements if the violation occurs in the Near-Term Planning Horizon but not in the Long-Term Planning Horizon. Operating guides will also be developed if a project will not be completed by the need date. In addition, there is a long standing operating guide, reviewed annually, to mitigate high voltage at Pocket North 500 kV, Pineville 500 kV and Pineville 345 kV stations. Operating guides may include; but not limited to, generation re-dispatch, transmission reconfiguration, Non-Consequential Load Loss, and loss of firm transmission service in accordance with TPL-001-4.

10.3 Corrective Action Plan(s) for P0

The Corrective Action Plans for TPL-001-4 Table 1 Category P0 may include:

- Building new transmission Elements and Facilities
- Upgrading existing transmission Elements and Facilities

10.4 Corrective Action Plan(s) for P1 thru P7

For events of TPL-001-4 Table 1 Categories P1 thru P7 which require a Corrective Action Plan in order to meet the performance requirements of Table 1, the Corrective Action Plans may include:

- Building new transmission Elements and Facilities.
- Upgrading existing transmission Elements and Facilities.
- Load Restoration and Switching Procedures (see Section 7.5 “Load Restoration and Switching Procedure). Operating Guides (see Section 10.2 “Operating Guides”).
- Non-Consequential Load Loss where specifically allowed in TPL-001-4 Table 1. However non-consequential load loss allowed per footnote 12 will not be used in the Corrective Action Plan.
- For P2, P4 thru P7, Generation re-dispatch and Transmission re-configuration.

10.5 Corrective Action Plans for Operational Issues

Additional TEP projects may be required to mitigate operational issues not identified elsewhere in the Planning Assessment. Projects will be considered for operational issues if a Real-time issue is identified or if a condition exists that prevents equipment maintenance from being performed during Off-Peak periods or other situations as determined by LG&E/KU.

If Transmission Planning analysis indicates that a Facility cannot be taken out of service without an adverse impact to the reliability of the LG&E/KU Transmission System, a TEP project may be developed. In order for the project to qualify as a potential TEP project under this scenario, a report must be developed to summarize the analysis and justify the need for a potential TEP project.

10.6 Project Timing

If situations arise that are beyond the control of the TP or PC that prevent the implementation of a Corrective Action Plan in the required timeframe, then the TP or PC is permitted to utilize Non-Consequential Load Loss and curtailment of Firm Transmission Service to correct the situation that would normally not be permitted in TPL-001-4 Table 1, provided that the TP or PC documents that they are taking actions to resolve the situation.⁵⁰ The TP or PC shall document the situation causing the problem, alternatives evaluated and the use of Non-Consequential Load Loss and curtailment of Firm Transmission Service.

Operating guides are used to document the mitigation steps when a construction project is not expected to be completed by the time the violation exists in the models per TPL-001-4 2.7.3. When necessary, an operating guide could include the use of Non-Consequential Load Loss and curtailment of Firm Transmission Service in accordance with TPL-001-4.

The goal of timing projects is to ensure that the project is completed before the loading reaches 100% of the appropriate seasonal rating. Due to varying conditions, this may not be possible. Therefore, utilization of TPL-001-4 2.7.3 may be used in the form of an operating guide when studies indicate there is an overload of 100% or more of the seasonal rating.

All existing projects that are not determined to be under construction are reviewed annually to determine if the current timing should be changed.

For P0, P1 and P3 thermal overload of a Facility, the following criteria will be used to determine the needed timing for the Corrective Active Plan to address the issue:

⁵⁰ TPL-001-4 2.7.3

1. In order to justify a capital project, the flow on the Facility must be equal to or greater than 100% of the applicable thermal rating of the Facility at the end of the Long-Term Transmission Planning Horizon (year ten). The mitigation for overloads that are identified in any of the Year One through year nine studies but not in year ten will have a Corrective Action Plan that is an operating guide if one is available, if not another corrective action plan will be developed.
2. Corrective Action Plans for new issues identified in the 50/50 On-Peak, or Off-Peak Load forecast will be timed to the year and season when the flow is equal to or exceeds 98% of the applicable thermal rating of the Facility.
3. Corrective Action Plans for new issues identified in the 90/10 Peak forecast will be timed to the year and season when the flow is equal to or exceeds 100% of the applicable thermal rating of the Facility.

The timing of new projects (construction) will not be any earlier than the year two model of the Planning Assessment. However, the Corrective Action Plan will contain potential actions, if needed, which can be taken to mitigate the identified constraint in the Planning Horizon prior to the expected completion of construction.

Voltage performance driven projects will be timed with a need date based on the performance criteria of Section 8 “Performance Requirements”. There will not be a timing date associated with these projects.

11 Responsibility Coordination TPL-001-4 R7

Each PC, in conjunction with the TP, shall determine and identify each entity’s individual and joint responsibilities for performing the required studies for the Planning Assessment. LG&E/KU is registered as a PC and TP. The LG&E/KU PC area consists only of the LG&E/KU Transmission Owned Facilities. All responsibilities for the studies required by TPL-001-4 and the Planning Assessment are the sole responsibility of the LG&E/KU Transmission Planning.

The required studies are performed in two parts. Part 1, the Planning Assessment uses the study results for planning events (TPL-001-4 Table 1 P0 through P7) and corresponding Corrective Action Plan(s) to demonstrate compliance with TPL-001-4 planning events. The annual Planning Assessment may utilize a qualified past study when allowed by TPL-001-4 and requirements of TPL-001-4 part 2.6.

Part 2 is the extreme event report which documents the results of the study for extreme events of TPL-001-4 Table 1. The extreme event report may not be performed annually, and may use a qualified past study provided no material changes have been documented in the Planning Assessment.

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TRANSMISSION TARIFF

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Effective On: January 24, 2015

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COMMON SERVICE PROVISIONS

1 Definitions

1.1 Affiliate

With respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership, or other entity.

1.2 Ancillary Services

Those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Owner's Transmission System in accordance with Good Utility Practice.

1.3 Annual Transmission Costs

The total annual cost of the Transmission System for purposes of Network Integration Transmission Service shall be the amount calculated in Attachment O.

1.4 Application

A request by an Eligible Customer for transmission service pursuant to the provisions of the Tariff.

1.5 Balancing Authority Area

An electric power system or combination of electric power systems to which a common automatic generation control scheme is applied in order to:

1. match, at all times, the power output of the generators within the

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electric power system(s) and capacity and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);

2. maintain scheduled interchange with other Balancing Authority Areas, within the limits of Good Utility Practice;
3. maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice; and
4. provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice. The term “Balancing Authority” as provided for herein, shall mean the party operating the Balancing Authority Area.

1.6 Commission

The Federal Energy Regulatory Commission, referred to in this Tariff from time to time as “FERC.”

1.7 Completed Application

An Application that satisfies all of the information and other requirements of the Tariff, including any required deposit.

1.8 Curtailment

A reduction in firm or non-firm transmission service in response to a transfer capability shortage as a result of system reliability conditions.

1.9 Delivering Party

The entity supplying capacity and energy to be transmitted at Point(s) of Receipt.

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1.10 Designated Agent

Any entity that performs actions or functions on behalf of the Independent Transmission Organization, the Transmission Owner, an Eligible Customer, or the Transmission Customer as may be required under the Tariff.

1.11 Direct Assignment Facilities

Facilities or portions of facilities that are constructed by the Transmission Owner for the sole use/benefit of a particular Transmission Customer requesting service under the Tariff. Direct Assignment Facilities shall be specified in the Service Agreement that governs service to the Transmission Customer and shall be subject to Commission approval.

1.12 Eligible Customer

- (i) Any electric utility (including the Transmission Owner and any power marketer), Federal power marketing agency, or any person generating electric energy for sale for resale is an Eligible Customer under the Tariff. Electric energy sold or produced by such entity may be electric energy produced in the United States, Canada or Mexico. However, with respect to transmission service that the Commission is prohibited from ordering by Section 212(h) of the Federal Power Act, such entity is eligible only if the service is provided pursuant to a state requirement that the Transmission Owner or Independent Transmission Organization offer the unbundled transmission service, or pursuant to a voluntary offer of such service by the Transmission Owner.
- (ii) Any retail customer taking unbundled transmission service pursuant to a

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state requirement that the Independent Transmission Organization or the Transmission Owner offer the transmission service, or pursuant to a voluntary offer of such service by the Transmission Owner, is an Eligible Customer under the Tariff.

1.13 Facilities Study

An engineering study to determine the required modifications to the Transmission Owner's Transmission System, including the cost and scheduled completion date for such modifications that will be required to provide the requested transmission service.

1.14 Feasibility Analysis

An informal assessment of the nature of, costs of, and construction timeline for any Direct Assignment Facilities and/or Network Upgrades necessary to provide Transmission or Network Integration Transmission Service to a requesting Eligible Customer.

1.15 Firm Point-To-Point Transmission Service

Transmission Service under this Tariff that is reserved and/or scheduled between specified Points of Receipt and Delivery pursuant to Part II of this Tariff.

1.16 Good Utility Practice

Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in

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light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region, including those practices required by Federal Power Act Section 2 14(a)(4).

1.17 Independent Transmission Organization

The entity (referred to herein as the “ITO”) to which LG&E/KU have delegated the responsibility and authority to administer the Tariff.

1.18 Interruption

A reduction in non-firm transmission service due to economic reasons pursuant to Section 14.7.

1.19 Load Ratio Share

Ratio of a Transmission Customer’s Network Load to the Transmission Owner’s total load computed in accordance with Sections 34.2 and 34.3 of the Network Integration Transmission Service under Part III of the Tariff and calculated on a rolling twelve month basis.

1.20 Load Shedding

The systematic reduction of system demand by temporarily decreasing load in response to transmission system or area capacity shortages, system instability, or voltage control considerations under Part III of the Tariff.

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1.21 Long-Term Firm Point-To-Point Transmission Service

Firm Point-To-Point Transmission Service under Part II of the Tariff with a term of one year or more.

1.22 Native Load Customers

The wholesale and retail power customers of the Transmission Owner on whose behalf the Transmission Owner, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to construct and operate the Transmission Owner's system to meet the reliable electric needs of such customers.

1.23 Network Customer

An entity receiving transmission service pursuant to the terms of the Transmission Owner's Network Integration Transmission Service under Part III of the Tariff.

1.24 Network Integration Transmission Service

The transmission service provided under Part III of the Tariff.

1.25 Network Load

The load that a Network Customer designates for Network Integration Transmission Service under Part III of the Tariff. The Network Customer's Network Load shall include all load served by the output of any Network Resources designated by the Network Customer. A Network Customer may elect to designate less than its total load as Network Load but may not designate only part of the load at a discrete Point of Delivery. Where an Eligible Customer has elected not to designate a particular load at discrete points of delivery as Network Load, the Eligible Customer is responsible for making separate arrangements

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under Part II of the Tariff for any Point-To-Point Transmission Service that may be necessary for such non-designated load.

1.26 Network Operating Agreement

An executed agreement that contains the terms and conditions under which the Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of Network Integration Transmission Service under Part III of the Tariff.

1.27 Network Operating Committee

A group made up of representatives from the Network Customer(s) and the Transmission Owner established to coordinate operating criteria and other technical considerations required for implementation of Network Integration Transmission Service under Part III of this Tariff.

1.28 Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis, except for purposes of fulfilling obligations under a reserve sharing program.

1.29 Network Upgrades

Modifications or additions to transmission-related facilities that are integrated with and support the Transmission Owner's overall Transmission System for the

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general benefit of all users of such Transmission System.

1.30 Non-Firm Energy Exchange Transmission Service (NFEETS)

Transmission service provided in accordance with Attachment S of this Tariff.

1.31 Non-Firm Point-To-Point Transmission Service

Point-To-Point Transmission Service under the Tariff that is reserved and scheduled on an as-available basis and is subject to Curtailment or Interruption as set forth in Section 14.7 under Part II of this Tariff. Non-Firm Point-To-Point Transmission Service is available on a stand-alone basis for periods ranging from one hour to one month.

1.32 Non-Firm Sale

An energy sale for which receipt or delivery may be interrupted for any reason or no reason, without liability on the part of either the buyer or the seller.

1.33 Open Access Same-Time Information System (OASIS)

The information system and standards of conduct contained in Part 37 of the Commission's regulations and all additional requirements implemented by subsequent Commission orders dealing with OASIS.

1.34 Part I

Tariff Definitions contained in Section 1 and Common Service Provisions contained in Sections 2 through 12.

1.35 Part II

Tariff Sections 13 through 27 pertaining to Point-To-Point Transmission Service in conjunction with the applicable Common Service Provisions of Part

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I and appropriate Schedules and Attachments.

1.36 Part III:

Tariff Sections 28 through 35 pertaining to Network Integration Transmission Service in conjunction with the applicable Common Service Provisions of Part I and appropriate Schedules and Attachments.

1.37 Parties

The Transmission Owner and the Transmission Customer receiving service under the Tariff.

1.38 Point(s) of Delivery

Point(s) on the Transmission System where capacity and energy transmitted will be made available to the Receiving Party under Part II of the Tariff. The Point(s) of Delivery shall be specified in the Service Agreement for Long-Term Firm Point-To-Point Transmission Service.

1.39 Point(s) of Receipt

Point(s) of interconnection on the Transmission System where capacity and energy will be made available to the Transmission Owner by the Delivering Party under Part II of the Tariff. The Point(s) of Receipt shall be specified in the Service Agreement for Long-Term Firm Point-To-Point Transmission Service.

1.40 Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on either a firm or nonfirm basis from the Point(s) of Receipt to the Point(s) of Delivery under Part II of the Tariff.

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1.41 Power Purchaser

The entity that is purchasing the capacity and energy to be transmitted under the Tariff.

1.42 Pre-Confirmed Application

An Application that commits the Eligible Customer to execute a Service Agreement upon receipt of notification that the Transmission Owner can provide the requested Transmission Service.

1.43 Receiving Party

The entity receiving the capacity and energy transmitted to Point(s) of Delivery.

1.44 Reliability Coordinator

The party charged with providing reliability coordination service for the Transmission Owner's system in accordance with Attachment P hereto and any other applicable agreement or arrangements.

1.45 Regional Transmission Group (RTG)

A voluntary organization of transmission owners, transmission users and other entities approved by the Commission to efficiently coordinate transmission planning (and expansion), operation and use on a regional (and interregional) basis.

1.46 Reserved Capacity

The maximum amount of capacity and energy that the ITO agrees shall be transmitted for the Transmission Customer over the Transmission System between the Point(s) of Receipt and the Point(s) of Delivery, subject to the

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provisions of the Tariff, particularly Part II hereof. Reserved Capacity shall be expressed in terms of whole megawatts on a sixty (60) minute interval (commencing on the clock hour) basis.

1.47 Service Agreement

The initial agreement and any amendments or supplements thereto entered into by the Transmission Customer, the Transmission Owner for service under the Tariff.

1.48 Service Commencement Date

The date transmission service begins pursuant to the terms of an executed Service Agreement, or the date such service begins in accordance with Section 15.3 or Section 29.1 under the Tariff.

1.49 Short-Term Firm Point-To-Point Transmission Service

Firm Point-To-Point Transmission Service under Part II of the Tariff with a term of less than one year.

1.50 Stakeholder

Any party interested in the Southeastern Regional Transmission Planning Process, including but not limited to transmission and interconnection customers, generation owners/development companies, developers of alternative resources, or state commission.

1.51 System Condition

A specified condition on the Transmission Owner's system or on a neighboring system, such as a constrained transmission element or flowgate, that may trigger

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Curtailment of Long-Term Firm Point-to-Point Transmission Service using the curtailment priority pursuant to Section 13.6. Such conditions must be identified in the Transmission Customer's Service Agreement.

1.52 System Impact Study

An assessment by the ITO of (i) the adequacy of the Transmission System to accommodate a request for either Firm Point-To-Point Transmission Service or Network Integration Transmission Service and (ii) whether any additional costs may be incurred in order to provide transmission service.

1.53 Third-Party Sale

Any sale for resale in interstate commerce to a Power Purchaser that is not designated as part of Network Load under the Network Integration Transmission Service.

1.54 Transmission Customer

Any Eligible Customer (or its Designated Agent) that (i) executes a Service Agreement, or (ii) requests in writing that Transmission Owner file with the Commission, a proposed unexecuted Service Agreement to receive transmission service under Part II of the Tariff. This term is used in the Part I Common Service Provisions to include customers receiving transmission service under Part II and Part III of this Tariff. In addition, this term is used in Part I to include customers receiving Non-Firm Energy Exchange Transmission Service under Attachment S to this Tariff, unless specifically excluded in Attachment S.

1.55 Transmission Owner

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LG&E/KU, the public utility operating companies which: (i) own the Transmission System; (ii) contract with the ITO for purposes of independently administering the terms of the Tariff; (iii) conduct those functions specified herein necessary to ensure the availability of open access transmission service under the Tariff; and (iv) receive payment for Transmission Service as provided for in the Tariff.

1.56 Transmission Owner Monthly Transmission System Peak

The maximum firm usage of the Transmission Owner's Transmission System in a calendar month.

1.57 Transmission Service

Point-To-Point Transmission Service provided under Part II of the Tariff on a firm and non-firm basis.

1.58 Transmission System

The facilities owned and operated by the Transmission Owner as provided for in this Tariff, that are used to provide Transmission Service under Part II and Part III of the Tariff.

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2 Initial Allocation, Renewal Procedures, and Feasibility Analysis Service

2.1 Initial Allocation of Available Transfer Capability

For purposes of determining whether existing capability on the Transmission System is adequate to accommodate a request for firm service under this Tariff, all Completed Applications for new firm transmission service received during the initial sixty (60) day period commencing with the effective date of the Tariff will be deemed to have been filed simultaneously. A lottery system conducted by an independent party shall be used to assign priorities for Completed Applications filed simultaneously. All Completed Applications for firm transmission service received after the initial sixty (60) day period shall be assigned a priority pursuant to Section 13.2.

2.2 Reservation Priority For Existing Firm Service Customers

Existing firm service customers (wholesale requirements and transmission-only, with a contract term of five years or more), have the right to continue to take Transmission Service when the Service Agreement expires, rolls over or is renewed. This transmission reservation priority is independent of whether the existing customer continues to purchase capacity and energy from the Transmission Owner or elects to purchase capacity and energy from another supplier. If, at the end of the contract term, the Transmission System cannot accommodate all of the requests for transmission service, the existing firm service customer must agree to accept a contract term at least equal to a competing request by any new Eligible Customer and to pay the current just

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and reasonable rate, as approved by the Commission, for such service;

provided that, the firm service customer shall have a right of first refusal at the end of such service only if the new contract is for five years or more.

The existing firm service customer must provide notice to the Transmission Owner and the ITO through OASIS whether it will exercise its right of first refusal no less than one year prior to the expiration of its transmission Service Agreement. This transmission reservation priority for existing firm service customers is an ongoing right that may be exercised at the end of all firm contract terms of five years or longer. Service Agreements subject to a right of first refusal entered into prior to [the date of the Transmission Owner's filing adopting the reformed rollover language herein in compliance with Order No. 890] or associated with a transmission service request received prior to July 13, 2007, unless terminated, will become subject to the five year/one year requirement on the first rollover date after [the date of the Transmission Owner's filing adopting the reformed rollover language herein in compliance with Order No. 890]; provided that, the one-year notice requirement shall apply to such service agreements with five years or more left in their terms as of the [date of the Owner's filing adopting the reformed rollover language herein in compliance with Order No. 890].

2.3 Feasibility Analysis Service

At any time before making a new request for Point-to-Point or Network Integration Transmission Service, an Eligible Customer may request that the

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ITO perform, or cause to be performed (by the Transmission Owner or another third party), a Feasibility Analysis. If such a request is made, the Feasibility Analysis shall be performed for a flat fee of \$5,000.

Within 15 days of receiving a request for FAS, the ITO shall tender an FAS Agreement (Attachment R to the OATT) to the requesting Eligible Customer. In order for the FAS request to remain valid, the requesting Eligible Customer shall return an executed FAS Agreement to the ITO within 15 days of receipt, along with payment of the \$5,000 fee. The ITO or its designee shall perform Feasibility Analyses in the order in which a completed and executed Feasibility Analysis, together with the \$5,000 fee, is received.

All Feasibility Analyses shall be performed on a non-discriminatory basis. The results of a Feasibility Analysis performed pursuant to this Section 2.3 shall be non-binding on either the requesting Eligible Customer or the ITO. Any System Impact Study or Facilities Study performed subsequent to a Feasibility Analysis may reach different results.

If the requesting Eligible Customer requests a System Impact Study after the FAS, the ITO shall credit the \$5,000 FAS fee towards the fee for performing a System Impact Study.

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3 Ancillary Services

Ancillary Services are needed with transmission service to maintain reliability within and among the Balancing Authority Areas affected by the transmission service. The Transmission Owner is required to provide or offer to arrange with the local Balancing Authority to provide, as discussed below, and the Transmission Customer is required to purchase, the following Ancillary Services from the Balancing Authority (i) Scheduling, System Control and Dispatch, and (ii) Reactive Supply and Voltage Control from Generation or Other Sources.

The Transmission Owner is required to offer to arrange with the local Balancing Authority as discussed below for the following Ancillary Services only to the Transmission Customer serving load within the Transmission Owner's Balancing Authority Area (i) Regulation and Frequency Response, (ii) Energy Imbalance, (iii) Operating Reserve - Spinning, and (iv) Operating Reserve – Supplemental. The Transmission Customer serving load within the Balancing Authority Area operated by the Transmission Owner is required to acquire these Ancillary Services, whether through the ITO, from a third party (including the Transmission Owner), or by self-supply.

The Transmission Owner is required to provide , to the extent it is physically feasible to do so from its resources or from resources available to it, Generator Imbalance Service when Transmission Service is used to deliver energy from a generator located within its Balancing Authority Area. The Transmission Customer using Transmission Service to deliver energy from a generator located within the Transmission Owner's

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Balancing Authority Area is required to acquire Generator Imbalance Service, whether from the Transmission Owner, from a third party, or by self-supply.

The Transmission Customer may not decline to purchase Ancillary Services provided by the Transmission Owner unless the Transmission Customer demonstrates that it has acquired the Ancillary Services from another source. The Transmission Customer must list in its Application which Ancillary Services it will purchase from the Transmission Owner. The Transmission Owner is required to offer and provide the Ancillary Services as provided for in the Schedules of the Tariff. A Transmission Customer that exceeds its firm reserved capacity at any Point of Receipt or Point of Delivery or an Eligible Customer that uses Transmission Service at a Point of Receipt or Point of Delivery that it has not reserved is required to pay for all of the Ancillary Services identified in this section that were provided by the Transmission Owner associated with the unreserved service. The Transmission Customer or Eligible Customer will pay for Ancillary Services based on the amount of transmission service it used but did not reserve.

The Transmission Owner shall specify the rate treatment and all related terms and conditions in the event of an unauthorized use of Ancillary Services by the Transmission Customer.

The specific Ancillary Services, prices and/or compensation methods are described on the Schedules that are attached to and made a part of the Tariff. Three principal requirements apply to discounts for Ancillary Services provided by the Transmission Owner as follows: (1) any offer of a discount made by the Transmission

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Owner must be announced to all Eligible Customers solely by posting on the OASIS, (2) any customer-initiated requests for discounts (including requests for use by one's wholesale merchant or an Affiliate's use) must occur solely by posting on the OASIS, and (3) once a discount is negotiated, details must be immediately posted on the OASIS. A discount agreed upon for an Ancillary Service must be offered for the same period to all Eligible Customers on the Transmission Owner's system. Sections 3.1 through 3.7 below list the seven Ancillary Services.

3.1 Scheduling, System Control and Dispatch Service

The rates and/or methodology are described in Schedule 1.

3.2 Reactive Supply and Voltage Control from Generation or Other Sources Service

The rates and/or methodology are described in Schedule 2.

3.3 Regulation and Frequency Response Service

Where applicable the rates and/or methodology are described in Schedule 3.

3.4 Energy Imbalance Service

Where applicable the rates and/or methodology are described in Schedule 4.

3.5 Operating Reserve - Spinning Reserve Service

Where applicable the rates and/or methodology are described in Schedule 5.

3.6 Operating Reserve - Supplemental Reserve Service

Where applicable the rates and/or methodology are described in Schedule 6.

3.7 Generator Imbalance Service

Where applicable the rates and/or methodology are described in Schedule 9.

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4 Open Access Same-Time Information System (OASIS)

4.1 Terms and Conditions

Terms and conditions regarding Open Access Same-Time Information System and standards of conduct are set forth in 18 CFR § 37 of the Commission's regulations (Open Access Same-Time Information System and Standards of Conduct for Public Utilities) and 18 CFR § 38 of the Commission's regulations (Business Practice Standards and Communication Protocols for Public Utilities). In the event available transfer capability as posted on the OASIS is insufficient to accommodate a request for firm transmission service, additional studies may be required as provided by this Tariff pursuant to Sections 19 and 32.

The ITO shall post on OASIS and the Transmission Owner's public website an electronic link to all rules, standards and practices that (i) relate to the terms and conditions of transmission service, (ii) are not subject to a North American Energy Standards Board (NAESB) copyright restriction, and (iii) are not otherwise included in this Tariff. The ITO shall post on the Transmission Owner's OASIS and on the public website an electronic link to the NAESB website where any rules, standards and practices that are protected by copyright may be obtained. The ITO shall also post on OASIS and on the public website an electronic link to a statement of the process by which the rules, standards and practices that are not included in this Tariff shall be added, deleted or otherwise modified. Such process shall set forth the means by which the ITO shall provide reasonable advance notice to Transmission Customers and Eligible Customers of

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any such additions, deletions or modifications, the associated effective date, and
any additional implementation procedures that the ITO deems appropriate.

4.2 NAESB WEQ Business Practice Standards

The current versions of the NAESB WEQ Business Practice Standards
incorporated by reference into the Commission's regulations as specified in Part
38 of the Commission's regulations (18 CFR Part 38) are incorporated by
reference into this tariff.

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5 Local Furnishing Bonds

5.1 Transmission Owners That Own Facilities Financed by Local Furnishing Bonds

This provision is applicable only to Transmission Owners that have financed facilities for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code (“local furnishing bonds. Notwithstanding any other provision of this Tariff, the Transmission Owner shall not be required to make available transmission service to any Eligible Customer pursuant to this Tariff if the provision of such transmission service would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance the Transmission Owner’s facilities that would be used in providing such transmission service.

5.2 Alternative Procedures for Requesting Transmission Service

(i) If the Transmission Owner determines that the provision of transmission service requested by an Eligible Customer would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance the Transmission Owner’s facilities that would be used in providing such transmission service, it shall advise the Eligible Customer within thirty (30) days of receipt of the Completed Application.

(ii) If the Eligible Customer thereafter renews its request for the same transmission service referred to in (1) by tendering an application under Section 211 of the Federal Power Act, the Transmission Owner, within ten (10) days of

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receiving a copy of the Section 211 application, will waive its rights to a request for service under Section 213(a) of the Federal Power Act and to the issuance of a proposed order under Section 212(c) of the Federal Power Act. The Commission, upon receipt of the waiver of rights to a request for service under Section 213(a) of the Federal Power Act and to the issuance of a proposed order under Section 212(c) of the Federal Power Act, shall issue an order under Section 211 of the Federal Power Act. Upon issuance of the order under Section 211 of the Federal Power Act, the Transmission Owner shall be required to make available the requested transmission service in accordance with the terms and conditions of this Tariff.

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6 Reciprocity

A Transmission Customer receiving transmission service under this Tariff agrees to provide comparable transmission service that it is capable of providing to the Transmission Owner on similar terms and conditions over facilities used for the transmission of electric energy owned, controlled or operated by the Transmission Customer and over facilities used for the transmission of electric energy owned, controlled or operated by the Transmission Customer's corporate Affiliates. A Transmission Customer that is a member of, or takes transmission service from, a power pool, Regional Transmission Group, Regional Transmission Organization (RTO) or Independent System Operator (ISO) or other transmission organization approved by the Commission for the operation of transmission facilities also agrees to provide comparable transmission service to the transmission-owning members of such power pool and Regional Transmission Group, RTO, ISO or other transmission organization on similar terms and conditions over facilities used for the transmission of electric energy owned, controlled or operated by the Transmission Customer and over facilities used for the transmission of electric energy owned, controlled or operated by the Transmission Customer's corporate Affiliates.

This reciprocity requirement applies not only to the Transmission Customer that obtains transmission service under the Tariff, but also to all parties to a transaction that involves the use of transmission service under the Tariff, including the power seller, buyer and any intermediary, such as a power marketer. This reciprocity requirement also applies to any Eligible Customer that owns controls or operates transmission facilities

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that uses an intermediary, such as a power marketer, to request transmission service under the Tariff. If the Transmission Customer does not own, control or operate transmission facilities, it must include in its Application a sworn statement of one of its duly authorized officers or other representatives that the purpose of its Application is not to assist an Eligible Customer to avoid the requirements of this provision.

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7 Billing and Payment

7.1 Billing Procedure

Within a reasonable time after the first day of each month, the Transmission Owner shall submit an invoice to the Transmission Customer for the charges for all services furnished under the Tariff during the preceding month. The invoice shall be paid by the Transmission Customer within twenty (20) days of receipt. All payments shall be made in immediately available funds payable to the Transmission Owner, or by wire transfer to a bank named by the Transmission.

7.2 Interest on Unpaid Balances

Interest on any unpaid amounts (including amounts placed in escrow) shall be calculated in accordance with the methodology specified for interest on refunds in the Commission's regulations at 18 CFR § 35.1 9a(a)(2)(iii). Interest on delinquent amounts shall be calculated from the due date of the bill to the date of payment. When payments are made by mail, bills shall be considered as having been paid on the date of receipt by the Transmission Owner.

7.3 Customer Default

In the event the Transmission Customer fails, for any reason other than a billing dispute as described below, to make payment to the Transmission Owner on or before the due date as described above, and such failure of payment is not corrected within thirty (30) calendar days after the Transmission Owner notifies the Transmission Customer to cure such failure, a default by the Transmission Customer shall be deemed to exist. Upon the occurrence of a default, the

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Transmission Owner may initiate a proceeding with the Commission to terminate service but shall not terminate service until the Commission so approves any such request. In the event of a billing dispute between the Transmission Owner and the Transmission Customer, the Transmission Owner will continue to ensure that service under the Service Agreement is provided as long as the Transmission Customer (i) continues to make all payments not in dispute, and (ii) pays into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If the Transmission Customer fails to meet these two requirements for continuation of service, then the Transmission Owner may provide notice to the Transmission Customer of its intention to suspend service in sixty (60) days, in accordance with Commission policy.

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8 Accounting for the Transmission Owner's Use of the Tariff

The Transmission Owner shall record the following amounts, as outlined below.

8.1 Transmission Revenues

Include in a separate operating revenue account or sub-account the revenues it receives from Transmission Service associated with Third-Party Sales made by the Transmission Owner under Part II of the Tariff.

8.2 Study Costs and Revenues

Include in a separate transmission operating expense account or sub-account, costs properly chargeable to expenses that are incurred to perform any System Impact Studies or Facilities Studies which the ITO conducts to determine if the Transmission Owner must construct new transmission facilities or upgrades necessary for the Transmission Owner's own uses, including the Transmission Owner's Third-Party Sales under the Tariff; and include in a separate operating revenue account or sub-account the revenues received for System Impact Studies or Facilities Studies performed when such amounts are separately stated and identified in the Transmission Customer's billing under the Tariff.

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9 Regulatory Filings

Nothing contained in the Tariff or any Service Agreement shall be construed as affecting in any way the right of the Transmission Owner to unilaterally make application to the Commission for a change in rates, terms and conditions, charges, classification of service, Service Agreement, rule or regulation under Section 205 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder.

Nothing contained in the Tariff or any Service Agreement shall be construed as affecting in any way the ability of any Party to exercise its rights under the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder.

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Part I_10 Force Majeure and Indemnification
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10 Force Majeure and Indemnification

10.1 Force Majeure

An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any Curtailment, order, regulation or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing. Neither the ITO nor the Transmission Customer will be considered in default as to any obligation under this Tariff if prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Tariff is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Tariff.

10.2 Indemnification

The Transmission Customer shall at all times indemnify, defend, and save the ITO and the Transmission Owner harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the ITO and/or the Transmission Owner's performance of obligations under this Tariff on behalf of the Transmission Customer, except in

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cases of negligence or intentional wrongdoing by the ITO or the Transmission
Owner.

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Part 1_11
Part I_11 Creditworthiness
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11 Creditworthiness

The Transmission Owner will specify its Creditworthiness procedures in Attachment L.

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Part I_12 Dispute Resolution Procedures
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12 Dispute Resolution Procedures

12.1 Internal Dispute Resolution Procedures

Any dispute between a Transmission Customer and the ITO or Transmission Owner involving transmission service under the Tariff (excluding applications for rate changes or other changes to the Tariff, or to any Service Agreement entered into under the Tariff, which shall be presented directly to the Commission for resolution) shall be referred to a designated senior representative of the parties to the dispute for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days (or such other period as the parties to the dispute may agree upon) by mutual agreement, such dispute may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.

12.2 External Arbitration Procedures

Any arbitration initiated under the Tariff shall be conducted before a single neutral arbitrator appointed by the parties to the dispute. If the parties fail to agree upon a single arbitrator within ten (10) days of the referral of the dispute to arbitration, and there are three parties to the dispute, each party shall choose one arbitrator who shall sit on a three-member arbitration panel. If there are two parties in dispute, each party shall choose one arbitrator who shall sit on a three-member arbitration panel, and the two arbitrators so chosen shall within twenty (20) days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric

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transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association and any applicable Commission regulations or Regional Transmission Group rules.

12.3 Arbitration Decisions

Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of appointment and shall notify the parties to the dispute in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the Tariff and any Service Agreement entered into under the Tariff and shall have no power to modify or change any of the above in any manner. The decision of the arbitrator(s) shall be final and binding upon the parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act and/or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with the Commission if it affects jurisdictional rates, terms and conditions of service or facilities.

12.4 Costs

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Each party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:

- (A) the cost of the arbitrator chosen by the party to sit on the three member panel and one half of the cost of the third arbitrator chosen (in the case of a two-party dispute); or
- (B) pro rata share of the cost of the single arbitrator jointly chosen by the parties.

12.5 Rights Under The Federal Power Act

Nothing in this section shall restrict the rights of any party to file a Complaint with the Commission under relevant provisions of the Federal Power Act.

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Part II_0
Part II_0 Preamble
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POINT-TO-POINT TRANSMISSION SERVICE

Preamble

The Transmission Owner will make available, Firm and Non-Firm Point-To- Point Transmission Service pursuant to the applicable terms and conditions of this Tariff. Point-To-Point Transmission Service is for the receipt of capacity and energy at designated Point(s) of Receipt and the transfer of such capacity and energy to designated Point(s) of Delivery. Transmission Customers shall arrange for such service with the ITO.

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13 Nature of Firm Point-To-Point Transmission Service

13.1 Term

The minimum term of Firm Point-To-Point Transmission Service shall be one day and the maximum term shall be specified in the Service Agreement.

13.2 Reservation Priority

- (i) Long-Term Firm Point-To-Point Transmission Service shall be available on a first-come, first-served basis i.e., in the chronological sequence in which each Transmission Customer has reserved service.
- (ii) Reservations for Short-Term Firm Point-To-Point Transmission Service will be conditional based upon the length of the requested transaction or reservation. However, Pre-Confirmed Applications for Short-Term Point-to-Point Transmission Service will receive priority over earlier-submitted requests that are not Pre-Confirmed and that have equal or shorter duration. Among requests or reservations with the same duration and pre-confirmation status (pre-confirmed, confirmed, or not confirmed), priority will be given to an Eligible Customer's request or reservation that offers the highest price, followed by the date and time of the request or reservation.
- (iii) If the Transmission System becomes oversubscribed, requests for service may preempt competing reservations up to the following conditional reservation deadlines: one day before the commencement of daily service one week before the commencement of weekly service, and one month before the commencement of monthly service. Before the conditional reservation deadline, if available transfer

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capability is insufficient to satisfy all requests and reservations, an Eligible Customer with a reservation for shorter term service or equal duration service and a lower price has the right of first refusal to match any longer term request or equal duration service with a higher price before losing its reservation priority. A longer term competing request for Short-Term Firm Point-To-Point Transmission Service will be granted if the Eligible Customer with the right of first refusal does not agree to match the competing request within 24 hours (or earlier if necessary to comply with the scheduling deadlines provided in section 13.8) from being notified by the ITO of a longer-term competing request for Short-Term Firm Point-To-Point Transmission Service. When a longer duration request preempts multiple shorter duration reservations, the shorter duration reservations shall have simultaneous opportunities to exercise the right of first refusal. Duration, price and time of response will be used to determine the order by which the multiple shorter duration reservations will be able to exercise the right of first refusal. After the conditional reservation deadline, service will commence pursuant to the terms of Part II of the Tariff.

(iv) Firm Point-To-Point Transmission Service will always have a reservation priority over Non-Firm Point-To-Point Transmission Service under the Tariff. All Long-Term Firm Point-To-Point Transmission Service will have equal reservation priority with Native Load Customers and Network Customers, consistent with the terms of the Schedules. Reservation priorities for existing firm service customers are provided in Section 2.2.

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13.3 Use of Firm Transmission Service by the Transmission Owner

The Transmission Owner will be subject to the rates, terms and conditions of Part II of the Tariff when making Third-Party Sales under the Tariff. The ITO and the Transmission Owner will ensure that separate accounting is maintained, pursuant to Section 8, for any use by the Transmission Owner of the Point-To-Point Transmission Service to make its own Third-Party Sales.

13.4 Service Agreements

The ITO shall offer a standard form Firm Point-To-Point Transmission Service Agreement (Attachment A) to an Eligible Customer when it submits a Completed Application for Long-Term Firm Point-To-Point Transmission Service. The ITO shall offer a standard form Firm Point-To-Point Transmission Service Agreement (Attachment A) to an Eligible Customer when it first submits a Completed Application for Short-Term Firm Point-To-Point Transmission Service pursuant to the Tariff. Executed Service Agreements that contain the information required under the Tariff shall be filed with the Commission in compliance with applicable Commission regulations. An Eligible Customer that uses Transmission Service at a Point of Receipt or Point of Delivery that it has not reserved and that has not executed a Service Agreement will be deemed, for purposes of assessing any appropriate charges and penalties, to have executed the appropriate Service Agreement. The Service Agreement shall, when applicable, specify any conditional curtailment options selected by the Transmission Customer. Where the Service Agreement contains conditional curtailment options and is subject to a

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biennial reassessment as described in Section 15.4, the ITO shall provide the Transmission Customer notice of any changes to the curtailment conditions no less than 90 days prior to the date for imposition of new curtailment conditions. Concurrent with such notice, the ITO shall provide the Transmission Customer with the reassessment study and a narrative description of the study, including the reasons for changes to the number of hours per year or System Conditions under which conditional curtailment may occur.

13.5 Transmission Customer Obligations for Facility Additions or Redispatch Costs

In cases where the ITO determines that the Transmission System is not capable of providing Firm Point-To-Point Transmission Service without (1) degrading or impairing the reliability of service to Native Load Customers, Network Customers and other Transmission Customers taking Firm Point-To-Point Transmission Service, or (2) interfering with the ITO's ability to meet prior firm contractual commitments to others, the Transmission Owner will be obligated to expand or upgrade its Transmission System pursuant to the terms of Section 15.4. The Transmission Customer must agree to compensate the Transmission Owner for any necessary transmission facility additions pursuant to the terms of Section 27 and the Schedules. To the extent the Transmission Owner can relieve any system constraint by redispatching the Transmission Owner's resources, the Transmission Owner shall do so, provided that the Eligible Customer agrees to compensate the Transmission Owner pursuant to the terms of Section 27 and agrees to either (i) compensate the Transmission Owner for any necessary

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transmission facility additions or (ii) accept the service subject to a biennial reassessment by the ITO of redispatch requirements as described in Section 15.4. Any redispatch, Network Upgrade or Direct Assignment Facilities costs to be charged to the Transmission Customer on an incremental basis under the Tariff will be specified in the Service Agreement prior to initiating service.

13.6 Curtailment of Firm Transmission Service

In the event that a Curtailment on the Transmission Owner's Transmission System, or a portion thereof, is required to maintain reliable operation of such system, Curtailments will be made on a non-discriminatory basis to the transaction(s) that effectively relieve the constraint. If multiple transactions require Curtailment, to the extent practicable and consistent with Good Utility Practice, the Balancing Authority will curtail service to Network Customers and Transmission Customers taking Firm Point- To-Point Transmission Service on a basis comparable to the curtailment of service to the Transmission Owner's Native Load Customers. All Curtailments will be made on a non-discriminatory basis; however, Non-Firm Point-To-Point Transmission Service shall be subordinate to Firm Transmission Service. Long-Term Firm Point-to-Point Service subject to conditions described in Section 15.4 shall be curtailed with secondary service in cases where the conditions apply, but otherwise will be curtailed on a pro rata basis with other Firm Transmission Service. When the Balancing Authority determines that an electrical emergency exists on its Transmission System and implements emergency procedures to Curtail Firm

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Transmission Service, the Transmission Customer shall make the required reductions upon request of the Balancing Authority where applicable. However, the Balancing Authority reserves the right to Curtail, in whole or in part, any Firm Transmission Service provided under the Tariff when the Balancing Authority in its sole discretion determines that an emergency or other unforeseen condition will impair or degrade the reliability of the Transmission System. The Control Area Operator or ITO will notify all affected Transmission Customers through the scheduling function of the OASIS in a timely manner of any scheduled Curtailments. Such Curtailments may also be ordered by the Reliability Coordinator.

13.7 Classification of Firm Transmission Service

(a) The Transmission Customer taking Firm Point-To-Point Transmission Service may (1) change its Receipt and Delivery Points to obtain service on a non-firm basis consistent with the terms of Section 22.1 or (2) request a modification of the Points of Receipt or Delivery on a firm basis pursuant to the terms of Section 22.2.

(b) The Transmission Customer may purchase transmission service to make sales of capacity and energy from multiple generating units that are on the Transmission System. For such a purchase of transmission service, the resources will be designated as multiple Points of Receipt, unless the multiple generating units are at the same generating plant in which case the units would be treated as a single Point of Receipt.

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(c) The Transmission Owner shall make service available for firm deliveries of capacity and energy from the Point(s) of Receipt to the Point(s) of Delivery. Each Point of Receipt at which firm transfer capability is reserved by the Transmission Customer shall be set forth in the Firm Point-To-Point Service Agreement for Long-Term Firm Transmission Service along with a corresponding capacity reservation associated with each Point of Receipt. Points of Receipt and corresponding capacity reservations shall be as mutually agreed upon by the ITO and Transmission Customer for Short- Term Firm Transmission. Each Point of Delivery at which firm transfer capability is reserved by the Transmission Customer shall be set forth in the Firm Point-To-Point Service Agreement for Long-Term Firm Transmission Service along with a corresponding capacity reservation associated with each Point of Delivery, Points of Delivery and corresponding capacity reservations shall be as mutually agreed upon by the ITO and Transmission Customer for Short- Term Firm Transmission. The greater of either (1) the sum of the capacity reservations at the Point(s) of Receipt, or (2) the sum of the capacity reservations at the Point(s) of Delivery shall be the Transmission Customer's Reserved Capacity. The Transmission Customer will be billed for its Reserved Capacity under the terms of Schedule 7. The Transmission Customer may not exceed its firm capacity reserved at each Point of Receipt and each Point of Delivery except as otherwise specified in Section 22. The Transmission Owner shall specify the rate treatment and all related terms and conditions applicable in the event that a Transmission Customer (including Third-

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Party Sales by the Transmission Owner) exceeds its firm reserved capacity at any Point of Receipt or Point of Delivery or uses Transmission Service at a Point of Receipt or Point of Delivery that it has not reserved.

13.8 Scheduling of Firm Point-To-Point Transmission Service

Schedules for the Transmission Customer's Firm Point-To-Point Transmission Service must be submitted to the ITO and Balancing Authority no later than 10:00 a.m. EST (Eastern Standard Time) of the day prior to commencement of such service. Schedules submitted after 10:00 a.m. EST will be accommodated, if practicable. Hour-to-Hour and intra-hour (four intervals consisting of fifteen minute schedules) schedules of any capacity and energy that is to be delivered must be stated in increments of 1,000 kW per hour. Transmission Customers within the Transmission Owner's service area with multiple requests for Transmission service at a Point of Receipt, each of which is under 1,000 kW per hour, may consolidate their service requests at a common point of receipt into units of 1,000 kW per hour for scheduling and billing purposes. Scheduling changes will be permitted up to twenty (20) minutes before the start of the next scheduling interval provided that the Delivering Party and Receiving Party also agree to the schedule modification. The Balancing Authority will furnish to the Delivering Party's system operator, hour-to-hour and intra-hour schedules equal to those furnished by the Receiving Party (unless reduced for losses) and shall deliver the capacity and energy provided by such schedules. Should the Transmission Customer, Delivering Party or Receiving Party revise or terminate

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any schedule, such party shall immediately notify the Balancing Authority, and the Balancing Authority shall have the right to adjust accordingly the schedule for capacity and energy to be received and to be delivered.

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14 Nature of Non-Firm Point-To-Point Transmission Service

14.1 Term

Non-Firm Point-To-Point Transmission Service will be available for periods ranging from one (1) hour to one (1) month. However, a Purchaser of Non-Firm Point-To-Point Transmission Service will be entitled to reserve a sequential term of service (such as a sequential monthly term without having to wait for the initial term to expire before requesting another monthly term) so that the total time period for which the reservation applies is greater than one month, subject to the requirements of Section 18.3.

14.2 Reservation Priority

Non-Firm Point-To-Point Transmission Service shall be available from transfer capability in excess of that needed for reliable service to Native Load Customers, Network Customers and other Transmission Customers taking Long-Term and Short-Term Firm Point-To-Point Transmission Service. A higher priority will be assigned first to requests or reservations with a longer duration of service, and second to Pre-Confirmed Applications. In the event the Transmission System is constrained, competing requests of the same Pre-Confirmation status and equal duration will be prioritized based on the highest price offered by the Eligible Customer for the Transmission Service. Eligible Customers that have already reserved shorter term service have the right of first refusal to match any longer term request before being preempted. A longer term competing request for Non-Firm Point-To-Point Transmission Service will be granted if the Eligible

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Customer with the right of first refusal does not agree to match the competing request: (a) immediately for hourly Non-Firm Point-To-Point Transmission Service after notification by the ITO; and, (b) within 24 hours (or earlier if necessary to comply with the scheduling deadlines provided in Section 14.6) for Non-Firm Point-To-Point Transmission Service other than hourly transactions after notification by the ITO. Transmission service for Network Customers from resources other than designated Network Resources will have a higher priority than any Non-Firm Point-To-Point Transmission Service. Non-Firm Point-To-Point Transmission Service over secondary Point(s) of Receipt and Point(s) of Delivery will have the second lowest reservation priority under the Tariff, and NFEETS provided in accordance with Attachment S to the Tariff will have the lowest reservation priority.

14.3 Use of Non-Firm Point-To-Point Transmission Service by the Transmission Owner

The Transmission Owner will be subject to the rates, terms and conditions of Part II of the Tariff when making Third-Party Sales under this Tariff. The Transmission Owner will maintain separate accounting, pursuant to Section 8, for any use of Non-Firm Point-To-Point Transmission Service to make Third-Party Sales.

14.4 Service Agreements

The ITO shall offer a standard form Non-Firm Point-To-Point Transmission Service Agreement (Attachment B) to an Eligible Customer when it first submits a Completed Application for Non-Firm Point-To-Point Transmission Service

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pursuant to the Tariff. Executed Service Agreements that contain the information required under the Tariff shall be filed with the Commission in compliance with applicable Commission regulations.

14.5 Classification of Non-Firm Point-To-Point Transmission Service

Non-Firm Point-To-Point Transmission Service shall be offered under terms and conditions contained in Part II of the Tariff. The Transmission Owner undertakes no obligation under the Tariff to plan its Transmission System in order to have sufficient capacity for Non-Firm Point-To-Point Transmission Service. Parties requesting Non-Firm Point-To-Point Transmission Service for the transmission of firm power do so with the full realization that such service is subject to availability and to Curtailment or Interruption under the terms of the Tariff. The Transmission Owner shall specify the rate treatment and all related terms and conditions applicable in the event that a Transmission Customer (including Third-Party Sales by the Transmission Owner) exceeds its non-firm capacity reservation. Non-Firm Point-To-Point Transmission Service shall include transmission of energy on an hourly basis and transmission of scheduled short-term capacity and energy on a daily, weekly or monthly basis, but not to exceed one month's reservation for any one Application, under Schedule 8.

14.6 Scheduling of Non-Firm Point-To-Point Transmission Service

Schedules for Non-Firm Point-To-Point Transmission Service must be submitted to the ITO and Balancing Authority no later than 2:00 p.m. EST of the day prior to commencement of such service. Schedules submitted after 2:00 p.m. EST will

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be accommodated, if practicable. Hour-to-hour and intra-hour (four intervals consisting of fifteen minute schedules) schedules of energy that is to be delivered must be stated in increments of 1,000 kW per hour. Transmission Customers within the Transmission Owner's service area with multiple requests for Transmission Service at a Point of Receipt, each of which is under 1,000 kW per hour, may consolidate their schedules at a common Point of Receipt into units of 1,000 kW per hour. Scheduling changes will be permitted up to twenty (20) minutes before the start of the next scheduling interval, provided that the Delivering Party and Receiving Party also agree to the schedule modification. The Balancing Authority will furnish to the Delivering Party's system operator, hour-to-hour and intra-hour schedules equal to those furnished by the Receiving Party (unless reduced for losses) and shall deliver the capacity and energy provided by such schedules. Should the Transmission Customer, Delivering Party or Receiving Party revise or terminate any schedule, such party shall immediately notify the Balancing Authority, and the Balancing Authority shall have the right to adjust accordingly the schedule for capacity and energy to be received and to be delivered.

14.7 Curtailment or Interruption of Service

The Balancing Authority reserves the right to Curtail, in whole or in part, Non-Firm Point-To-Point Transmission Service provided under the Tariff for reliability reasons when, an emergency or other unforeseen condition threatens to impair or degrade the reliability of the Transmission System. The Balancing

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Authority reserves the right to Interrupt, in whole or in part, Non-Firm Point-To-Point Transmission Service provided under the Tariff for economic reasons in order to accommodate (1) a request for Firm Transmission Service, (2) a request for Non-Firm Point-To-Point Transmission Service of greater duration, (3) a request for Non-Firm Point-To-Point Transmission Service of equal duration with a higher price, (4) transmission service for Network Customers from non-designated resources or (5) transmission service for Firm Point-to-Point Transmission Service during conditional curtailment periods as described in Section 15.4. The Balancing Authority also will discontinue or reduce service made available to the Transmission Customer to the extent that deliveries for transmission are discontinued or reduced at the Point(s) of Receipt. Where required, Curtailments or Interruptions will be made on a non-discriminatory basis to the transaction(s) that effectively relieve the constraint, however, Non-Firm Point-To-Point Transmission Service shall be subordinate to Firm Transmission Service, and NFEETS shall be subordinate to Non-Firm Point-To-Point Transmission Service. If multiple transactions require Curtailment or Interruption, to the extent practicable and consistent with Good Utility Practice, Curtailments or Interruptions will be made to transactions of the shortest term (e.g., hourly non-firm transactions will be Curtailed or Interrupted before daily non-firm transactions and daily non-firm transactions will be Curtailed or Interrupted before weekly non-firm transactions). Transmission service for Network Customers from resources other than designated Network Resources will

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have a higher priority than any Non-Firm Point-To-Point Transmission Service under the Tariff. Non-Firm Point-To-Point Transmission Service over secondary Point(s) of Receipt and Point(s) of Delivery will have a lower priority than any Non-Firm Point-To-Point Transmission Service under the Tariff. NFEETS shall have the lowest priority service under the Tariff. The Balancing Authority will provide advance notice of Curtailment or Interruption where such notice can be provided consistent with Good Utility Practice.

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15 Service Availability

15.1 General Conditions

The Transmission Owner will make available Firm and Non-Firm Point-To-Point Transmission Service over, on or across the Transmission System to any Transmission Customer that has met the requirements of Section 16.

15.2 Determination of Available Transfer Capability

A description of the ITO's specific methodology for assessing available transfer capability posted on the Transmission Owner's OASIS (Section 4) is contained in Attachment C of the Tariff. In the event sufficient transfer capability may not exist to accommodate a request for Firm Transmission Service, the ITO will respond by performing a System Impact Study.

15.3 Initiating Service in the Absence of an Executed Service Agreement

If the Transmission Owner and the Transmission Customer requesting Firm or Non-Firm Point-To-Point Transmission Service cannot agree on all the terms and conditions of the Point-To-Point Service Agreement, the Transmission Owner shall file with the Commission, within thirty (30) days after the date the Transmission Customer provides written notification directing the Transmission Owner to file, an unexecuted Point-To-Point Service Agreement containing terms and conditions deemed appropriate by the Transmission Owner for such requested Transmission Service. The Transmission Owner shall commence providing Transmission Service subject to the Transmission Customer agreeing to (i) compensate the Transmission Owner at whatever rate

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the Commission ultimately determines to be just and reasonable, and (ii) comply with the terms and conditions of the Tariff including posting appropriate security deposits in accordance with the terms of Section 17.3.

15.4 Obligation to Provide Transmission Service that Requires Expansion or Modification of the Transmission System, Redispatch or Conditional Curtailment

- (a) If the ITO determines that a Completed Application for Firm Point- To- Point Transmission Service cannot be accommodated because of insufficient capability on the Transmission System, the Transmission Owner will use due diligence to expand or modify its Transmission System to provide the requested Firm Transmission Service, consistent with its planning obligations in Attachment K, provided the Transmission Customer agrees to compensate the Transmission Owner for such costs pursuant to the terms of Section 27. The ITO will follow Good Utility Practice and the planning obligations in Attachment K in assessing the need for new facilities and with respect to the design and construction of such facilities to be undertaken by the Transmission Owner. The obligation applies only to those facilities that the Transmission Owner has the right to expand or modify.
- (b) If the ITO determines that a Completed Application for Long-Term Firm Point-To-Point Transmission Service cannot be accommodated because of insufficient capability on the Transmission System, the Transmission Owner will use due diligence to provide redispatch from its own resources

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until (i) Network Upgrades are completed for the Transmission Customer, (ii) the ITO determines through a biennial reassessment that the redispatch can no longer be provided reliably, or (iii) the Transmission Customer terminates the service because of redispatch changes resulting from the reassessment. Neither the Transmission Owner nor the ITO shall unreasonably deny self-provided redispatch or redispatch arranged by the Transmission Customer from a third party resource.

- (c) If the ITO determines that a Completed Application for Long-Term Firm Point-To-Point Transmission Service cannot be accommodated because of insufficient capability on the Transmission System, the ITO will offer the Firm Transmission Service with the condition that the Transmission Owner may curtail the service prior to the curtailment of other Firm Transmission Service for a specified number of hours per year or during System Condition(s). If the Transmission Customer accepts the service, the Transmission Owner will use due diligence to provide the service until (i) Network Upgrades are completed for the Transmission Customer, (ii) the ITO determines through a biennial reassessment that such service can no longer be provided reliably, or (iii) the Transmission Customer terminates the service because the reassessment increased the number of hours per year of conditional curtailment or changed the System Conditions.

15.5 Deferral of Service

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The ITO may defer the commencement of service until the Transmission Owner completes construction of new transmission facilities or upgrades needed to provide Firm Point-To-Point Transmission Service whenever the ITO determines that providing the requested service would, without such new facilities or upgrades, impair or degrade reliability to any existing firm services.

15.6 Other Transmission Service Schedules

Eligible Customers receiving transmission service under other agreements on file with the Commission may continue to receive transmission service under those agreements until such time as those agreements may be modified by the Commission.

15.7 Real Power Losses

Real Power Losses are associated with all transmission service. The Transmission Owner is not obligated to provide Real Power Losses. The Transmission Customer is responsible for replacing losses associated with all transmission service calculated consistent with the terms of the Tariff. The applicable Real Power Loss factor is set forth in Schedule 11 hereto.

15.8 Service Agreements, GFAs, or OASIS Reservations in Effect as of December 28, 2004.

Pursuant to the terms of the Midwest ISO's Transmission Owner's Agreement Article V, as interpreted in *Louisville Gas & Electric Co., et al.* 114 FERC ¶ 61,282 (2006), all transmission agreements, GFAs, and OASIS reservations in place as of December 28, 2004 will receive service subject to the "service and pricing that they would have been entitled to receive, absent Applicants'

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withdrawal,” (*Id.* at P 45) until said agreements, GFAs, or OASIS reservations terminate.. The transmission agreements, GFAs and OASIS reservations covered by this hold harmless requirement are listed at Attachment E. For those agreements, GFAs, or OASIS reservations under which service has not terminated prior to Transmission Owner’s withdrawal from the Midwest ISO, this “hold harmless” requirement will be implemented as follows

a. “Drive-In” to the Midwest ISO: With respect to any transaction in which a customer sells electricity generated with a source in the Transmission Owner’s control area and a sink in the Midwest ISO: (i) the Applicants shall waive Tariff and ancillary services billings, as applicable, which otherwise would have been incurred to transmit electricity to the Midwest ISO/LG&E/KU interface; and (ii) the customer shall continue to be responsible for all Midwest ISO Charges incurred to deliver such electricity to any point within the Midwest ISO beyond the Midwest ISO/LG&E-KU interface.

b. “Drive-Out” of the Midwest ISO: With respect to any transaction in which a customer purchases electricity from a source in the Midwest ISO for delivery to such party’s load interconnected with the Transmission System: (i) Applicants shall credit their Tariff and ancillary services billings, as applicable, to the customer by an amount equal to the Midwest ISO Charges which the customer incurs to deliver such purchased electricity to the Midwest ISO/LG&E/KU interface, (provided, however, that no credit shall

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be applied for any Midwest ISO Charge for service that is not provided and charged by Applicants, *i.e.*, where there would be no pancaked charge), less any revenue that the customer receives as a Transmission Owner under the Midwest ISO; and (ii) the customer shall continue to be responsible for the Tariff and ancillary services billings, as applicable, incurred to deliver such electricity to their loads on the Applicants' transmission system.

c. For transactions that source in a Balancing Authority Area other than the Midwest ISO and sink in the Transmission Owner's Balancing Authority Area these customers will still only pay the Transmission Owner's Tariff and ancillary services charges.

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16 Transmission Customer Responsibilities

16.1 Conditions Required of Transmission Customers:

Point-To-Point Transmission Service shall be made available by the Transmission Owner only if the following conditions are satisfied by the Transmission Customer, as determined by the ITO:

- (a) The Transmission Customer has pending a Completed Application for service;
- (b) The Transmission Customer meets the creditworthiness criteria set forth in Section 11;
- (c) The Transmission Customer will have arrangements in place for any other transmission service necessary to effect the delivery from the generating source to the Transmission Owner prior to the time service under Part II of the Tariff commences;
- (d) The Transmission Customer agrees to pay for any facilities constructed and chargeable to such Transmission Customer under Part II of the Tariff whether or not the Transmission Customer takes service for the full term of its reservation;
- (e) The Transmission Customer provides the information required by the Transmission Owner's transmission planning process established in Attachment K; and
- (f) The Transmission Customer has executed a Point-To-Point Service Agreement or has agreed to receive service pursuant to Section 15.3.

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16.2 Transmission Customer Responsibility for Third-Party Arrangements

Any scheduling arrangements that may be required by other electric systems shall be the responsibility of the Transmission Customer requesting service. The Transmission Customer shall provide, unless waived by the ITO, notification to the ITO identifying such systems and authorizing them to schedule the capacity and energy to be transmitted by the Transmission Owner pursuant to Part II of the Tariff on behalf of the Receiving Party at the Point of Delivery or the Delivering Party at the Point of Receipt. However, the ITO will undertake reasonable efforts to assist the Transmission Customer in making such arrangements, including without limitation, providing any information or data required by such other electric system pursuant to Good Utility Practice.

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17 Procedures for Arranging Firm Point-To-Point Transmission Service

17.1 Application

A request for Firm Point-To-Point Transmission Service for periods of one year or longer must contain a written Application to: TranServ International, Inc., 3660 Technology Drive NE, Minneapolis, MN 55418 with a copy to LG&E and KU Energy LLC, 220 West Main Street, Louisville, KY 40202, at least sixty (60) days in advance of the calendar month in which service is to commence. The ITO will consider requests for such firm service on shorter notice when feasible. Requests for firm service for periods of less than one year shall be subject to expedited procedures that shall be negotiated between the Parties and ITO within the time constraints provided in Section 17.5. All Firm Point-To-Point Transmission Service requests should be submitted by entering the information listed below on the OASIS. Prior to implementation of the OASIS, a Completed Application may be submitted by (i) transmitting the required information to the ITO by telefax, or (ii) providing the information by telephone over the ITO's time recorded telephone line. Each of these methods will provide a time-stamped record for establishing the priority of the Application.

17.2 Completed Application

A Completed Application shall provide all of the information included in 18 CFR § 2.20 including but not limited to the following:

- (i) The identity, address, telephone number and facsimile number of the entity requesting service;

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- (ii) A statement that the entity requesting service is, or will be upon commencement of service, an Eligible Customer under the Tariff;
- (iii) The location of the Point(s) of Receipt and Point(s) of Delivery and the identities of the Delivering Parties and the Receiving Parties;
- (iv) The location of the generating facility(ies) supplying the capacity and energy and the location of the load ultimately served by the capacity and energy transmitted. The ITO and Transmission Owner will treat this information as confidential except to the extent that disclosure of this information is required by this Tariff, by regulatory or judicial order, for reliability purposes pursuant to Good Utility Practice or pursuant to applicable seams and information sharing agreements. The ITO and Transmission Owner shall treat this information consistent with the standards of conduct contained in Part 37 of the Commission's regulations;
- (v) A description of the supply characteristics of the capacity and energy to be delivered;
- (vi) An estimate of the capacity and energy expected to be delivered to the Receiving Party;
- (vii) The Service Commencement Date and the term of the requested Transmission Service;
- (viii) The transfer capability requested for each Point of Receipt and each Point of Delivery on the Transmission Owner's Transmission System. Customers

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may combine their requests for service in order to satisfy the minimum transfer capability requirement;

- (ix) A statement indicating that, if the Eligible Customer submits a Pre-Confirmed Application, the Eligible Customer will execute a Service Agreement upon receipt of notification that the Transmission Owner can provide the requested Transmission Service; and
- (x) Any additional information required by the Transmission Owner's planning process established in Attachment K.

The ITO and Transmission Owner shall treat this information consistent with the standards of conduct contained in Part 37 of the Commission's regulations.

17.3 Performance Assurance

If the Transmission Customer meets the creditworthiness requirements of Attachment L at the time it submits its application, then no performance assurance will be required with the application. If the Transmission Customer does not meet the creditworthiness requirements of Attachment L at the time it submits its application or any time thereafter, then it must provide performance assurance as detailed in Section 4 of Attachment L.

17.4 Notice of Deficient Application

If an Application fails to meet the requirements of the Tariff, the ITO shall notify the entity requesting service within fifteen (15) days of receipt of the reasons for such failure. The ITO will attempt to remedy minor deficiencies in the Application through informal communications with the Eligible Customer. If such

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efforts are unsuccessful, the ITO shall return the Application, and the Transmission Owner will return the deposit, with interest. Upon receipt of a new or revised Application that fully complies with the requirements of Part II of the Tariff, the Eligible Customer shall be assigned a new priority consistent with the date of the new or revised Application.

17.5 Response to a Completed Application

Following receipt of a Completed Application for Firm Point-To-Point Transmission Service, the ITO shall make a determination of available transfer capability as required in Section 15.2. The ITO shall notify the Eligible Customer as soon as practicable, but not later than thirty (30) days after the date of receipt of a Completed Application either (i) if it will be able to provide service without performing a System Impact Study or (ii) if such a study is needed to evaluate the impact of the Application pursuant to Section 19.1. Responses by the ITO must be made as soon as practicable to all completed applications (including applications by its own merchant function) and the timing of such responses must be made on a non-discriminatory basis.

17.6 Execution of Service Agreement

Whenever the ITO determines that a System Impact Study is not required and that the service can be provided, it shall notify the Eligible Customer as soon as practicable but no later than thirty (30) days after receipt of the Completed Application. Where a System Impact Study is required, the provisions of Section 19 will govern the execution of a Service Agreement. Failure of an Eligible Customer

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to execute and return the Service Agreement or request the filing of an unexecuted service agreement pursuant to Section 15.3, within fifteen (15) days after it is tendered by the ITO will be deemed a withdrawal and termination of the Application and any deposit submitted shall be refunded with interest. Nothing herein limits the right of an Eligible Customer to file another Application after such withdrawal and termination.

17.7 Extensions for Commencement of Service

The Transmission Customer can obtain, subject to availability, up to five (5) one- year extensions for the commencement of service. The Transmission Customer may postpone service by paying a non-refundable annual reservation fee equal to one-month's charge for Firm Transmission Service for each year or fraction thereof within 15 days of notifying the Transmission Owner and ITO that it intends to extend the commencement of service. If during any extension for the commencement of service an Eligible Customer submits a Completed Application for Firm Transmission Service, and such request can be satisfied only by releasing all or part of the Transmission Customer's Reserved Capacity, the original Reserved Capacity will be released unless the following condition is satisfied. Within thirty (30) days the original Transmission Customer agrees to pay the Firm Point-To-Point transmission rate for its Reserved Capacity concurrent with the new Service Commencement Date. In the event the Transmission Customer elects to release the Reserved Capacity, the reservation fees or portions thereof previously paid will be forfeited.

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18 Procedures for Arranging Non-Firm Point-To-Point Transmission Service

18.1 Application

Eligible Customers seeking Non-Firm Point-To-Point Transmission Service must submit a Completed Application to the ITO. Applications should be submitted by entering the information listed below on the Transmission Owner's OASIS. Prior to implementation of the OASIS, a Completed Application may be submitted by (i) transmitting the required information to the ITO by electronic notification, or (ii) providing the information by telephone over the ITO's time recorded telephone line. Each of these methods will provide a time-stamped record for establishing the service priority of the Application.

18.2 Completed Application

A Completed Application shall provide all of the information included in 18 CFR § 2.20 including but not limited to the following:

- (i) The identity, address, telephone number and facsimile number of the entity requesting service;
- (ii) A statement that the entity requesting service is, or will be upon commencement of service, an Eligible Customer under the Tariff;
- (iii) The Point(s) of Receipt and the Point(s) of Delivery;
- (iv) The maximum amount of capacity requested at each Point of Receipt and Point of Delivery; and

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- (v) The proposed dates and hours for initiating and terminating transmission service hereunder.

If Transmission Service is provided under an umbrella Service Agreement for Non-Firm Point-To-Point Transmission Service, only the information listed in subsections (i), (ii), and (iii) will be required in the Application. The remaining information listed in subsections (iv) and (v) will be required when a capacity reservation is requested. In addition to the information specified above, when required to properly evaluate system conditions, the ITO also may ask the Transmission Customer to provide the following:

- (vi) The electrical location of the initial source of the power to be transmitted pursuant to the Transmission Customer's request for service; and
- (vii) The electrical location of the ultimate load.

The ITO and Transmission Owner will treat this information in (vi) and (vii) as confidential at the request of the Transmission Customer except to the extent that disclosure of this information is required by this Tariff by regulatory or judicial order, for reliability purposes pursuant to Good Utility Practice, or pursuant to seams and transmission information sharing agreements. The ITO and Transmission Owner shall treat this information consistent with the standards of conduct contained in Part 37 of the Commission's regulations.

- (viii) A statement indicating that, if the Eligible Customer submits a Pre-Confirmed Application, the Eligible Customer will execute a Service

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Agreement upon receipt of notification that the Transmission Owner can
provide the requested Transmission Service.

18.3 Reservation of Non-Firm Point-To-Point Transmission Service

Requests for monthly service shall be submitted no earlier than sixty (60) days before service is to commence; requests for weekly service shall be submitted no earlier than fourteen (14) days before service is to commence, requests for daily service shall be submitted no earlier than two (2) days before service is to commence, and requests for hourly service shall be submitted no earlier than noon EST the day before service is to commence. Requests for service received later than 2:00 p.m. EST prior to the day service is scheduled to commence will be accommodated if practicable. Requests for hourly service for the next hour may be tendered by telephone or fax; however, the Transmission Customer must submit a pre confirmed request on OASIS prior to one hour after the Transmission Service has commenced.

18.4 Determination of Available Transfer Capability

Following receipt of a tendered transmission service request the ITO will make a determination on a non discriminatory basis of available transfer capability pursuant to Section 15.2. Such determination shall be made as soon as reasonably practicable after receipt, but not later than the following time periods for the following terms of service (i) thirty (30) minutes for hourly service; (ii) thirty (30) minutes for daily service, (iii) four (4) hours for weekly service; and (iv) two (2) days for monthly service.

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19 Additional Study Procedures For Firm Point-To-Point Transmission Service Requests

19.1 Notice of Need for System Impact Study

After receiving a request for service, the ITO shall determine on a nondiscriminatory basis whether a System Impact Study is needed. A description of the ITO's methodology for completing a System Impact Study is provided in Attachment D. If the ITO determines that a System Impact Study is necessary to accommodate the requested service, it shall so inform the Eligible Customer, as soon as practicable. Once informed, the Eligible Customer shall timely notify the ITO if it elects to have the ITO study redispach or conditional curtailment as part of the System Impact Study. If notification is provided prior to tender of the System Impact Study Agreement, the Eligible Customer can avoid the costs associated with the study of these options. The ITO shall within thirty (30) days of receipt of a Completed Application, tender a System Impact Study Agreement pursuant to which the Eligible Customer shall agree to reimburse the ITO for the actual costs of the System Impact Study, including any costs incurred by the ITO or the Transmission Owner with performing their respective functions for the required System Impact Study. For a service request to remain a Completed Application, the Eligible Customer shall execute the System Impact Study Agreement and return it to the ITO within fifteen (15) days. If the Eligible Customer elects not to execute the System Impact Study Agreement, its application shall be deemed withdrawn and its deposit, pursuant to Section 17.3, shall be returned with interest.

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19.2 System Impact Study Agreement and Cost Reimbursement

- (i) The System Impact Study Agreement will clearly specify the ITO's estimate of the actual cost, and time for completion of the System Impact Study. The charge shall not exceed the actual cost of the study. In performing the System Impact Study, the ITO shall rely, to the extent reasonably practicable, on existing transmission planning studies. The Eligible Customer will not be assessed a charge for such existing studies; however, the Eligible Customer will be responsible for charges associated with any modifications to existing planning studies that are reasonably necessary to evaluate the impact of the Eligible Customer's request for service on the Transmission System.
- (ii) If in response to multiple Eligible Customers requesting service in relation to the same competitive solicitation, a single System Impact Study is sufficient for the ITO to accommodate the requests for service, the costs of that study shall be pro-rated among the Eligible Customers.
- (iii) For System Impact Studies that the ITO conducts for the Transmission Owner, the ITO shall record the cost of the System Impact Studies pursuant to Section 20.

19.3 System Impact Study Procedures

Upon receipt of an executed System Impact Study Agreement, the ITO will use due diligence to complete the required System Impact Study within a sixty (60) day period. The System Impact Study shall identify (1) any system constraints identified with specificity by transmission element or flowgate, (2) redispatch options (when requested by an Eligible Customer) including an estimate of the

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cost of redispatch, (3) conditional curtailment options (when requested by an Eligible Customer) including the number of hours per year and the System Conditions during which conditional curtailment may occur and (4) additional Direct Assignment Facilities or Network Upgrades required to provide the requested service. For customers requesting the study of redispatch options, the System Impact Study shall (1) identify all resources located within the Transmission Owner's Balancing Authority Area that can significantly contribute toward relieving the system constraint and (2) provide a measurement of each resource's impact on the system constraint. If the ITO possesses information indicating that any resource outside the Transmission Owner's Balancing Authority Area could relieve the constraint, each such resource shall be identified in the System Impact Study. In the event that the ITO is unable to complete the required System Impact Study within such time period, it shall so notify the Eligible Customer and provide an estimated completion date along with an explanation of the reasons why additional time is required to complete the required studies. A copy of the completed System Impact Study and related work papers shall be made available to the Eligible Customer as soon as the System Impact Study is complete. The ITO will use the same due diligence in completing the System Impact Study for an Eligible Customer as it uses when completing studies for the Transmission Owner. The ITO shall notify the Eligible Customer immediately upon completion of the System Impact Study if the Transmission System will be adequate to accommodate all or part of a request for service or that

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no costs are likely to be incurred for new transmission facilities or upgrades. In
order for a request to

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remain a Completed Application, within fifteen (15) days of completion of the System Impact Study the Eligible Customer must execute a Service Agreement or request the filing of an unexecuted Service Agreement pursuant to Section 15.3, or the Application shall be deemed terminated and withdrawn.

19.4 Procedure for Clustering System Impact Study Requests

If an Eligible Customer or Eligible Customers wish to have their System Impact Studies clustered together, the following procedures will be implemented. On August 1st each year the ITO will announce via OASIS posting the opening of a “clustering window” which will close on January 31st. Any Eligible Customer who executes a System Impact Study Agreement during the clustering window, and indicates that its System Impact Study should be clustered with others, will be held until the end of the clustering window. The ITO will commence the clustered System Impact Study on March 1st and will use due diligence to complete the clustered System Impact Study within a sixty (60) day period. On February 1st each year the ITO will announce via OASIS posting the opening of a second “clustering window” which will close on July 31st. Any Eligible Customer who executes a System Impact Study Agreement during the clustering window, and indicates that its System Impact Study should be clustered with others, will be held until the end of the clustering window. The ITO will commence that clustered System Impact Study on September 1st and will use due diligence to complete the clustered System Impact Study within a sixty (60) day period.

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System Impact Studies that are clustered shall be treated as a single System Impact Study for all purposes, and shall be performed pursuant to a single System Impact Study Agreement entered into among the ITO and the Eligible Customers that have submitted service requests that have been clustered. Unless otherwise stated in such agreement, the cost for the completion of the System Impact Study shall be allocated in equal shares based on the number of transmission service requests to be included in the clustered System Impact Study (*e.g.*, if there are ten transmission service requests to be studied, each transmission service request shall be allocated 10% of the cost of the study). Facilities Studies that are clustered shall be treated as a single Facilities Study for all purposes, and shall be performed pursuant to a single Facilities Study Agreement entered into among the ITO and the Eligible Customers that have submitted service requests that have been clustered. Unless otherwise stated in such agreement, the cost for the completion of the Facilities Study shall be allocated in equal shares based on the number of transmission service requests to be included in the clustered System Impact Study (*e.g.*, if there are ten transmission service requests to be studied, each transmission service request shall be allocated 10% of the cost of the study).

An Eligible Customer can opt out of a cluster only during the period of time after the completion of the applicable System Impact Study and before the applicable Facilities Study. In the event that an Eligible Customer opts out of a cluster, the Eligible Customer who is opting out shall still be responsible for its

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share of the costs for the System Impact Study, and the costs associated with the Facilities Study will be allocated in equal shares among the remaining transmission service requests. The Eligible Customer that opted out of the cluster may elect to enter the study queue by requesting a new individual study or as part of a new cluster.

Unless otherwise agreed, the Transmission Owner shall not be required to undertake any Transmission System upgrades or additions identified by a clustered Facilities Study unless all of the Eligible Customers for which the studies have been clustered execute Service Agreements, under which they are obligated to pay the total costs of such upgrades or additions, and to provide the required security.

Any Eligible Customers who choose to have their transmission service requests clustered bear the risk that the System Impact Study queue will continue while the clustering window is pending. If an Eligible Customer chooses to have its transmission service request clustered, such Eligible Customer may not concurrently request an individual System Impact Study. If an Eligible Customer requests and receives an individual System Impact Study prior or subsequent to participating in a clustered System Impact Study, such Eligible Customer shall bear the costs of its individual System Impact Study, as well as its share of the clustered System Impact Study.

19.5 Facilities Study Procedures

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If a System Impact Study indicates that additions or upgrades to the Transmission System are needed to supply the Eligible Customer's service request, the ITO, within thirty (30) days of the completion of the System Impact Study, shall tender to the Eligible Customer a Facilities Study Agreement pursuant to which the Eligible Customer shall agree to reimburse the ITO for the actual costs of the Facilities Study, including any costs incurred by the ITO or the Transmission Owner with respect to performing their respective functions for the required Facilities Study. For a service request to remain a Completed Application, the Eligible Customer shall execute the Facilities Study Agreement and return it to the ITO within fifteen (15) days. If the Eligible Customer elects not to execute the Facilities Study Agreement, its application shall be deemed withdrawn and its deposit, pursuant to Section 17.3, shall be returned with interest. Upon receipt of an executed Facilities Study Agreement, the Transmission Owner will use due diligence to complete the required Facilities Study within a sixty (60) day period. If the Transmission Owner is unable to complete the Facilities Study in the allotted time period, the ITO shall notify the Transmission Customer and provide an estimate of the time needed to reach a final determination along with an explanation of the reasons that additional time is required to complete the study. When completed, the Facilities Study will include a good faith estimate of (i) the cost of Direct Assignment Facilities to be charged to the Transmission Customer, (ii) the Transmission Customer's appropriate share of the cost of any required Network Upgrades as determined pursuant to the provisions of Part II of the

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Tariff, and (iii) the time required to complete such construction and initiate the requested service. The Transmission Customer shall provide the Transmission Owner with a letter of credit or other reasonable form of security acceptable to the Transmission Owner equivalent to the costs of new facilities or upgrades consistent with commercial practices as established by the Uniform Commercial Code. The Transmission Customer shall have thirty (30) days to execute a Service Agreement or request the filing of an unexecuted Service Agreement and provide the required letter of credit or other form of security or the request will no longer be a Completed Application and shall be deemed terminated and withdrawn.

19.6 Facilities Study Modifications

Any change in design arising from inability to site or construct facilities as proposed will require development of a revised good faith estimate. New good faith estimates also will be required in the event of new statutory or regulatory requirements that are effective before the completion of construction or other circumstances beyond the control of the Transmission Owner that significantly affect the final cost of new facilities or upgrades to be charged to the Transmission Customer pursuant to the provisions of Part II of the Tariff.

19.7 Due Diligence in Completing New Facilities

The Transmission Owner shall use due diligence to add necessary facilities or upgrade its Transmission System within a reasonable time consistent herewith. The Transmission Owner will not be required to upgrade its existing or planned

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Transmission System in order to provide the requested Firm Point-To-Point Transmission Service if doing so would impair system reliability or otherwise impair or degrade existing firm service.

19.8 Partial Interim Service

If the ITO determines that adequate transfer capability to satisfy the full amount of a Completed Application for Firm Point-To-Point Transmission Service is not available, the Transmission Owner nonetheless shall be obligated to make available the portion of the requested Firm Point-To-Point Transmission Service that can be accommodated without addition of any facilities and through redispatch. However, the Transmission Owner shall not be obligated to provide the incremental amount of requested Firm Point-To-Point Transmission Service that requires the addition of facilities or upgrades to the Transmission System until such facilities or upgrades have been placed in service.

19.9 Expedited Procedures for New Facilities

In lieu of the procedures set forth above, the Eligible Customer shall have the option to expedite the process by requesting the ITO to tender at one time, together with the results of required studies, an “Expedited Service Agreement” pursuant to which the Eligible Customer would agree to compensate the Transmission Owner for all costs incurred pursuant to the terms of the Tariff. In order to exercise this option, the Eligible Customer shall request in writing an expedited Service Agreement covering all of the above-specified items within thirty (30) days of receiving the results of the System Impact Study identifying

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needed facility additions or upgrades or costs incurred in providing the requested service. While the ITO agrees to provide the Eligible Customer with its best estimate of the new facility costs and other charges that may be incurred, such estimate shall not be binding and the Eligible Customer must agree in writing to compensate the Transmission Owner for all costs incurred pursuant to the provisions of the Tariff. The Eligible Customer shall execute and return such an Expedited Service Agreement within fifteen (15) days of its receipt or the Eligible Customer's request for service will cease to be a Completed Application and will be deemed terminated and withdrawn.

19.10 Penalties for Failure to Meet Study Deadlines:

Sections 19.3 and 19.5 require the ITO and the Transmission Owner to use due diligence to meet 60-day study completion deadlines for System Impact Studies and Facilities Studies, respectively.

- (i) The ITO is required to file a notice with the Commission in the event that more than twenty (20) percent of non-Affiliates' System Impact Studies and Facilities Studies completed by the ITO or Transmission Owner in any two consecutive calendar quarters are not completed within the 60-day study completion deadlines. Such notice must be filed within thirty (30) days of the end of the calendar quarter triggering the notice requirement.
- (ii) For the purposes of calculating the percent of non-Affiliates' System Impact Studies and Facilities Studies processed outside of the 60-day study completion deadlines, the ITO shall consider all System Impact Studies and Facilities Studies

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that were completed for non- Affiliates during the calendar quarter. The percentage should be calculated by dividing the number of those studies which are completed on time by the total number of completed studies. The ITO may provide an explanation in the notification filing to the Commission if the ITO or the Transmission Owner believe there are extenuating circumstances that prevented either entity from meeting the 60-day study completion deadlines.

- (iii) An operational penalty will be incurred if ten (10) percent or more of non-Affiliates' System Impact or Facilities Studies are completed outside of the 60-day study completion deadlines for each of the two calendar quarters immediately following the quarter that triggered its notification filing to the Commission. The operational penalty will be assessed for each calendar quarter for which an operational penalty applies, starting with the calendar quarter immediately following the quarter that triggered the ITO's notification filing to the Commission. The operational penalty will continue to be assessed each quarter until at least ninety (90) percent of all non-Affiliates' System Impact and Facilities Studies are completed within the 60-day deadline.
- (iv) For penalties assessed in accordance with subsection (iii) above, the penalty amount for each System Impact Study or Facilities Study shall be equal to \$500 for each day it takes to complete that study beyond the 60- day deadline.

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20 Procedures if The Transmission Owner is Unable to Complete New Transmission Facilities for Firm Point-To-Point Transmission Service

20.1 Delays in Construction of New Facilities

If any event occurs that will materially affect the time for completion of new facilities, or the ability to complete them, the ITO shall promptly notify the Transmission Customer. In such circumstances, the ITO shall within thirty (30) days of notifying the Transmission Customer of such delays, convene a technical meeting with the Transmission Customer to evaluate the alternatives available to the Transmission Customer. The Transmission Owner also shall make available to the Transmission Customer studies and work papers related to the delay, including all information that is in the possession of the ITO and the Transmission Owner that is reasonably needed by the Transmission Customer to evaluate any alternatives.

20.2 Alternatives to the Original Facility Additions

When the review process of Section 20.1 determines that one or more alternatives exist to the originally planned construction project, the ITO shall present such alternatives for consideration by the Transmission Customer. If, upon review of any alternatives, the Transmission Customer desires to maintain its Completed Application subject to construction of the alternative facilities, it may request the ITO to submit a revised Service Agreement for Firm Point-To-Point Transmission Service. If the alternative approach solely involves Non-Firm Point-To-Point Transmission Service, the ITO shall promptly tender a Service Agreement for Non-Firm Point-To-Point Transmission Service providing for the

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service. In the event the ITO concludes that no reasonable alternative exists and the Transmission Customer disagrees, the Transmission Customer may seek relief under the dispute resolution procedures pursuant to Section 12 or it may refer the dispute to the Commission for resolution.

20.3 Refund Obligation for Unfinished Facility Additions

If the ITO and the Transmission Customer mutually agree that no other reasonable alternatives exist and the requested service cannot be provided out of existing capability under the conditions of Part II of the Tariff the obligation to provide the requested Firm Point-To-Point Transmission Service shall terminate and any deposit made by the Transmission Customer shall be returned with interest pursuant to Commission regulation 18 CFR 35.1 9a(a)(2)(iii). However, the Transmission Customer shall be responsible for all prudently incurred costs by the ITO and the Transmission Owner through the time construction was suspended.

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21 Provisions Relating to Transmission Construction and Services on the Systems of Other Utilities

21.1 Responsibility for Third-Party System Additions

The Transmission Owner shall not be responsible for making arrangements for any necessary engineering permitting, and construction of transmission or distribution facilities on the system(s) of any other entity or for obtaining any regulatory approval for such facilities. The ITO will undertake reasonable efforts to assist the Transmission Customer in obtaining such arrangements, including without limitation, providing any information or data required by such other electric system pursuant to Good Utility Practice.

21.2 Coordination of Third-Party System Additions

In circumstances where the need for transmission facilities or upgrades is identified pursuant to the provisions of Part II of the Tariff, and if such upgrades further require the addition of transmission facilities on other systems, the Transmission Owner shall have the right to coordinate construction on its own system with the construction required by others. The Transmission Owner, after consultation with the ITO and the Transmission Customer and representatives of such other systems, may defer construction of its new transmission facilities, if the new transmission facilities on another system cannot be completed in a timely manner. The Transmission Owner shall notify the Transmission Customer in writing of the basis for any decision to defer construction and the specific problems which must be resolved before it will initiate or resume construction of new facilities. Within sixty (60) days of receiving written notification by the

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Transmission Owner of the intent to defer construction pursuant to this section,
the Transmission Customer may challenge the decision in accordance with the
dispute resolution procedures pursuant to Section 12 or it may refer the dispute to
the Commission for resolution.

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22 Changes in Service Specifications

22.1 Modifications On a Non-Firm Basis

The Transmission Customer taking Firm Point-To-Point Transmission Service may make a request to the ITO that transmission service be made available on a non-firm basis over Receipt and Delivery Points other than those specified in the Service Agreement (“Secondary Receipt and Delivery Points”), in amounts not to exceed its firm capacity reservation, without incurring an additional Non-Firm Point-To-Point Transmission Service charge or executing a new Service Agreement, subject to the following conditions. Service provided over Secondary Receipt and Delivery Points will be non-firm only, on an as-available basis and will not displace any firm or non-firm service reserved or scheduled by third-parties under the Tariff or by the Transmission Owner on behalf of its Native Load Customers. The sum of all Firm and Non-Firm Point-To-Point Transmission Service provided to the Transmission Customer at any time pursuant to this section shall not exceed the Reserved Capacity in the relevant Service Agreement under which such services are provided. The Transmission Customer shall retain its right to schedule Firm Point- To-Point Transmission Service at the Receipt and Delivery Points specified in the relevant Service Agreement in the amount of its original capacity reservation. Service over Secondary Receipt and Delivery Points on a non-firm basis shall not require the filing of an Application for Non-Firm Point-To-Point Transmission Service under the Tariff. However, all other requirements of Part II of the Tariff (except as to transmission rates) shall apply to

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transmission service on a non-firm basis over Secondary Receipt and Delivery
Points.

22.2 Modification On a Firm Basis

Any request by a Transmission Customer to modify Receipt and Delivery Points
on a firm basis shall be treated as a new request for service in accordance with
Section 17 hereof, except that such Transmission Customer shall not be obligated
to pay any additional deposit if the capacity reservation does not exceed the
amount reserved in the existing Service Agreement. While such new request is
pending, the Transmission Customer shall retain its priority for service at the
existing firm Receipt and Delivery Points specified in its Service Agreement.

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23 Sale or Assignment of Transmission Service

23.1 Procedures for Assignment or Transfer of Service

(a) A Transmission Customer may sell, assign, or transfer all or a portion of its rights under its Service Agreement, but only to another Eligible Customer (the Assignee). The Transmission Customer that sells, assigns or transfers its rights under its Service Agreement is hereafter referred to as the Reseller. Compensation to Resellers shall be at rates established by the Reseller and the Assignee.

(b) The Assignee must execute a service agreement with the Transmission Owner governing reassignments of transmission service prior to the date on which the reassigned service commences. The Transmission Owner shall charge the Reseller, as appropriate, the rate stated in Reseller's Service Agreement with the Transmission Owner or the associated OASIS schedule and credit the Reseller with the price reflected in the Assignee's Service Agreement with the Transmission Owner or the associated OASIS schedule; provided that such credit shall be reversed in the event of a non-payment by the Assignee. If the Assignee does not request any change in the Point(s) of Receipt or the Point(s) of Delivery, or a change in any other term or condition set forth in the original Service Agreement, the Assignee will receive the same services as did the Reseller and the priority of service for the Assignee will be the same as that of the Reseller. The Assignee will be subject to all terms and conditions of this Tariff. If the Assignee requests a change in service, the reservation priority of service will be determined by the ITO pursuant to Section 13.2.

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23.2 Limitations on Assignment or Transfer of Service

If the Assignee requests a change in the Point(s) of Receipt or Point(s) of Delivery, or a change in any other specifications set forth in the original Service Agreement, the Transmission Owner and ITO will consent to such change subject to the provisions of the Tariff, provided that the change will not impair the operation and reliability of the Transmission Owner's generation, transmission, or distribution systems. The Assignee shall compensate the ITO for performing any System Impact Study needed to evaluate the capability of the Transmission System to accommodate the proposed change and any additional costs resulting from such change. The Reseller shall remain liable for the performance of all obligations under the Service Agreement, except as specifically agreed to by the Transmission Owner, ITO, and the Reseller through an amendment to the Service Agreement.

23.3 Information on Assignment or Transfer of Service

In accordance with Section 4, all sales or assignments of capacity must be conducted through or otherwise posted on the Transmission Owner's OASIS on or before the date the reassigned service commences, and are subject to Section 23.1. Resellers may also use the Transmission Owner's OASIS to post transfer capability available for resale.

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Part II_24
Part II_24 Metrng and Pwr Fctr Correctn at Rcpt and DPs
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24 Metering and Power Factor Correction at Receipt and Delivery Points(s)

24.1 Transmission Customer Obligations

Unless otherwise agreed, the Transmission Customer shall be responsible for installing and maintaining compatible metering and communications equipment to accurately account for the capacity and energy being transmitted under Part II of the Tariff and to communicate the information to the Transmission Owner. Such equipment shall remain the property of the Transmission Customer.

24.2 Transmission Owner Access to Metering Data

The Transmission Owner shall have access to metering data, which may reasonably be required to facilitate measurements and billing under the Service Agreement.

24.3 Power Factor

Unless otherwise agreed, the Transmission Customer is required to maintain a power factor within the same range as the Transmission Owner pursuant to Good Utility Practices. The power factor requirements are specified in the Service Agreement where applicable.

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25 Compensation for Transmission Service

Rates for Firm and Non-Firm Point-To-Point Transmission Service are provided in the Schedules appended to the Tariff: Firm Point-To-Point Transmission Service (Schedule 7); and Non-Firm Point-To-Point Transmission Service (Schedule 8). The Transmission Owner shall use Part II of the Tariff to make its Third-Party Sales. The Transmission Owner shall account for such use at the applicable Tariff rates, pursuant to Section 8.

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Part II_26
Part II_26 Stranded Cost Recovery
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26 Stranded Cost Recovery

The Transmission Owner may seek to recover stranded costs from the Transmission Customer pursuant to this Tariff in accordance with the terms, conditions and procedures set forth in FERC Order No. 888 and Order No. 888-A, and any subsequent revisions thereto. However, the Transmission Owner must separately file any specific proposed stranded cost charge under Section 205 of the Federal Power Act.

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Part II_27
Part II_27 Comp for New Facilities and Redispatch Costs
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27 Compensation for New Facilities and Redispatch Costs

Whenever a System Impact Study is performed by the ITO in connection with the provision of Firm Point-To-Point Transmission Service identifies the need for new facilities, the Transmission Customer shall be responsible for such costs to the extent consistent with the Schedules. Whenever a System Impact Study performed by the ITO or a Transmission Owner identifies capacity constraints that may be relieved by redispatching the Transmission Owner resources, the Transmission Customer shall be responsible for the redispatch costs to the extent consistent with the Schedules.

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Part III_0
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NETWORK INTEGRATION TRANSMISSION SERVICE

Preamble

The Transmission Owner will make available Network Integration Transmission Service pursuant to the applicable terms and conditions contained in the Tariff and Service Agreement. Network Integration Transmission Service allows the Network Customer to integrate, economically dispatch and regulate its current and planned Network Resources to serve its Network Load in a manner comparable to that in which the Transmission Owner utilizes its Transmission System to serve its Native Load Customers. Network Integration Transmission Service also may be used by the Network Customer to deliver economy energy purchases to its Network Load from non-designated resources on an as available basis without additional charge. Transmission service for sales to non-designated loads will be provided pursuant to the applicable terms and conditions of Part II of the Tariff.

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28 Nature of Network Integration Transmission Service

28.1 Scope of Service

Network Integration Transmission Service is a transmission service that allows Network Customers to efficiently and economically utilize their Network Resources (as well as other non-designated generation resources) to serve their Network Load located in the Balancing Authority Area and any additional load that may be designated pursuant to Section 31.3 of the Tariff. The Network Customer taking Network Integration Transmission Service must obtain or provide Ancillary Services pursuant to Section 3.

28.2 Transmission Owner Responsibilities

The Transmission Owner will plan (subject to regional plans and coordination), construct, operate and maintain the Transmission System in accordance with Good Utility Practice and its planning obligations in Attachment K in order to make available to the Network Customer Network Integration Transmission Service over the Transmission Owner's Transmission System. The Transmission Owner, on behalf of its Native Load Customers, shall be required to designate resources and loads in the same manner as any Network Customer under Part III of this Tariff. This information must be consistent with the information used by the ITO to calculate available transfer capability. The Transmission Owner shall include the Network Customer's Network Load in the Transmission System planning and shall, consistent with Good Utility Practice, endeavor to construct and place into service sufficient transfer capability to deliver the Network

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Customer's Network Resources to serve its Network Load on a basis comparable to the Transmission Owner's delivery of its own generating and purchased resources to its Native Load Customers.

28.3 Network Integration Transmission Service

The Transmission Owner will make available firm transmission service over the Transmission System to the Network Customer for the delivery of capacity and energy from its designated Network Resources to service its Network Loads on a basis that is comparable to the Transmission Owner's use of the Transmission System to reliably serve its Native Load Customers.

28.4 Secondary Service

The Network Customer may use the Transmission System to deliver energy to its Network Loads from resources that have not been designated as Network Resources. Such energy shall be transmitted, on an as-available basis, at no additional charge. Secondary service shall not require the filing of an Application for Network Integration Service under the Tariff. However, all other requirements of Party III of the Tariff (except for transmission rates) shall apply to secondary service. Deliveries from resources other than Network Resources will have a higher priority than any Non- Firm Point-To-Point Transmission Service under Part II of the Tariff.

28.5 Real Power Losses

Real Power Losses are associated with all transmission service. The Transmission Owner is not obligated to provide Real Power Losses. The Network Customer is

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responsible for replacing losses associated with all transmission service as calculated by the ITO. The applicable Real Power Loss factor is set forth in Schedule 11 hereto.

28.6 Restrictions on Use of Service

The Network Customer shall not use Network Integration Transmission Service for (i) sales of capacity and energy to non- designated loads, or (ii) direct or indirect provision of transmission service by the Network Customer to third parties. All Network Customers taking Network Integration Transmission Service shall use Point-To-Point Transmission Service under Part II of the Tariff for any Third-Party Sale which requires use of the Transmission System. The Transmission Owner shall specify any appropriate charges and penalties and all related terms and conditions applicable in the event that a Network Customer uses Network Integration Transmission Service or secondary service pursuant to Section 28.4 to facilitate a wholesale sale that does not serve a Network Load.

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29 Initiating Service

29.1 Condition Precedent for Receiving Service

Subject to the terms and conditions of Part III of the Tariff, the Transmission Owner will make available Network Integration Transmission Service to any Eligible Customer, provided that (i) the Eligible Customer completes an Application for service as provided under Part III of the Tariff, (ii) the Eligible Customer and the Transmission Owner complete the technical arrangements set forth in Sections and 29.3 and 29.4, (iii) the Eligible Customer executes a Service Agreement pursuant to Attachment F for service under Part III of the Tariff or requests in writing that the Transmission Owner file a proposed unexecuted Service Agreement with the Commission, and (iv) the Eligible Customer executes a Network Operating Agreement with the Transmission Owner pursuant to Attachment G.

29.2 Application Procedures

An Eligible Customer requesting service under Part III of the Tariff must submit an Application to the ITO. If the Eligible Customer meets the creditworthiness requirements of Attachment L at the time it submits its application, then no performance assurance will be required with the application. If the Eligible Customer does not meet the creditworthiness requirements of Attachment L at the time it submits its application or any time thereafter, then it must provide performance assurance as detailed in Section 4 of Attachment L.

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Unless subject to the procedures in Section 2, Completed Applications for Network Integration Transmission Service will be assigned a priority according to the date and time the Application is received, with the earliest Application receiving the highest priority. Applications should be submitted by entering the information listed below on the Transmission Owner's OASIS. Prior to implementation of the OASIS, a Completed Application may be submitted by (i) transmitting the required information to the ITO by electronic notification, or (ii) providing the information by telephone over the ITO's time recorded telephone line. Each of these methods will provide a time-stamped record for establishing the service priority of the Application. A Completed Application shall provide all of the information included in 18 CFR § 2.20 including but not limited to the following:

- (i) The identity, address, telephone number and facsimile number of the party requesting service;
- (ii) A statement that the party requesting service is, or will be upon commencement of service, an Eligible Customer under the Tariff;
- (iii) A description of the Network Load at each delivery point. This description should separately identify and provide the Eligible Customer's best estimate of the total loads to be served at each transmission voltage level, and the loads to be served from each Transmission Owner substation at the same transmission voltage level. The description should include a ten (10)

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- year forecast of summer and winter load and resource requirements beginning with the first year after the service is scheduled to commence;
- (iv) The amount and location of any interruptible loads included in the Network Load. This shall include the summer and winter capacity requirements for each interruptible load (had such load not been interruptible), that portion of the load subject to interruption, the conditions under which an interruption can be implemented and any limitations on the amount and frequency of interruptions. An Eligible Customer should identify the amount of interruptible customer load (if any) included in the 10 year load forecast provided in response to (iii) above;
- (v) A description of Network Resources (current and 10-year projection). For each on-system Network Resource, such description shall include:
- Unit size and amount of capacity from that unit to be designated as Network Resource
 - VAR capability (both leading and lagging) of all generators
 - Operating restrictions
 - Any periods of restricted operations throughout the year
 - Maintenance schedules - Minimum loading level of unit
 - Normal operating level of unit
 - Any must-run unit designations required for system reliability or contract reasons

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- Approximate variable generating cost (\$/MWH) for redispatch computations
- Arrangements governing sale and delivery of power to third parties from generating facilities located in the Balancing Authority Area, where only a portion of unit output is designated as a Network Resource

For each off-system Network Resource, such description shall include:

- Identification of the Network Resource as an off-system resource;
- Amount of Power to which the customer has rights;
- Identification of the control area from which the power will originate;
- Delivery points to the Transmission Owner's Transmission System;
- Transmission arrangements on the external transmission system(s);
- Operating restrictions, if any:
 - Any periods of restricted operations throughout the year;
 - Maintenance schedules;
 - Minimum loading level of unit;
 - Normal operating level of unit; and
 - Any must-run unit designations required for system reliability or contract reasons;

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- Approximate variable generating cost (\$/MWH) for redispatch computations.
- (vi) Description of Eligible Customer's transmission system:
 - Load flow and stability data, such as real and reactive parts of the load, lines, transformers, reactive devices and load type, including normal and emergency ratings of all transmission equipment in a load flow format compatible with that used by the Transmission Owner
 - Operating restrictions needed for reliability
 - Operating guides employed by system operators
 - Contractual restrictions or committed uses of the Eligible Customer's transmission system, other than the Eligible Customer's Network Loads and Resources
 - Location of Network Resources described in subsection (v) above
 - 10 year projection of system expansions or upgrades
 - Transmission System maps that include any proposed expansions or upgrades
 - Thermal ratings of Eligible Customer's Balancing Authority Area ties with other Balancing Authority Areas.

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- (vii) Service Commencement Date and the term of the requested Network Integration Transmission Service. The minimum term for Network Integration Transmission Service is one year;
- (viii) A statement signed by an authorized officer from or agent of the Network Customer attesting that all of the network resources listed pursuant to Section 29.2(v) satisfy the following conditions: (1) the Network Customer owns the resource, has committed to purchase generation pursuant to an executed contract, or has committed to purchase generation where execution of a contract is contingent upon the availability of transmission service under Part III of the Tariff; and (2) the Network Resources do not include any resources, or any portion thereof, that are committed for sale to non-designated third party load or otherwise cannot be called upon to meet the Network Customer's Network Load on a noninterruptible basis, except for purposes of fulfilling obligations under a reserve sharing program; and
- (ix) Any additional information required of the Transmission Customer as specified in the Transmission Owner's planning process established in Attachment K.

Unless the ITO and Transmission Customer agree to a different time frame, the ITO must acknowledge the request within ten (10) days of receipt. The acknowledgement must include a date by which a response, including a Service Agreement, will be sent to the Eligible Customer. If an Application fails to meet

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the requirements of this section, the ITO shall notify the Eligible Customer requesting service within fifteen (15) days of receipt and specify the reasons for such failure. Wherever possible, the ITO will attempt to remedy deficiencies in the Application through informal communications with the Eligible Customer. If such efforts are unsuccessful, the ITO shall return the Application without prejudice to the Eligible Customer filing a new or revised Application that fully complies with the requirements of this section. The Eligible Customer will be assigned a new priority consistent with the date of the new or revised Application. The ITO and Transmission Owner shall treat this information consistent with the standards of conduct contained in Part 37 of the Commission's regulations.

29.3 Technical Arrangements to be Completed Prior to Commencement of Service

Network Integration Transmission Service shall not commence until the Transmission Owner and the Network Customer, or a third party, have completed installation of all equipment specified under the Network Operating Agreement consistent with Good Utility Practice and any additional requirements reasonably and consistently imposed to ensure the reliable operation of the Transmission System. The Transmission Owner shall exercise reasonable efforts, in coordination with the Network Customer, to complete such arrangements as soon as practicable taking into consideration the Service Commencement Date.

29.4 Network Customer Facilities

The provision of Network Integration Transmission Service shall be conditioned upon the Network Customer's constructing, maintaining and operating the

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facilities on its side of each delivery point or interconnection necessary to reliably deliver capacity and energy from the Transmission Owner's Transmission System to the Network Customer. The Network Customer shall be solely responsible for constructing or installing all facilities on the Network Customer's side of each such delivery point or interconnection.

29.5 Filing of Service Agreement

The Transmission Owner will file Service Agreements with the Commission in compliance with applicable Commission regulations.

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30 Network Resources

30.1 Designation of Network Resources

Network Resources shall include all generation owned, purchased or leased by the Network Customer designated to serve Network Load under the Tariff. Network Resources may not include resources, or any portion thereof, that are committed for sale to non-designated third party load or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis, except for purposes of fulfilling obligations under a reserve sharing program. Any owned or purchased resources that were serving the Network Customer's loads under firm agreements entered into on or before the Service Commencement Date shall initially be designated as Network Resources until the Network Customer terminates the designation of such resources.

30.2 Designation of New Network Resources

The Network Customer may designate a new Network Resource by providing the ITO with as much advance notice as practicable. A designation of a new Network Resource must be made through the Transmission Owner's OASIS by a request for modification of service pursuant to an Application under Section 29. This request must include a statement that the new network resource satisfies the following conditions: (1) the Network Customer owns the resource, has committed to purchase generation pursuant to an executed contract, or has committed to purchase generation where execution of a contract is contingent upon the availability of transmission service under Part III of the Tariff; and (2)

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the Network Resources do not include any resources, or any portion thereof, that are committed for sale to non-designated third party load or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis, except for purposes of fulfilling obligations under a reserve sharing program. The Network Customer's request will be deemed deficient if it does not include this statement and the ITO will follow the procedures for a deficient application as described in Section 29.2 of the Tariff.

30.3 Termination of Network Resources

The Network Customer may terminate the designation of all or part of a generating resource as a Network Resource by providing notification to the ITO through OASIS as soon as reasonably practicable, but not later than the firm scheduling deadline for the period of termination. Any request for termination of Network Resource status must be submitted on OASIS, and should indicate whether the request is for indefinite or temporary termination. A request for indefinite termination of Network Resource status must indicate the date and time that the termination is to be effective, and the identification and capacity of the resource(s) or portions thereof to be indefinitely terminated. A request for temporary termination of Network Resource status must include the following:

- (i) Effective date and time of temporary termination;
- (ii) Effective date and time of redesignation, following period of temporary termination;

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- (iii) Identification and capacity of resource(s) or portions thereof to be temporarily terminated;
- (iv) Resource description and attestation for redesignating the network resource following the temporary termination, in accordance with Section 30.2; and
- (v) Identification of any related transmission service requests to be evaluated concomitantly with the request for temporary termination, such that the requests for undesignation and the request for these related transmission service requests must be approved or denied as a single request. The evaluation of these related transmission service requests must take into account the termination of the network resources identified in (iii) above, as well as all competing transmission service requests of higher priority.

As part of a temporary termination, a Network Customer may only redesignate the same resource that was originally designated, or a portion thereof. Requests to redesignate a different resource and/or a resource with increased capacity will be deemed deficient and the ITO will follow the procedures for a deficient application as described in Section 29.2 of the Tariff.

30.4 Operation of Network Resources

The Network Customer shall not operate its designated Network Resources located in the Network Customer's or Transmission Owner's Balancing Authority Area such that the output of those facilities exceeds its designated Network Load,

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plus Non- Firm Sales delivered pursuant to Part II of the Tariff, plus losses, plus power sales under a reserve sharing program, plus sales that permit curtailment without penalty to serve its designated Network Load. This limitation shall not apply to changes in the operation of a Transmission Customer's Network Resources at the request of the Balancing Authority Area Operator to respond to an emergency or other unforeseen condition which may impair or degrade the reliability of the Transmission System. For all Network Resources not physically connected with the Transmission Owner's Transmission System, the Network Customer may not schedule delivery of energy in excess of the Network Resource's capacity, as specified in the Network Customer's Application pursuant to Section 29, unless the Network Customer supports such delivery within the Transmission Owner's Transmission System by either obtaining Point-to-Point Transmission Service or utilizing secondary service pursuant to Section 28.4. The Transmission Owner shall specify the rate treatment and all related terms and conditions applicable in the event that a Network Customer's schedule at the delivery point for a Network Resource not physically interconnected with the Transmission Owner's Transmission System exceeds the Network Resource's designated capacity, excluding energy delivered using secondary service or Point-to-Point Transmission Service.

30.5 Network Customer Redispatch Obligation

As a condition to receiving Network Integration Transmission Service, the Network Customer agrees to redispatch its Network Resources as requested by

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the Balancing Authority Area Operator pursuant to Section 33.2. To the extent practical, the redispach of resources pursuant to this section shall be on a least cost, nondiscriminatory basis between all Network Customers, and the Transmission Owner.

30.6 Transmission Arrangements for Network Resources Not Physically Interconnected With The Transmission Owner

The Network Customer shall be responsible for any arrangements necessary to deliver capacity and energy from a Network Resource not physically interconnected with the Transmission Owner's Transmission System. The ITO will undertake reasonable efforts to assist the Network Customer in obtaining such arrangements, including without limitation, providing any information or data required by such other entity pursuant to Good Utility Practice.

30.7 Limitation on Designation of Network Resources

The Network Customer must demonstrate that it owns or has committed to purchase generation pursuant to an executed contract in order to designate a generating resource as a Network Resource. Alternatively, the Network Customer may establish that execution of a contract is contingent upon the availability of transmission service under Part III of the Tariff.

30.8 Use of Interface Capacity by the Network Customer

There is no limitation upon a Network Customer's use of the Transmission Owner's Transmission System at any particular interface to integrate the Network Customer's Network Resources (or substitute economy purchases) with its Network Loads. However, a Network Customer's use of the Transmission

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Owner's total interface capacity with other transmission systems may not exceed the Network Customer's Load.

30.9 Network Customer Owned Transmission Facilities

The Network Customer that owns existing transmission facilities that are integrated with the Transmission Owner's Transmission System may be eligible to receive consideration either through a billing credit or some other mechanism. In order to receive such consideration the Network Customer must demonstrate that its transmission facilities are integrated into the plans or operations of the Transmission Owner, to serve its power and transmission customers. For facilities added by the Network Customer subsequent to July 13, 2007, the Network Customer shall receive credit for such transmission facilities added if such facilities are integrated into the operations of the Transmission Owner's facilities; provided however, the Network Customer's transmission facilities shall be presumed to be integrated if such transmission facilities, if owned by the Transmission Owner, would be eligible for inclusion in the Transmission Owner's annual transmission revenue requirement. Calculation of any credit under this subsection shall be addressed in either the Network Customer's Service Agreement or any other agreement between the Parties.

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31 Designation of Network Load

31.1 Network Load

The Network Customer must designate the individual Network Loads on whose behalf the Transmission Owner will make available Network Integration Transmission Service. The Network Loads shall be specified in the Service Agreement.

31.2 New Network Loads Connected With the Transmission Owner

The Network Customer shall provide the ITO with as much advance notice as reasonably practicable of the designation of new Network Load that will be added to the Transmission System. A designation of new Network Load must be made through a modification of service pursuant to a new Application. The Transmission Owner will use due diligence to install any transmission facilities required to interconnect a new Network Load designated by the Network Customer. The costs of new facilities required to interconnect a new Network Load shall be determined in accordance with the procedures provided in Section 32.4 and shall be charged to the Network Customer in accordance with Commission policies.

31.3 Network Load Not Physically Interconnected with the Transmission Owner

This section applies to both initial designation pursuant to Section 31.1 and the subsequent addition of new Network Load not physically interconnected with the Transmission Owner. To the extent that the Network Customer desires to obtain transmission service for a load outside the Transmission Owner's Transmission

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System, the Network Customer shall have the option of (1) electing to include the entire load as Network Load for all purposes under Part III of the Tariff and designating Network Resources in connection with such additional Network Load, or (2) excluding that entire load from its Network Load and purchasing Point-To-Point Transmission Service under Part II of the Tariff. To the extent that the Network Customer gives notice of its intent to add a new Network Load as part of its Network Load pursuant to this section the request must be made through a modification of service pursuant to a new Application.

31.4 New Interconnection Points

To the extent the Network Customer desires to add a new Delivery Point or interconnection point between the Transmission Owner's Transmission System and a Network Load, the Network Customer shall provide the ITO with as much advance notice as reasonably practicable.

31.5 Changes in Service Requests

Under no circumstances shall the Network Customer's decision to cancel or delay a requested change in Network Integration Transmission Service e.g. the addition of a new Network Resource or designation of a new Network Load) in any way relieve the Network Customer of its obligation to pay the costs of transmission facilities constructed by the Transmission Owner and charged to the Network Customer as reflected in the Service Agreement. However, the ITO must treat any requested change in Network Integration Transmission Service in a non discriminatory manner.

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31.6 Limitations on Charges and Cost Responsibilities

Bundled Load: To the extent that the Transmission Owner takes Network Integration Transmission Service to serve its bundled load, the Transmission Owner shall not pay charges pursuant to Schedules 1 through 6 nor Schedule 9.

31.7 Annual Load and Resource Information Updates

The Network Customer shall provide the ITO with annual updates of Network Load and Network Resource forecasts consistent with those included in its Application for Network Integration Transmission Service under Part III of the Tariff, including, but not limited to any information provided under Section 29.2(ix) pursuant to the Transmission Owner's planning process in Attachment K. The Network Customer also shall provide the ITO with timely written notice of material changes in any other information provided in its Application relating to the Network Customer's Network Load, Network Resources, its transmission system or other aspects of its facilities or operations affecting the Transmission Owner's ability to provide reliable service.

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32 Additional Study Procedures For Network Integration Transmission Service Requests

32.1 Notice of Need for System Impact Study

After receiving a request for service, the ITO shall determine on a nondiscriminatory basis whether a System Impact Study is needed. A description of the ITO's methodology for completing a System Impact Study is provided in Attachment D. If the ITO determines that a System Impact Study is necessary to accommodate the requested service, it shall so inform the Eligible Customer, as soon as practicable. In such cases, the ITO shall within thirty (30) days of receipt of a Completed Application, tender a System Impact Study Agreement pursuant to which the Eligible Customer shall agree to reimburse the ITO for the actual costs of the System Impact Study, including any costs incurred by the ITO or the Transmission Owner with performing their respective functions for the required System Impact Study. For a service request to remain a Completed Application, the Eligible Customer shall execute the System Impact Study Agreement and return it to the ITO within fifteen (15) days. If the Eligible Customer elects not to execute the System Impact Study Agreement, its Application shall be deemed withdrawn and its deposit shall be returned with interest.

32.2 System Impact Study Agreement and Cost Reimbursement

- (i) The System Impact Study Agreement will clearly specify the ITO's estimate of the actual cost, and time for completion of the System Impact Study. The charge shall not exceed the actual cost of the study. In performing the System Impact Study, the ITO shall rely, to the extent

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reasonably practicable, on existing transmission planning studies. The Eligible Customer will not be assessed a charge for such existing studies; however, the Eligible Customer will be responsible for charges associated with any modifications to existing planning studies that are reasonably necessary to evaluate the impact of the Eligible Customer's request for service on the Transmission System.

- (ii) If in response to multiple Eligible Customers requesting service in relation to the same competitive solicitation, a single System Impact Study is sufficient to accommodate the service requests, the costs of that study shall be pro-rated among the Eligible Customers.
- (iii) For System Impact Studies that the ITO conducts for the Transmission Owner, the ITO shall record the cost of the System Impact Studies pursuant to Section 8.

32.3 System Impact Study Procedures

Upon receipt of an executed System Impact Study Agreement, the ITO will use due diligence to complete the required System Impact Study within a sixty (60) day period. The System Impact Study shall identify (1) any system constraints identified with specificity by transmission element or flowgate, (2) redispatch options (when requested by an Eligible Customer) including, to the extent possible, an estimate of the cost of redispatch (3) available options for installation of automatic devices to curtail service (when requested by an Eligible Customer), and (4) additional Direct Assignment Facilities or Network Upgrades required to

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provide the requested service. For customers requesting the study of redispatch options, the System Impact Study shall (1) identify all resources located within the Transmission Owner's control area that can significantly contribute toward relieving system constraint and (2) provide a measurement of each resource's impact on the system constraint. If the Transmission Owner possesses information that any resource outside its Balancing Authority Area could relieve the constraint, it shall identify each resource in the System Impact Study. In the event that the ITO is unable to complete the required System Impact Study within such time period, it shall so notify the Eligible Customer and provide an estimated completion date along with an explanation of the reasons why additional time is required to complete the required studies. A copy of the completed System Impact Study and related work papers shall be made available to the Eligible Customer as soon as the System Impact Study is complete. The ITO will use the same due diligence in completing the System Impact Study for an Eligible Customer as it uses when completing studies for the Transmission Owner. The ITO shall notify the Eligible Customer immediately upon completion of the System Impact Study if the Transmission System will be adequate to accommodate all or part of a request for service or that no costs are likely to be incurred for new transmission facilities or upgrades. In order for a request to remain a Completed Application, within fifteen (15) days of either (i) a determination that no System Impact Study is needed, or (ii) the completion of the System Impact Study and a determination that no Facilities Study is needed, the Eligible Customer must execute a Service

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Agreement or request the filing of an unexecuted Service Agreement or the Application shall be deemed terminated and withdrawn.

32.4 Facilities Study Procedures

If a System Impact Study indicates that additions or upgrades to the Transmission System are needed to supply the Eligible Customer's service request, the ITO, within thirty (30) days of the completion of the System Impact Study, shall tender to the Eligible Customer a Facilities Study Agreement pursuant to which the Eligible Customer shall agree to reimburse the ITO and the Transmission Owner for the actual costs of the Facilities Study, including any costs incurred by the ITO or the Transmission Owner with performing the respective functions for the required Facilities Study. For a service request to remain a Completed Application, the Eligible Customer shall execute the Facilities Study Agreement and return it to the ITO within fifteen (15) days. If the Eligible Customer elects not to execute the Facilities Study Agreement, its Application shall be deemed withdrawn and its deposit shall be returned with interest. Upon receipt of an executed Facilities Study Agreement, the Transmission Owner will use due diligence to complete the required Facilities Study within a sixty (60) day period. If the Transmission Owner is unable to complete the Facilities Study in the allotted time period, the ITO shall notify the Eligible Customer and provide an estimate of the time needed to reach a final determination along with an explanation of the reasons that additional time is required to complete the study. When completed, the Facilities Study will include a good faith estimate of (i) the

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cost of Direct Assignment Facilities to be charged to the Eligible Customer, (ii) the Eligible Customer's appropriate share of the cost of any required Network Upgrades, and (iii) the time required to complete such construction and initiate the requested service. The Eligible Customer shall provide the ITO with a letter of credit or other reasonable form of security acceptable to the Transmission Owner equivalent to the costs of new facilities or upgrades consistent with commercial practices as established by the Uniform Commercial Code. The Eligible Customer shall have thirty (30) days to execute a Service Agreement or request the filing of an unexecuted Service Agreement and provide the required letter of credit or other form of security or the request no longer will be a Completed Application and shall be deemed terminated and withdrawn.

32.5 Penalties for Failure to Meet Study Deadlines

Section 19.10 defines penalties that apply for failure to meet the 60-day study completion due diligence deadlines for System Impact Studies and Facilities Studies under Part II of the Tariff. These same requirements and penalties apply to Part III of the Tariff.

32.6 Procedure for Clustering System Impact Study Requests

If an Eligible Customer or Eligible Customers wish to have their System Impact Studies clustered together, the following procedures will be implemented. On August 1st each year the ITO will announce via OASIS posting the opening of a "clustering window" which will close on January 31st. Any Eligible Customer who executes a System Impact Study Agreement during the clustering window,

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and indicates that its System Impact Study should be clustered with others, will be held until the end of the clustering window. The ITO will commence the clustered System Impact Study on March 1st and will use due diligence to complete the clustered System Impact Study within a sixty (60) day period. On February 1st each year the ITO will announce via OASIS posting the opening of a second “clustering window” which will close on July 31st. Any Eligible Customer who executes a System Impact Study Agreement during the clustering window, and indicates that its System Impact Study should be clustered with others, will be held until the end of the clustering window. The ITO will commence that clustered System Impact Study on September 1st and will use due diligence to complete the clustered System Impact Study within a sixty (60) day period. System Impact Studies that are clustered shall be treated as a single System Impact Study for all purposes, and shall be performed pursuant to a single System Impact Study Agreement entered into among the ITO and the Eligible Customers that have submitted service requests that have been clustered. Unless otherwise stated in such agreement, the cost for the completion of the System Impact Study shall be allocated in equal shares based on the number of transmission service requests to be included in the clustered System Impact Study (*e.g.*, if there are ten transmission service requests to be studied, each transmission service request shall be allocated 10% of the cost of the study). Facilities Studies that are clustered shall be treated as a single Facilities Study for all purposes, and shall be performed pursuant to a single Facilities Study Agreement entered into among the

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ITO and the Eligible Customers that have submitted service requests that have been clustered. Unless otherwise stated in such agreement, the cost for the completion of the Facilities Study shall be allocated in equal shares based on the number of transmission service requests to be included in the clustered System Impact Study (*e.g.*, if there are ten transmission service requests to be studied, each transmission service request shall be allocated 10% of the cost of the study).

An Eligible Customer can opt out of a cluster only during the period of time after the completion of the applicable System Impact Study and before the applicable Facilities Study. In the event that an Eligible Customer opts out of a cluster, the Eligible Customer who is opting out shall still be responsible for its share of the costs for the System Impact Study, and the costs associated with the Facilities Study will be allocated in equal shares among the remaining transmission service requests. The Eligible Customer that opted out of the cluster may elect to enter the study queue by requesting a new individual study or as part of a new cluster. Unless otherwise agreed, the Transmission Owner shall not be required to undertake any Transmission System upgrades or additions identified by a clustered Facilities Study unless all of the Eligible Customers for which the studies have been clustered execute Service Agreements, under which they are obligated to pay the total costs of such upgrades or additions, and to provide the required security.

Any Eligible Customers who choose to have their transmission service requests clustered bear the risk that the System Impact Study queue will continue

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while the clustering window is pending. If an Eligible Customer chooses to have its transmission service request clustered, such Eligible Customer may not concurrently request an individual System Impact Study. If an Eligible Customer requests and receives an individual System Impact Study prior or subsequent to participating in a clustered System Impact Study, such Eligible Customer shall bear the costs of its individual System Impact Study, as well as its share of the clustered System Impact Study.

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33 Load Shedding and Curtailments

33.1 Procedures

Prior to the Service Commencement Date, the Balancing Authority and the Network Customer shall establish Load Shedding and Curtailment procedures pursuant to the Network Operating Agreement with the objective of responding to contingencies on the Transmission System. The Balancing Authority and the Network Customer will implement such programs during any period when the Balancing Authority Area, determines that a system contingency exists and such procedures are necessary to alleviate such contingency. The ITO or Balancing Authority will notify all affected Network Customers in a timely manner of any scheduled Curtailment.

33.2 Transmission Constraints

During any period when the Balancing Authority (pursuant to directions from the applicable Reliability Coordinator) determines that a transmission constraint exists on the Transmission System, and such constraint may impair the reliability of the Transmission Owner's system, the Balancing Authority Area will take whatever actions, consistent with Good Utility Practice, that are reasonably necessary to maintain the reliability of the Transmission System. To the extent the Balancing Authority determines that the reliability of the Transmission System can be maintained by redispatching resources, it will initiate procedures pursuant to the Network Operating Agreement to redispatch all Network Resources and the Transmission Owner's own resources on a least-

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cost basis without regard to the ownership of such resources. Any redispatch under this section may not unduly discriminate between the Transmission Owner's use of the Transmission System on behalf of its Native Load Customers and any Network Customer's use of the Transmission System to serve its designated Network Load.

33.3 Cost Responsibility for Relieving Transmission Constraints

Whenever the Balancing Authority implements least-cost redispatch procedures in response to a transmission constraint, the Transmission Owner and Network Customers will each bear a proportionate share of the total redispatch cost based on their respective Load Ratio Shares.

33.4 Curtailments of Scheduled Deliveries

If a transmission constraint on the Transmission Owner's Transmission System cannot be relieved through the implementation of least-cost redispatch procedures and the Balancing Authority determines that it is necessary to Curtail scheduled deliveries, the Balancing Authority and the Network Customer shall Curtail such schedules in accordance with the Network Operating Agreement.

33.5 Allocation of Curtailments

The Balancing Authority shall, on a non discriminatory basis, Curtail the transaction(s) that effectively relieve the constraint. However, to the extent practicable and consistent with Good Utility Practice, any Curtailment will be shared by the Transmission Owner and Network Customer in proportion to their respective Load Ratio Shares. The Balancing Authority where applicable shall

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not direct the Network Customer to Curtail schedules to an extent greater than the Balancing Authority would Curtail the Transmission Owner's schedules under similar circumstances.

33.6 Load Shedding

To the extent that a system contingency exists on the Transmission Owner's Transmission System and the Balancing Authority determines that it is necessary for the Transmission Owner and the Network Customer to shed load, the Balancing Authority and the Network Customer shall shed load in accordance with previously established procedures under the Network Operating Agreement.

33.7 System Reliability

Notwithstanding any other provisions of this Tariff, the Balancing Authority reserves the right, consistent with Good Utility Practice and on a not unduly discriminatory basis, to Curtail Network Integration Transmission Service without liability for the purpose of making necessary adjustments to, changes in, or repairs to the Transmission Owner's lines, substations and facilities, and in cases where the continuance of Network Integration Transmission Service would endanger persons or property. In the event of any adverse condition(s) or disturbance(s) on the Transmission Owner's Transmission System or on any other system(s) directly or indirectly interconnected with the Transmission Owner's Transmission System, the Balancing Authority, consistent with Good Utility Practice, also may Curtail Network Integration Transmission Service in

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order to (i) limit the extent or damage of the adverse condition(s) or disturbance(s), (ii) prevent damage to generating or transmission facilities, or (iii) expedite restoration of service. The Balancing Authority will give the Network Customer as much advance notice as is practicable in the event of such Curtailment. Any Curtailment of Network Integration Transmission Service will be not unduly discriminatory relative to the Transmission Owner's use of the Transmission System on behalf of its Native Load Customers. The Transmission Owner shall specify the rate treatment and all related terms and conditions applicable in the event that the Network Customer fails to respond to established Load Shedding and Curtailment procedures.

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34 Rates and Charges

The Network Customer shall pay the Transmission Owner for any Direct Assignment Facilities, Ancillary Services, and applicable study costs, consistent with Commission policy, along with the following:

34.1 Charge

The Network Customer shall pay the charges set forth in Schedule 9.

34.2 Determination of Network Customer's Monthly Network Load:

The Network Customer's monthly Network Load is its hourly load (including its designated Network Load not physically interconnected with the Transmission Owner under Section 31.3) coincident with the Transmission Owner's Monthly Transmission System Peak.

34.3 Determination of Transmission Owner's Monthly Transmission System Load

The Transmission Owner's monthly Transmission System load is the Transmission Owner's Monthly Transmission System Peak minus the coincident peak usage of all Firm Point-To-Point Transmission Service customers pursuant to Part II of this Tariff plus the Reserved Capacity of all Firm Point-To-Point Transmission Service customers.

34.4 Redispatch Charge

The Network Customer shall pay a Load Ratio Share of any redispatch costs allocated between the Network Customer and the Transmission Owner pursuant to Section 33. To the extent that the Transmission Owner incurs an obligation to the Network Customer for redispatch costs in accordance with Section 33, such

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amounts shall be credited against the Network Customer's bill for the applicable month.

34.5 Stranded Cost Recovery

The Transmission Owner may seek to recover stranded costs from the Network Customer pursuant to this Tariff in accordance with the terms, conditions and procedures set forth in FERC Order Nos. 888 and 888A, and any subsequent revisions thereto. However, the Transmission Owner must separately file any proposal to recover stranded costs under Section 205 of the Federal Power Act.

34.6 Incremental Cost Charge

The Transmission Customer shall pay, either in a lump sum or on a monthly basis as agreed to by the Transmission Owner, for the incremental cost of any Direct Assignment Facilities or Network Upgrades determined in accordance with this Tariff that may be directly assigned to the Transmission Customer in accordance with Commission policies.

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35 Operating Arrangements

35.1 Operation Under The Network Operating Agreement

The Network Customer shall plan, construct, operate and maintain its facilities in accordance with Good Utility Practice and in conformance with the Network Operating Agreement.

35.2 Network Operating Agreement

The terms and conditions under which the Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of Part III of the Tariff shall be specified in the Network Operating Agreement. The Network Operating Agreement shall provide for the Parties to (i) operate and maintain equipment necessary for integrating the Network Customer within the Transmission Owner's Transmission System (including, but not limited to, remote terminal units, metering, communications equipment and relaying equipment), (ii) transfer data between the Parties (including, but not limited to, heat rates and operational characteristics of Network Resources, generation schedules for units outside the Transmission Owner's Transmission System, interchange schedules, unit outputs for redispatch required under Section 33, voltage schedules, loss factors and other real time data), (iii) use software programs required for data links and constraint dispatching, (iv) exchange data on forecasted loads and resources necessary for long-term planning, and (v) address any other technical and operational considerations required for implementation of Part III of the Tariff, including

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scheduling protocols. The Network Operating Agreement will recognize that the Network Customer shall either (i) operate as a Balancing Authority Area under applicable guidelines of the Electric Reliability Organization (ERO) as defined in 18 C.F.R. § 39.1, (ii) satisfy its Balancing Authority Area requirements, including all necessary Ancillary Services, by contracting with Parties as provided for hereunder, or (iii) satisfy its Balancing Authority Area requirements, including all necessary Ancillary Services, by contracting with another entity, consistent with Good Utility Practice, which satisfies the applicable guidelines of the ERO. The ITO and Transmission Owner shall not unreasonably refuse to accept contractual arrangements with another entity for Ancillary Services. The Network Operating Agreement is included in Attachment G.

35.3 Network Operating Committee

A Network Operating Committee (Committee) shall be established to coordinate operating criteria for the Parties' respective responsibilities under the Network Operating Agreement. Each Network Customer shall be entitled to have at least one representative on the Committee. The Committee shall meet from time to time as need requires, but no less than once each calendar year.

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SCHEDULE 1

Scheduling, System Control and Dispatch Service

This service is required to schedule the movement of power through, out of, within, or into a Balancing Authority Area. This service can be provided only by the operator of the Balancing Authority Area in which the transmission facilities used for transmission service are located. Scheduling, System Control and Dispatch Service is to be provided directly by the Transmission Owner or indirectly by the ITO making arrangements with the Transmission Owner to perform this service for the Transmission Owner's Transmission System. The Transmission Customer must purchase this service from the Transmission Owner.

Service under this Schedule shall be at a single, system-wide rate. Amounts to be recovered under this Schedule 1 shall be calculated as follows:

$$(1 - 2 \pm 3) \div 4$$

Where:

- 1 = The sum of all costs booked to FERC Account No. 561 (including all sub-accounts) in the most recent calendar year.
- 2 = The sum of all charges under this Schedule assessed to firm transactions of less than one year, all non-firm transactions, and any other transactions whose loads are not included in the divisor used to calculate the long-term firm and network service transmission rates in Schedules 7 and Schedule 10 as determined in accordance with Attachment O.
3. = A true up of the difference in the amounts expected to be recovered under Schedule 1 for the prior year and the amounts actually recovered under Schedule 1 for the prior year.
- 4 = The Divisor used to calculate the long-term firm and network service transmission rates in Schedules 7 and Schedule 10 as determined in accordance with Attachment O.

This rate shall be updated on an annual basis on or before June 1 of each year. The formula above produces the Annual Rate in \$/kw-year. The Monthly Rate (\$/kw-mo.) will then be

Effective On: May 1, 2016

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calculated by dividing the Annual Rate by 12, the Weekly Rate (\$/kw-week) will be the Annual Rate divided by 52, the Daily Rate (\$/kw-day) will be the Annual Rate divided by 365 and the Hourly Rate (\$/kwh) will be the Annual Rate divided by 8760. The rates shall be posted on the Transmission Owner's OASIS.

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SCHEDULE 2
REACTIVE SUPPLY AND VOLTAGE CONTROL FROM GENERATION SOURCES
SERVICE

In order to maintain transmission voltages on the Transmission Owner's transmission facilities within acceptable limits, generation facilities under the control of the control area operators are operated to produce (or absorb) reactive power. Thus, Reactive Supply and Voltage Control from Generation Sources Service must be provided for each transaction on the Transmission Owner's transmission facilities. The amount of Reactive Supply and Voltage Control from Generation Sources Service that must be supplied with respect to the Transmission Customer's transaction will be determined based on the reactive power support necessary to maintain transmission voltages within limits that are generally accepted in the region and consistently adhered to by the Transmission Owner.

All generators, affiliated or unaffiliated with the Transmission Owner, are to be compensated on a comparable basis. Specifically, all generators, affiliated or unaffiliated, meeting the qualifying requirements described in this Schedule 2, will be compensated \$5.00 per MVARh for reactive power produced outside the power factor deadband (.95 leading to .95 lagging). There will be no compensation to all generators, affiliated or unaffiliated, for reactive power produced within the power factor deadband (.95 leading to .95 lagging). The power factor is measured or determined by the integrated hourly MW and MVAR values at a generator's Point of Interconnection, *i.e.*, where the generator connects to the Transmission System. A generator that produces less than 1 MVARh over the integrated hour will not receive compensation for reactive power for those hours.

QUALIFIED GENERATOR REQUIREMENTS

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Any existing or new generator in Transmission Owner's control area will be deemed a Qualified Generator and will continue to be so qualified provided that a copy of the NERC audit or a self-certification of compliance with NERC Standard VAR-002 is received by Transmission Owner, in any year that such audit or such self-certification is required. All Qualified Generators must meet the technical requirements below.

A. Technical:

1. Each Qualified Generator must be interconnected to the Transmission Owner's Transmission System.
2. Each Qualified Generator must remain in compliance by NERC/SERC or continue to self-certify as (a) fully compliant; (b) level 1 non-compliant; or (c) level 2 non-compliant with NERC Standard VAR-002, when such self-certification is required.
3. Each Qualified Generator must designate the entity that is to receive dispatch instructions and the entity to receive compensation.
4. Each Qualified Generator shall maintain the capability to provide MWh, MVARh and voltage data, by such means of transmittal, at such intervals, and at such accuracy level, as may be required by NERC/SERC standards.
5. The generation resource must be able to meet a voltage schedule, to be posted on OASIS, which is based on a percentage of the nominal interconnection line voltage, with differentiation based on on-peak, off-peak, and shoulder-peak conditions. The uniform voltage schedule will be subject to exception where (a) the generation resource would be required to exceed its operational limits to produce reactive power; or (b) necessary to coordinate with

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neighboring control area operators in order to maintain reliability. All exceptions will be granted on a nondiscriminatory basis and posted on OASIS.

B. Re-Evaluation of Qualified Generator Status

1. If a Qualified Generator fails to notify Transmission Owner that Qualified Generator's automatic voltage regulator is out of service three or more times in a calendar month, the Transmission Owner shall determine whether the generation resource should continue to be a Qualified Generator based on the technical criteria established above.

2. If the Transmission Owner determines that the generator should not continue to be a Qualified Generator, the Transmission Owner shall notify the owner and stop providing reactive compensation to such generator owner.

C. Regaining Qualified Generator status:

If a generator has had its status as a Qualified Generator removed by the Transmission Owner, such generator may be reinstated to receive reactive compensation two (2) billing months after disqualification. If the owner of the generator desires to be reinstated, it must make application for such reinstatement to the Transmission Owner and demonstrate that the cause(s) for the disqualification has been remedied. The Transmission Owner shall waive the two month period and immediately reinstate the Qualified Generator status if it determines that such status was erroneously removed.

TRANSMISSION CUSTOMER CHARGES

Reactive Supply and Voltage Control from Generation Sources is to be provided directly by the Transmission Owner or indirectly by the ITO making arrangements with the Transmission Owner to perform this service for the Transmission Owner's Transmission System. The

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Transmission Customer must purchase this service from the Transmission Owner. The Transmission Customer may reduce the total charges for this service to the extent it can contribute to the required reactive supply of the system. The Company will provide this service at the rate specified in Schedule 2 times the Transmission Customer's Reserved Capacity or the Transmission Customer's Network Load for Network Integration Transmission Service. The rate for this service shall not exceed the applicable rate per kilowatt-month specified below times the Transmission Customer's highest monthly Network Load or Reserved Capacity:

Service Type	Point-to-Point ON-PEAK-OFF- PEAK Firm: Up To	ON-PEAK-OFF- PEAK Non-Firm: Up To	Network: Up To
	Applied to Reservation Amount	Applied to Reservation Amount	Applied to Network Load
Annual (\$/KW-Yr)	\$1.30		
Monthly (\$/KW-Mo)	\$0.108	\$0.108	\$0.108
Weekly (\$/KW-Wk)	\$0.025	\$0.025	
Daily (\$/KW-Day)	\$0.005/0.0036	\$ 0.005/0.0036	
Hourly (\$/KWH)		\$ 0.0003/0.00016	

Note: OFF-Peak Hours are defined as all hours on OFF-PEAK DAYS and the hour ending 2400 through the hour ending 0700 prevailing Eastern Time on other days. Off-Peak days shall be defined as Saturday and Sunday, as well as the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Note: Daily delivery

The total demand charge in any week, pursuant to a reservation for daily delivery, shall not exceed the weekly rate specified above times the highest amount in Kilowatts of Reserved Capacity for this service in any day during such week.

Note: Hourly delivery

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The total demand charge in any day, pursuant to a reservation for hourly delivery, shall not exceed the daily rate specified above times the highest amount in Kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant to a reservation for hourly or daily delivery of this service, shall not exceed the weekly rate specified above times the highest amount in Kilowatts of Reserved Capacity for this service in any hour during such week.

The Transmission Owner will provide a true-up filing annually showing the actual compensation paid to generators for reactive power outside the bandwidth and provide a refund of any excess revenues collected to all transmission customers taking service under the Transmission Owner's OATT on a load ratio share basis for Network Integration Transmission Service and on a reservation basis for Point-to-Point Transmission Service.

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Part IV_SCHED 03 Regulation and Frequency Response Svc
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SCHEDULE 3

REGULATION AND FREQUENCY RESPONSE SERVICE

Regulation and Frequency Response Service is necessary to provide for the continuous balancing of resources (generation and interchange) with load and for maintaining scheduled Interconnection frequency at sixty cycles per second (60 Hz). Regulation and Frequency Response Service is accomplished by committing on-line generation whose output is raised or lowered (predominantly through the use of automatic generating control equipment) and by other non-generation resources capable of providing this service as necessary to follow the moment-by-moment changes in load. The obligation to maintain this balance between resources and load lies with the Balancing Authority Area. The Transmission Owner must offer this service when the transmission service is used to serve load within its Balancing Authority Area. The Transmission Customer must either purchase this service from the Transmission Owner or make alternative comparable arrangements to satisfy its Regulation and Frequency Response Service obligation. The Transmission Owner will take into account the speed and accuracy of regulation resources in its determination of Regulation and Frequency Response reserve requirements, including as it reviews whether a self-supplying Transmission Customer has made alternative comparable arrangements. Upon request by the self-supplying Transmission Customer, the Transmission Owner will share with the Transmission Customer its reasoning and any related data used to make the determination of whether the Transmission Customer has made alternative comparable arrangements. The amount of and charges for Regulation and Frequency Response Service provided by the Transmission Owner are set forth below.

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A Transmission Customer purchasing Regulation and Frequency Response Service will be required to purchase an amount of reserved capacity equal to 1 percent of the Transmission Customer's Reserved Capacity for Point-to-Point Transmission Service or 1 percent of the Transmission Customer's Network Load for Network Integration Transmission Service. The billing determinants for this service shall be reduced by any portion of the 1 percent purchase obligation that Transmission Customer obtains from third parties or supplies itself. The rate for this service shall not exceed the applicable rate per kilowatt-month specified below times the Transmission Customer's highest monthly Network Load or Reserved Capacity:

Service Type	Point-to-Point ON-PEAK-OFF- PEAK Firm: Up To	ON-PEAK-OFF- PEAK Non-Firm: Up To	Network: Up To
	Applied to 1% of the Reservation	Applied to 1% of the Reservation	Applied to 1% of the Network Load
Annual (\$/KW-Yr)	\$ 82.80		
Monthly (\$/KW-Mo)	\$ 6.90	\$ 6.90	\$ 6.90
Weekly (\$/KW-Wk)	\$ 1.59	\$ 1.59	
Daily (\$/KW-Day)	\$0.318/.227	\$0.318/.227	
Hourly (\$/KWH)		\$ 0.0199/0.0095	

Note: OFF-Peak hours are defined as all hours on OFF-PEAK DAYS and the hour ending 2400 through the hour ending 0700 prevailing Eastern Time on other days. Off-Peak days shall be defined as Saturday and Sunday, as well as the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Note: Daily delivery

The total demand charge in any week, pursuant to a reservation for daily delivery, shall not exceed the weekly rate specified above times the highest amount in Kilowatts of Reserved Capacity for this service in any day during such week.

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Note: Hourly delivery

The total demand charge in any day, pursuant to a reservation for hourly delivery, shall not exceed, the daily rate specified above times the highest amount in Kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant to a reservation for hourly or daily delivery of this service, shall not exceed the weekly rate specified above times the highest amount in Kilowatts of Reserved Capacity for this service in any hour during such week.

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Part IV_SCHED 04 Energy Imbalance Service
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SCHEDULE 4 ENERGY IMBALANCE SERVICE

Energy Imbalance Service is provided when a difference occurs between the scheduled supply and the actual delivery of energy to a load located within a Balancing Authority Area over a single hour. The Transmission Owner must offer this service when the transmission service is used to serve load within its Balancing Authority Area. The Transmission Customer must either purchase this service from the Transmission Owner or make alternative comparable arrangements, which may include use of non-generation resources capable of providing this service, to satisfy its Energy Imbalance Service obligation. To the extent the Balancing Authority Area operator performs this service for the Transmission Owner, charges to the Transmission Customer are to reflect only a pass-through of the costs charged to the Transmission Owner by that Balancing Authority Area operator. The Transmission Owner will charge a Transmission Customer a penalty for either hourly energy imbalances under this Schedule or a penalty for hourly generator imbalances under Schedule 9 for imbalances occurring during the same hour, but not both unless the imbalances aggravate rather than offset each other.

Nothing in this Schedule 4 shall be construed so as to permit the Transmission Customer to use or rely upon Ancillary Services as a substitute for backup supply services. Backup supply service is an alternative resource that a customer can use in the event its own resource(s) becomes unavailable for more than a few minutes, but is not a service provided under the Tariff. The Transmission Customer must supply energy to meet its real-time load in accordance with Appendix A to the Network Operating Agreement (as applicable), applicable reliability rules, and Good Utility Practice.

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The Transmission Owner shall establish charges for energy imbalance based on the deviation bands as follows: (i) Tier 1 deviations within +/- 1.5 percent (with a minimum of 2 MW) of the scheduled transaction to be applied hourly to any energy imbalance that occurs as a result of the Transmission Customer's scheduled transaction(s) will be netted on a monthly basis and settled financially, at the end of the month, at 100 percent of incremental or decremental cost; (ii) Tier 2 applies to the portion of the deviation greater than +/- 1.5 percent up to 7.5 percent (or greater than 2 MW up to 10 MW) of the scheduled transaction to be applied hourly to any energy imbalance that occurs as a result of the Transmission Customer's scheduled transaction(s) will be settled financially, at the end of each month, at 110 percent of incremental cost or 90 percent of decremental cost, and (iii) Tier 3 applies to the portion of the deviation greater than +/- 7.5 percent (or 10 MW) of the scheduled transaction to be applied hourly to any energy imbalance that occurs as a result of the Transmission Customer's scheduled transaction(s) will be settled financially, at the end of each month, at 125 percent of incremental cost or 75 percent of decremental cost.

For purposes of this Schedule, incremental cost and decremental cost represent the Transmission Owner's actual average hourly cost of the last 10 MW (*i.e.*, the highest cost 10 MW) dispatched for any purpose, (*e.g.*, to supply the Transmission Owner's Native Load Customers, correct imbalances, or make off-system sales) and will include the following costs:

- the replacement cost of fuel;
- emission costs (including cost of operating emission removal equipment);
- incremental operation and maintenance costs, including maintenance cost associated with overhauling generators and variable O&M costs;

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- purchased and interchange power costs and taxes; and
- start up costs (including any redispatch costs)

as applicable.

For Tier 1 deviations, the Transmission Owner will keep an account of all deviations by the customers in that month, and then calculate each month the net energy imbalance in MWh, positive or negative, for each transmission customer, based on the customer's Tier 1 deviations for that month. The charge for net Tier 1 deviations shall be based on 100% of the load weighted hourly average incremental/decremental costs. The transmission customer's charge will be determined by multiplying the net MWh quantity of the net Tier 1 deviations by the load weighted hourly average incremental/decremental rate.

For Tier 2 and Tier 3 deviations, a charge will be made in accordance with this Schedule for each hour in which an imbalance occurred. These charges will be based on a percentage of the actual incremental or decremental cost for that hour, as specified above.

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SCHEDULE 5

OPERATING RESERVE - SPINNING RESERVE SERVICE

Spinning Reserve Service is needed to serve load immediately in the event of a system contingency. Spinning Reserve Service may be provided by generating units that are on-line and loaded at less than maximum output and by non-generation resources capable of providing this service. The Transmission Owner must offer this service when the transmission service is used to serve load within its Balancing Authority Area. The Transmission Customer must either purchase this service from the Transmission Owner or make alternative comparable arrangements to satisfy its Spinning Reserve Service obligation. The amount of and charges for Spinning Reserve Service are set forth below. The Rate for this service shall not exceed the applicable rate per kilowatt month specified below times the Transmission Customer's highest monthly Network Load or Reserved Capacity.

Nothing in this Schedule 5 shall be construed so as to permit the Transmission Customer to use or rely upon Ancillary Services as a substitute for backup supply services. Backup supply service is an alternative resource that a customer can use in the event its own resource(s) becomes unavailable for more than a few minutes, but is not a service provided under the Tariff. The Transmission Customer must supply energy to meet its real-time load in accordance with Appendix A to the Network Operating Agreement (as applicable), applicable reliability rules, and Good Utility Practice.

A Transmission Customer purchasing Spinning Reserve Service will be required to purchase an amount of reserved capacity equal to 1.5 percent of the Transmission Customer's Reserved Capacity for Point-to-Point Transmission Service or 1.5 percent of the Transmission

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Customer's Network Load for Network Integration Transmission Service. The billing determinants for this service shall be reduced by any portion of the 1.5 percent purchase obligation that a Transmission Customer obtains from third parties or supplies itself.

Service Type	Point-to-Point ON-PEAK-OFF- PEAK Firm: Up To	ON-PEAK-OFF- PEAK Non-Firm: Up To	Network: Up To
	Applied to 1.5% of the Reservation	Applied to 1.5% of the Reservation	Applied to 1.5% of the Network Load
Annual (\$/KW-Yr)	\$ 85.56		
Monthly (\$/KW-Mo)	\$ 7.13	\$ 7.13	\$ 7.13
Weekly (\$/KW-Wk)	\$ 1.65	\$ 1.65	
Daily (\$/KW-Day)	\$0.329/.234	\$0.329/.234	
Hourly (\$/KWH)		\$ 0.0206/0.0098	

Note: OFF-Peak hours are defined as all hours on OFF-PEAK DAYS and the hour ending 2400 through the hour ending 0700 prevailing Eastern time on other days. Off-Peak days shall be defined as Saturday and Sunday, as well as the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Note: Daily delivery

The total demand charge in any week, pursuant to a reservation for daily delivery, shall not exceed the weekly rate specified above times the highest amount in Kilowatts of Reserved Capacity for this service in any day during such week.

Note: Hourly delivery

The total demand charge in any day, pursuant to a reservation for hourly delivery, shall not exceed, the daily rate specified above times the highest amount in Kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant to a reservation for hourly or daily delivery of this service, shall not exceed the weekly rate

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specified above times the highest amount in Kilowatts of Reserved Capacity of this service in
any hour during such week.

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SCHEDULE 6

OPERATING RESERVE - SUPPLEMENTAL RESERVE SERVICE

Supplemental Reserve Service is needed to serve load in the event of a system contingency; however, it may not be available immediately to serve load but rather within a short period of time. Supplemental Reserve Service may be provided by generating units that are on line but unloaded, by quick-start generation or by interruptible load or other non-generation resources capable of providing this service. The Transmission Owner must offer this service when the transmission service is used to serve load within its Balancing Authority Area. The Transmission Customer must either purchase this service from the Transmission Owner or make alternative comparable arrangements to satisfy its Supplemental Reserve Service obligation. The amount of and charges for Supplemental Reserve Service are set forth below.

Nothing in this Schedule 6 shall be construed so as to permit the Transmission Customer to use or rely upon Ancillary Services as a substitute for backup supply services. Backup supply service is an alternative resource that a customer can use in the event its own resource(s) becomes unavailable for more than a few minutes, but is not a service provided under the Tariff. The Transmission Customer must supply energy to meet its real-time load in accordance with Appendix A the Network Operating Agreement (as applicable), applicable reliability rules, and Good Utility Practice.

A Transmission Customer purchasing Supplemental Reserve Service will be required to purchase an amount of reserved capacity equal to 1.5 percent of the Transmission Customer's Reserved Capacity for Point-to-Point Transmission Service or 1.5 percent of the Transmission Customer's Network Load for Network Integration Transmission Service. The billing

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determinants for this service shall be reduced by any portion of the 1.5 percent purchase obligation that a Transmission Customer obtains from third parties or supplies itself.

The Rate for this service shall not exceed the applicable rate per kilowatt specified below times the Transmission Customer's highest monthly Network Load or Reserved Capacity:

Service Type	Point-to-Point ON-PEAK-OFF- PEAK Firm: Up To	ON-PEAK-OFF- PEAK Non-Firm: Up To	Network: Up To
	Applied to 1.5% of the Reservation	Applied to 1.5% of the Reservation	Applied to 1.5% of the Network Load
Annual (\$/KW-Yr)	\$ 85.56		
Monthly (\$/KW-Mo)	\$ 7.13	\$ 7.13	\$ 7.13
Weekly (\$/KW-Wk)	\$ 1.65	\$ 1.65	
Daily (\$/KW-Day)	\$0.329/.234	\$0.329/.234	
Hourly (\$/KWH)		\$ 0.0206/0.0098	

Note: OFF-Peak hours are defined as all hours on OFF-PEAK DAYS and the hour ending 2400 through the hour ending 0700 prevailing Eastern time on other days. Off-Peak days shall be defined as Saturday and Sunday, as well as the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Note: Daily delivery

The total demand charge in any week, pursuant to a reservation for daily delivery, shall not exceed the weekly rate specified above times the highest amount in Kilowatts of Reserved Capacity for this service in any day during such week.

Note: Hourly delivery

The total demand charge in any day, pursuant to a reservation for hourly delivery, shall not exceed, the daily rate specified above times the highest amount in Kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant

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to a reservation for hourly or daily delivery of this service, shall not exceed the weekly rate specified above times the highest amount in Kilowatts or Reserved Capacity for this service in any hour during such week.

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SCHEDULE 7

LONG-TERM FIRM AND SHORT-TERM FIRM POINT-TO-POINT TRANSMISSION

SERVICE

The Transmission Customer shall compensate the Transmission Owner each month for Reserved Capacity at the sum of the applicable charges set forth below in addition to other applicable charges specified in the Tariff.

(1) **Rates:** All effective rates under this Schedule shall be posted on the Transmission Owner's OASIS. The rates are calculated using the formula included in Attachment O. The rates will be recalculated each June 1 based on the prior full calendar or fiscal year.

(2) **Caps:** The total demand charge in any week, pursuant to a reservation for daily delivery, shall not exceed the weekly rate times the highest amount in kilowatts of Reserved Capacity in any day during such week.

(3) **Discounts:** Three principal requirements apply to discounts for transmission service as follows: (1) any offer of a discount made by the Transmission Owner must be announced to all Eligible Customers solely by posting on the OASIS, (2) any customer-initiated requests for discounts (including requests for use by one's wholesale merchant or an Affiliate's use) must occur solely by posting on the OASIS, and (3) once a discount is negotiated, details must be immediately posted on the OASIS. For any discount agreed upon for service on a path, from Point(s) of Receipt to Point(s) of Delivery, the Transmission Owner must offer the same discounted transmission service rate for the same time period to all Eligible Customers on all unconstrained transmission paths that go to the same Point(s) of Delivery on the Transmission System.

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(4) Compliance with Agreements: If the Commission has allowed agreements to become effective which require a waiver of any of the charges under this Schedule, then such charges shall be waived.

(5) Credit for Charges During Transmission Loading Relief (TLR) Events: In the event there is a Curtailment of confirmed Point-To-Point Transmission Service on the Transmission System due to a TLR event, credit will be given to the Transmission Customer(s) that are actually requested to curtail their energy schedules associated with the confirmed Point-To-Point Transmission Service. No credits will be given for: (1) TLR events external to the Transmission System; (2) Non-Firm Secondary Point-To-Point Transmission Service under a Firm Point-To-Point reservation; or, (3) Next-Hour Transmission Service. Under no circumstances shall the amount credited exceed the amount the customer was actually curtailed nor will credit be given for any hours other than those in which the Curtailment was requested.

(6) Expansion and Losses: Firm service transactions which are initiated after the effective date of this OATT shall be charged the costs of expansion (where applicable) and losses in accordance with Schedule 10.

(7) Resales: The rates and rules governing charges and discounts stated above shall not apply to resales of transmission service, compensation for which shall be governed by Section 23.1 of the Tariff.

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SCHEDULE 8

NON-FIRM POINT-TO-POINT TRANSMISSION SERVICE

The Transmission Customer shall compensate the Transmission Owner for Non-Firm Point-To-Point Transmission Service up to the sum of the applicable charges set forth below in addition to other applicable charges specified in the Tariff.

- (1) **Rates:** All effective rates under this Schedule shall be posted on the Transmission Owner's OASIS. The rates are calculated using the formula included in Attachment O, pages _ and _ except as provided in this Schedule 8. The rates will be recalculated each June 1 based on the prior calendar or fiscal year.
- (2) **Caps:** The total demand charge in any week, pursuant to a reservation for Daily delivery, shall not exceed the weekly rate times the highest amount in kilowatts of Reserved Capacity in any day during such week. The total demand charge in any day, pursuant to a reservation for Hourly delivery, shall not exceed the daily rate times the highest amount in kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant to a reservation for Hourly or Daily delivery, shall not exceed the weekly rate above times the highest amount in kilowatts of Reserved Capacity in any hour during such week.
- (3) **Discounts:** Three principal requirements apply to discounts for transmission service as follows: (1) any offer of a discount made by the Transmission Owner must be announced to all Eligible Customers solely by posting on the OASIS, (2) any customer-initiated requests for discounts (including requests for use by one's wholesale merchant or an Affiliate's use) must occur solely by posting on the OASIS, and (3) once a discount is negotiated, details must be immediately posted on the OASIS. For any discount agreed upon for service on a path, from

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point(s) of receipt to point(s) of delivery, the Transmission Owner must offer the same discounted transmission service rate for the same time period to all Eligible Customers on all unconstrained transmission paths that go to the same point(s) of delivery on the Transmission System.

(4) **Compliance With Agreements:** If the Commission has allowed agreements to become effective which require a waiver of any of the charges under this Schedule, then such charges shall be waived.

(5) **Credit for Charges During Transmission Loading Relief (TLR) Events:** In the event that the Transmission Owner initiates Curtailment of confirmed Point-To-Point Transmission Service on the Transmission System due to a TLR event, credit will be given to the Transmission Customer(s) that are actually requested to curtail their energy schedules associated with the confirmed Point-To-Point Transmission Service. No credits will be given for: (1) TLR events external to the Transmission System; (2) Non-Firm Secondary Point-To-Point Transmission Service under a Firm Point-To-Point reservation; or, (3) Next-Hour Transmission Service. Under no circumstances shall the amount credited exceed the amount the customer was actually curtailed nor will credit be given for any hours other than those in which the Curtailment was requested.

(6) **Expansion and Losses:** Non-Firm service transactions which are initiated after the effective date of this OATT shall be charged losses in accordance with Schedule 10.

(7) **Resales:** The rates and rules governing charges and discounts stated above shall not apply to resales of transmission service, compensation for which shall be governed by Section 23.1 of the Tariff.

Effective On: January 24, 2015

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Part IV_SCHED 08
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Part IV_SCHED 09
Part IV_SCHED 09 Generator Imbalance
Version 12.0.0

SCHEDULE 9
GENERATOR IMBALANCE SERVICE

Generator Imbalance Service is provided when a difference occurs between the output of a generator located in the Transmission Owner's Balancing Authority Area and a delivery schedule from that generator to (1) another Balancing Authority Area or (2) a load within the Transmission Provider's Balancing Authority Area over a single hour. The Transmission Owner must offer this service, to the extent it is physically feasible to do so from its own resources or from resources available to do it, when Transmission Service is used to deliver energy from a generator located within its Balancing Authority Area. The Transmission Customer must either purchase this service from the Transmission Owner or make alternative comparable arrangements, which may include use of non-generation resources capable of providing this service, to satisfy its Generator Imbalance Service obligation. To the extent the Transmission Owner performs this service for itself, charges to the Transmission Customer are to reflect only a pass-through of the costs charged by the Transmission Owner. The Transmission Owner will charge a Transmission Customer a penalty for either hourly generator imbalances under this Schedule or a penalty for hourly energy imbalances under Schedule 4 for imbalances occurring during the same hour, but not both unless the imbalances aggravate rather than offset each other.

Nothing in this Schedule 9 shall be construed so as to permit the Transmission Customer to use or rely upon Ancillary Services as a substitute for backup supply services. Backup supply service is an alternative resource that a customer can use in the event its own resource(s) becomes unavailable for more than a few minutes, but is not a service provided under the Tariff.

Effective On: February 15, 2017

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Part IV_SCHED 09
Part IV_SCHED 09 Generator Imbalance
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The Transmission Owner shall establish charges for generator imbalance based on the deviation bands as follows: (i) Tier 1 deviations within +/- 1.5 percent (with a minimum of 2 MW) of the scheduled transaction to be applied hourly to any generator imbalance that occurs as a result of the Transmission Customer's scheduled transaction(s) will be netted on a monthly basis and settled financially, at the end of the month, at 100 percent of incremental or decremental cost; (ii) Tier 2 applies to the portion of the deviation greater than +/- 1.5 percent up to 7.5 percent (or greater than 2 MW up to 10 MW) of the scheduled transaction to be applied hourly to any generator imbalance that occurs as a result of the Transmission Customer's scheduled transaction(s) will be settled financially, at the end of each month, at 110 percent of incremental cost or 90 percent of decremental cost, and (iii) Tier 3 applies to the portion of the deviation greater than +/- 7.5 percent (or 10 MW) of the scheduled transaction to be applied hourly to any generator imbalance that occurs as a result of the Transmission Customer's scheduled transaction(s) will be settled financially, at the end of each month, at 125 percent of incremental cost or 75 percent of decremental cost, except that an intermittent resource will be exempt from this deviation band and will pay the deviation band charges for all deviations greater than the larger of 1.5 percent or 2 MW. An intermittent resource, for the limited purpose of this Schedule is an electric generator that is not dispatchable and cannot store its fuel source and therefore cannot respond to changes in system demand or respond to transmission security constraints.

Notwithstanding the foregoing, deviations from scheduled transactions in order to respond to directives by the Transmission Owner, a Balancing Authority, or a Reliability

Effective On: February 15, 2017

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Coordinator shall not be subject to the deviation bands identified above, and instead shall be settled financially at the end of the month at 100 percent of incremental and decremental cost.

Such directives may include instructions to correct frequency decay, respond to a reserve sharing event, or change output to relieve congestion.

For purposes of this Schedule, incremental cost and decremental cost represent the Transmission Owner's actual average hourly cost of the last 10 MW (*i.e.*, the highest cost 10 MW) dispatched for any purpose, (*e.g.*, to supply the Transmission Owner's Native Load Customers, correct imbalances, or make off-system sales) and will include the following costs:

- the replacement cost of fuel;
- emission costs (including cost of operating emission removal equipment);
- incremental operation and maintenance costs, including maintenance cost associated with overhauling generators and variable O&M costs;
- purchased and interchange power costs and taxes; and
- start up costs (including any redispatch costs)

as applicable.

For Tier 1 deviations, the Transmission Owner will keep an account of all deviations by the customers in that month, and then calculate each month the net generator imbalance in MWh, positive or negative, for each transmission customer, based on the customer's Tier 1 deviations for that month. The charge for net Tier 1 deviations shall be based on 100% of the load weighted hourly average incremental/decremental costs. The transmission customer's charge will be determined by multiplying the net MWh quantity of the net Tier 1 deviations by the load weighted hourly average incremental/decremental rate.

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For Tier 2 and Tier 3 deviations, a charge will be made in accordance with this Schedule for each hour in which an imbalance occurred. These charges will be based on a percentage of the actual incremental or decremental cost for that hour, as specified above.

Effective On: February 15, 2017

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Part IV_SCHED 10
Part IV_SCHED 10 Network Integration Tran Svc
Version 10.0.0

SCHEDULE 10

NETWORK INTEGRATION TRANSMISSION SERVICE

The Transmission Customer shall compensate the Transmission Owner for Network Integration Transmission Service at the applicable charges set forth below in addition to other applicable charges specified in the Tariff. The monthly rates are calculated using the formulas included in Attachment O. The initial rates will be calculated based on a prior full calendar or fiscal year period. However, if the initial rates are to take effect between January 1 and June 1 of a year, then the calendar or fiscal year used in determining the rates shall be the calendar year preceding the last calendar or fiscal year. These initial rates then would be recalculated effective on June 1 based on the prior full calendar or fiscal year.

Network Service Between MISO/PJM and LG&E: Arrangements for this service should be made between MISO/PJM, the ITO and the Transmission Owner.

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Part IV_SCHED 11
Part IV_SCHED 11 Loss Compensation Service
Version 10.0.0

SCHEDULE 11

LOSS COMPENSATION SERVICE

Capacity and energy losses occur when a Transmission Owner delivers electricity across its transmission facilities for a Transmission Customer. A Transmission Customer may elect to (1) supply the capacity and/or energy necessary to compensate the Transmission Owner for such losses, (2) receive an amount of electricity at delivery points that is reduced by the amount of losses incurred by the Transmission Owner, or (3) with the concurrence of the Transmission Owner, have the Transmission Owner supply the capacity and/or energy necessary to compensate for such losses.

The loss factor used to determine the amount of losses associated with the use of facilities other than distribution facilities shall be 2.048 percent.

If a Transmission Customer taking Point-to-Point Transmission service elects option 1, above, it shall be responsible for supplying, in addition to the amount of energy scheduled to be delivered to the Transmission Customer's Points of Delivery, an amount, in MWh, equal to 0.02048 multiplied by the sum of hourly energy scheduled to be delivered to the Transmission Customer's Points of Delivery.

If a Transmission Customer taking Point-to-Point Transmission service elects option 2, above, Transmission Provider shall deliver to the Transmission Customer's Points of Delivery, an amount, in MWh, equal to the energy received by the Transmission Provider divided by 1.02048.

Subject to the final sentence of this paragraph, losses to be supplied by the Transmission

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Customer for Network Integration Transmission Service will be 2.048 percent of that hour's actual Network Load. However, in no event shall the losses determination result in the Transmission Owner being under compensated after any hour. To the extent that an existing or potential new Network Customer with behind-the-meter generation raises any concern regarding the loss calculation for load served with its behind-the-meter generation, the Transmission Owner will address such concerns on a case-by-case basis in the Service Agreement.

If the Transmission Owner and Transmission Customer agree to have the Transmission Owner compensated for losses under option 3 above, the Transmission Customer shall be charged for Loss Compensation Service at a rate not to exceed 100 percent of the Transmission Owner's incremental cost to produce energy after serving all other obligations (including economy and opportunity transactions) and a Generation Capacity Loss Adder of \$.006 per kWh.

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Part IV_SCHED 12
Part IV_SCHED 12 Distribution of Penalty Revenues
Version 10.0.0

SCHEDULE 12

DISTRIBUTION OF PENALTY REVENUES

The Transmission Owner shall distribute penalty revenues collected pursuant to Schedules 4 and 9, transmission study penalties collected pursuant to Sections 19.10 and 32.5, or unreserved use penalties pursuant to Schedule 13 of the OATT in the following manner.

1. Imbalance penalty revenues collected by the Transmission Owner pursuant to Schedules 4 and 9 will be distributed among all non-offending Network and Transmission Customers (including the Transmission Owner, if it has used transmission or NITS during the month and has not incurred a payment under Schedule 4 or 9 during a given hour). The amount of imbalance penalty revenue collected for a particular month shall be allocated on a pro-rata basis, based on the non-offending Network Customers' monthly demand and the non-offending Transmission Customers' monthly peak demand. For the purposes of this paragraph 1, a "non-offending Network or Transmission Customer" is one to whom the penalty component did not apply in the hour, or who was out of balance, but within the first tier. Additionally, the Transmission Owner is not required to distribute penalty revenues until after it recovers all costs (including any associated transmission costs) incurred in providing imbalance service. For the purposes of this paragraph 1, "imbalance penalty revenues" refers to amounts collected by the Transmission Owner under Schedules 4 or 9 in excess of the incremental cost.
2. Transmission study penalties incurred by the Transmission Owner pursuant to Sections 19.10 and 32.5 of the OATT will be distributed among all non-Affiliated Network and Transmission Customers. The transmission study penalties will be assessed quarterly. Credits equal to the total penalty amount for a quarter shall be allocated on a pro-rata basis, based on the Network

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Customers' monthly demand and the Transmission Customers' monthly peak demand. For monthly billing purposes, the total amount of to be credited to each customer will be the quarterly amount be divided by three. Each Network and Transmission Customer will be credited this amount on its bills for the next three months (*i.e.* the quarter following the quarter in which the penalty accrued).

3. Unreserved use penalty revenues collected by the Transmission Owner pursuant to Schedule 13 will be distributed among all non-offending Network and Transmission Customers (including the Transmission Owner, if it has used transmission or NITS during the month and has not incurred a penalty under Schedule 13). The amount of unreserved use penalty revenue collected for a particular month shall be allocated on a pro-rata basis, based on the non-offending Network Customers' monthly demand and the non-offending Transmission Customers' monthly peak demand. For the purposes of this paragraph 3, a "non-offending Network or Transmission Customer" is one who has not incurred a penalty under Schedule 13 for the month. For the purposes of this paragraph 3, "unreserved use penalty revenues" refers to amounts collected under Schedule 13 above the base firm Point-to-Point transmission service charge for the transmission service provided.

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Part IV_SCHED 13
Part IV_SCHED 13 Unreserved Use Penalty
Version 10.0.0

SCHEDULE 13

UNRESERVED USE PENALTY

In the event that a Transmission or Network Customer's use of the Transmission System during any hour of the day exceeds the amount of the Transmission or Network Customer's Reserved Capacity, the Transmission Owner shall charge and the Transmission or Network Customer shall pay a penalty charge of 200% of the applicable rate for Firm Point-to-Point Service in accordance with this Schedule 13.

- If the unreserved use occurs within a single day, the penalty charge shall be based on the daily rate for Firm Point-to-Point Service.
- If an unreserved use penalty is incurred on more than one day within a calendar week, the penalty charge shall be based on the weekly rate for Firm Point-to-Point Service.
- If unreserved use penalties are incurred during more than one calendar week during the calendar month, the penalty charge shall be based on the monthly rate for Firm Point-to-Point Service.

The unreserved use penalty revenues collected under this Schedule 13 shall be distributed to all non-offending customers in accordance with the terms of Schedule 12.

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Part V_ATTACH A_0 Form Of Srvc Agmt for Firm PTP
Version 10.0.0

ATTACHMENT A
FORM OF SERVICE AGREEMENT FOR FIRM POINT-TO-POINT TRANSMISSION
SERVICE

- 1.0 This Service Agreement, dated as of _____, is entered into, by and between Louisville Gas & Electric Kentucky Utilities (“LG&E/KU”) acting by or through the ITO, established by LG&E/KU to which LG&E/KU have delegated the responsibility and authority to administer the Tariff, and _____ (“Transmission Customer”).
- 2.0 The Transmission Customer has been determined by the ITO to have a Completed Application for Firm Point-To-Point Transmission Service under the Tariff.
- 3.0 The Transmission Customer has provided to the Transmission Owner an Application deposit in accordance with the provisions of Section 17.3 of the Tariff.
- 4.0 Service under this agreement shall commence on the later of (1) the requested service commencement date, or (2) the date on which construction of any Direct Assignment Facilities and/or Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service under this agreement shall terminate on such date as mutually agreed upon by the parties.
- 5.0 LG&E/KU agrees to provide and the Transmission Customer agrees to take and pay for Firm Point-To-Point Transmission Service in accordance with the provisions of Part II of the Tariff and this Service Agreement.

Effective On: January 24, 2015

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Part V_ATTACH A_0
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6.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below.

LG&E/KU:

Transmission Customer:

7.0 The Tariff is incorporated herein and made a part hereof.

IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

Transmission Customer

By: _____
Name Title Date

LG&E/KU

By: _____
Name Title Date

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Specifications For Long-Term Firm Point-To-Point
Transmission Service

- 1.0 Term of Transaction: _____
Start Date: _____
Termination Date: _____
- 2.0 Description of capacity and energy to be transmitted by Transmission Owner including the electric Balancing Authority Area in which the transaction originates.

- 3.0 Point(s) of Receipt: _____
Delivering Party: _____
- 4.0 Point(s) of Delivery: _____
Receiving Party: _____
- 5.0 Maximum amount of capacity and energy to be transmitted (Reserved Capacity):

- 6.0 Designation of party(ies) subject to reciprocal service obligation:

- 7.0 Name(s) of any Intervening Systems providing transmission service:

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8.0 Service under this Agreement may be subject to some combination of the charges detailed below. (The appropriate charges for individual transactions will be determined in accordance with the terms and conditions of the Tariff.)

8.1 Transmission Charge: _____

8.2 System Impact and/or Facilities Study Charge(s): _____

8.3 Direct Assignment Facilities Charge: _____

8.4: Ancillary Services Charges: _____

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Part V_ATTACH A_1
Part V_ATTACH A_1 Form Of Srvc Agmt for RTRANS LT
Firm PTP
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ATTACHMENT A-1
FORM OF SERVICE AGREEMENT FOR
THE RESALE, REASSIGNMENT OR TRANSFER OF
POINT-TO-POINT TRANSMISSION SERVICE

- 1.0 This Service Agreement, dated as of dated as of _____, is entered into, by and between Louisville Gas & Electric Kentucky Utilities (“LG&E/KU”) acting by or through the ITO, established by LG&E/KU to which LG&E/KU have delegated the responsibility and authority to administer the Tariff, and _____(the Assignee). For purposes of this Service Agreement, the “Reseller” shall be defined as the Transmission Customer who proposes to resell, reassign, or transfer rights to point-to-point transmission service under a previously executed form of Service Agreement for Firm Point-to-Point Transmission Service which is attached as an exhibit to this Agreement.
- 2.0 The Assignee has been determined by the ITO to be an Eligible Customer under the Tariff pursuant to which the transmission service rights to be transferred were originally obtained.
- 3.0 The terms and conditions for the transaction entered into under this Service Agreement shall be subject to the terms and conditions of Part II of the Transmission Owner’s Tariff, except for those terms and conditions negotiated by the Reseller of the reassigned transfer capability (pursuant to Section 23.1 of this Tariff) and the Assignee to include: contract effective and termination dates, the amount of reassigned capacity or energy, point(s) of receipt and delivery. Changes by the Assignee to the Reseller’s Points of Receipt and Points of Delivery will be subject to the provisions of Section 23.2 of this Tariff.
- 4.0 The Transmission Owner shall credit the Reseller for the price reflected in the Assignee’s Service Agreement or the associated OASIS schedule.
- 5.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below.

LG&E/KU:

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Part V_ATTACH A_1 Form Of Srvc Agmt for RTRANS LT
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Assignee:

6.0 The Tariff is incorporated herein and made a part hereof.

IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

Assignee

By: _____
Name Title Date

LG&E/KU

By: _____
Name Title Date

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Part V_ATTACH A_1 Form Of Srvc Agmt for RTRANS LT
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Specifications For Long-Term Firm Point-To-Point
Transmission Service

- 1.0 Term of Transaction: _____
Start Date: _____
Termination Date: _____
- 2.0 Description of capacity and energy approved by ITO for transmission including the electric Balancing Authority Area in which the transaction originates.

- 3.0 Point(s) of Receipt: _____
Delivering Party: _____
- 4.0 Point(s) of Delivery: _____
Receiving Party: _____
- 5.0 Maximum amount of capacity and energy to be transmitted (Reserved Capacity):

- 6.0 Designation of party(ies) subject to reciprocal service obligation:

- 7.0 Name(s) of any Intervening Systems providing transmission service:

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- 8.0 Service under this Agreement may be subject to some combination of the charges detailed below. (The appropriate charges for individual transactions will be determined in accordance with the terms and conditions of the Tariff.)
 - 8.1 Transmission Charge: _____

 - 8.2 System Impact and/or Facilities Study Charge(s):

 - 8.3 Direct Assignment Facilities Charge: _____

 - 8.4 Ancillary Services Charges: _____

- 9.0 Name of Reseller of the reassigned transfer capability:

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Part V_ATTACH B
Part V_ATTACH B Form Of Srvc Agmt for NF PTP
Version 10.0.0

ATTACHMENT B
FORM OF SERVICE AGREEMENT FOR NON-FIRM POINT-TO-POINT
TRANSMISSION SERVICE

- 1.0 This Service Agreement, dated as of _____ is entered into, by and between Louisville Gas & Electric/Kentucky Utilities (“LG&E/KU”) acting by or through the ITO, established by LG&E/KU to which LG&E/KU have delegated the responsibility and authority to administer the Tariff, and _____ (“Transmission Customer”).
- 2.0 The Transmission Customer has been determined by the ITO to be a Transmission Customer under Part II of the Tariff and has filed a Completed Application for Non-Firm Point-To-Point Transmission Service in accordance with Section 18.2 of the Tariff.
- 3.0 Service under this Agreement shall be provided by the ITO upon request by an authorized representative of the Transmission Customer.
- 4.0 The Transmission Customer agrees to supply information the ITO deems reasonably necessary in accordance with Good Utility Practice in order for it to provide the requested service.
- 5.0 LG&E/KU agree to provide and the Transmission Customer agrees to take and pay for Non-Firm Point-To-Point Transmission Service in accordance with the provisions of Part II of the Tariff and this Service Agreement.
- 6.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below.

LG&E/KU:

Transmission Customer:

- 7.0 The Tariff is incorporated herein and made a part hereof.
IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

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Transmission Customer

By: _____
Name Title Date

LG&E/KU

By: _____
Name Title Date

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Part V_ATTACH C
Part V_ATTACH C Methodology to Assess ATC
Version 12.0.0

ATTACHMENT C

METHODOLOGY TO ASSESS AVAILABLE TRANSFER CAPABILITY

Preamble:

This Attachment C sets forth the methodology to assess Total Transfer Capability (“TTC”) and Available Transfer Capability (“ATC”) through coordination between Louisville Gas and Electric Company and Kentucky Utilities Company (“LG&E/KU”), the Independent Transmission Organization (“ITO”), and the Reliability Coordinator (“RC”). Nothing in this Attachment C is intended to alter or conflict with the relationships between and amongst LG&E/KU, the ITO, and the RC as provided for in the ITO Agreement and the RC Agreement and Attachment P to the Open Access Transmission Tariff (“OATT”). LG&E/KU, the RC, and the ITO shall utilize the method described in this Attachment C in the calculation of ATC.

ATC is calculated using a Flowgate Methodology, described below, that considers Available Flowgate Capacity (“AFC”). As explained in more detail below, this methodology will be applied consistent with the methodology for determining Flowgates under all currently effective reliability coordination agreements that pertain to LG&E/KU’s transmission system, such as the Congestion Management Process (“CMP”), and all currently effective reserve sharing agreements, such as the Contingency Reserve Sharing Group (“CRSG”) currently in effect between LG&E/KU and TVA.

I. Overview

LG&E/KU has chosen to use the Flowgate Methodology for calculating ATC and AFC for each ATC Path for the time horizons of next hour to 18 months (“Short-Term Horizon”). For time periods beyond 18 months (“Long-Term Horizon”), requests for transmission service will be evaluated based on the TSR Study Criteria posted on OASIS. This Attachment C pertains to the calculations of ATC for the Short-Term Horizon.

The Flowgate Methodology is based on the assumption that certain elements on the transmission system will begin to reach their limits before other elements on the system. Therefore, by monitoring the more sensitive areas on the transmission system, transfer capability calculations can be simplified in regard to the number of contingencies and monitored elements examined during each study. This methodology results in more accurate studies that focus on how the power would actually flow if the Transmission Service Requests (“TSRs”) were to be approved.

Various components of LG&E/KU’s AFC/ATC methodology are performed by TVA (pursuant to the RC Agreement and Attachment P to the OATT) and the ITO, in the following coordinated two-stage process:

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Part V_ATTACH C Methodology to Assess ATC
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A. **Stage 1**

TVA calculates base flow values, initial AFC values (“AFC_{Init}”) and the associated Transfer Distribution Factors (“TDFs”). TVA’s AFC_{Init} values account for only a subset of the Existing Transmission Commitment (“ETC”) (see Section V) values that are long-term firm transactions in the base study models used by the TVA Automated Model Builder (“AMB”) engine as ETC_{AMB}. TVA’s AFC_{Init} and TDF values are made available to LG&E/KU’s ITO.

B. **Stage 2**

The ITO calculates final AFC values using the algorithms described herein (Sections VII and VIII), which account for ETC values (“ETC_{webT}”) not accounted for in the TVA calculation. The ITO converts the final AFCs to ATC final values calculated by the OATI webTrans software (“ATC_{AFC}”). The ATC_{AFC} values are then compared against the contract path ATC and any limiting Available Share of Total Flowgate Capability (“ASTFC”) to select final effective ATCs (“ATC_{Eff}”), which are based on the minimum of those calculations. The ATC_{Eff} are the commercially available ATC values and are posted on LG&E/KU’s Open Access Same-Time Information System (“OASIS”, available at <https://www.oasis.oati.com/LGEE>) for each “transfer path.” A “transfer path” consists of a defined Point of Receipt (“POR”) – Point of Delivery (“POD”) pair.

II. **ATC Time Horizons, Algorithms & Frequency of Calculations:**

A. **Firm ATC**

1. Time Horizons

For Firm ATC calculations, the following periods are defined:

Daily Horizon: The period beginning with the end of Hourly Planning Horizon and ending at the end of the next calendar month following the current day.

Monthly Study Horizon: The period beginning at the end of Daily Horizon and ending at the end of the 18th calendar month following the current month.

2. Algorithms Used to Calculate Firm ATC

Firm ATC is calculated over the Daily Horizon and Monthly Study Horizon using the algorithms described in Sections IX and XI. The mathematical algorithm for the calculation of Firm ATC is available at: <http://www.oasis.oati.com/LGEE> under the ATC Information link.

3. Frequency of Calculation

Firm Daily ATC values are calculated four times a day till the end of next calendar month following the end of Hourly Planning Horizon.

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Firm Monthly ATC values are calculated four times per day for the 18 calendar months following end of Daily Horizon.

Firm Seasonal ATC values are calculated if planning and specific requested studies have been done. Firm seasonal capability shall be posted, if applicable, for the year following the current year and for each year following to the end of the study horizon, but not to exceed 10 years.

4. Path-Specific ATC Values

The ATC process calculates the TDF related to each Flowgate. Each calculated TDF represents the relationship between the increased power flow on a specific Flowgate for a transaction across a specific transmission path.

The Firm ATC values for each transmission path are derived from the applicable TDF, ETC_{webT} , and AFC_{Init} for the most limiting Flowgate for the path.

B. **Non-Firm ATC**

1. Time Horizons

For Non-Firm ATC calculations, the following periods are defined:

Hourly Operating Horizon: The period of the Hourly Operating Horizon differs for hours starting before noon and hours starting after noon. For hours starting before noon, the period includes the current hour through midnight, Eastern Standard Time (“EST”) of the current day. For hours starting after 12 noon EST, the period includes the then current hour through midnight EST of the following day. For example, the Hourly Operating Horizon for the hour of 10:00 a.m. EST January 1 includes the current hour and extends until midnight EST (*i.e.*, from 10:00 a.m. EST to midnight EST for a total of 14 hours). However, the Hourly Operating Horizon for 1:00 p.m. of January 1 extends until midnight EST of the next day (*i.e.*, from 1:00 p.m. EST January 1 to midnight the following day for a total of 35 hours).

Hourly Planning Horizon: The period beginning at the end of the Hourly Operating Horizon and ending at the end of the 7th calendar day following the current day.

Daily Horizon: The period beginning at the end of the Hourly Planning Horizon and ending at the end of the next calendar month.

Monthly Study Horizon: The period beginning at the end of Daily Horizon and ending at the end of the 18th calendar month following the current month.

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Non-Firm ATC is calculated over the operating, planning, and study horizons using the algorithms described in Sections IX and XI.

2. Algorithms Used to Calculate Non-Firm ATC

Non-Firm ATC is calculated in hourly, daily, and monthly increments. The mathematical algorithm for the calculation of Non-Firm ATC is available at: <http://www.oasis.oati.com/LGEE> under the ATC Information link.

3. Frequency of Calculation

Hourly Non-Firm ATC values are calculated each hour for 192 hours. The Hourly values span the period beginning with the current clock hour and extending through the next 7 days. At 12:00 noon EST each day, the calculation of the Hourly values for the next day changes to include unscheduled Firm capacity.

Non-Firm Daily ATC values are calculated four times a day till the end of the next calendar month following the end of Hourly Planning Horizon.

Non-Firm Monthly ATC values are calculated once per day for the 18 calendar months following the end of Daily Horizon.

Non-Firm Seasonal ATC values are calculated if planning and specific requested studies have been done. Non-firm seasonal capability shall be posted, if applicable, for the year following the current year and for each year following to the end of the study horizon, but not to exceed 10 years.

4. Path-Specific ATC Values

The ATC process calculates the TDF related to each Flowgate. Each calculated TDF represents the relationship between the increased power flow on a specific Flowgate and the corresponding ability to schedule a transaction across a specific transmission path.

The Non-Firm ATC values for each transmission path are derived from the applicable TDF, ETC_{webT} , and AFC_{Init} for the most limiting Flowgate for the path.

III. Process Flow Diagram

A process flow diagram of the ATC/AFC calculation process is included as Appendix 1 of this Attachment C.

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IV. Total Transfer Capability (“TTC”)

A. TTC Definition

TTC is the maximum amount of power that is allowed to reliably flow across an interface before transmission impacts such as ETC, Transmission Reliability Margin (“TRM”), Capacity Benefit Margin (“CBM”), postbacks, and counterflows are considered. TTC is therefore normally the contract path amount for the interface. For an interface that has a very large Contract Path, such that the Contract Path is above the reliable transfer limit, the TTC is set to a more appropriate transfer limit based on reasoned engineering analysis.

B. TTC Methodology

LG&E/KU calculates TTC as the sum of the seasonal normal facility ratings of the tie lines between itself and other interconnected transmission providers.

C. Databases Utilized in TTC Assessment

The databases used in TTC assessments are maintained by LG&E/KU. Other interconnected transmission providers calculate the seasonal normal facility ratings for their tie lines in internal spreadsheets and provide them to LG&E/KU.

D. Assumptions Utilized in TTC Assessment

The assumptions utilized in TTC assessments regarding load levels, generation dispatch, and modeling of planned and contingency outages are listed in the Available Transfer Capability Implementation Document (“ATCID”). These assumptions shall be no more limiting than those used in the planning of operations for the corresponding time period studied, provided that such planning of operations has been performed for that time period.

V. Existing Transmission Commitments (“ETC”)

A. ETC Definition

ETC encompasses committed use of the transmission system, including: (1) Native Load commitments (including Network Integration Transmission Service (“NITS”)), (2) grandfathered transmission rights, (3) appropriate Point-to-Point (“PTP”) Transmission Service reservations, and (4) rollover rights associated with long-term firm service of five or more years.

B. ETC Calculation Methodology

When calculating firm ETC (“ETC_{Fi}”) the following impacts shall be summed for all periods (which are thoroughly described in the ATCID to fully comply with MOD-030-3, R6):

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1. For LG&E/KU's Transmission Service Provider ("TSP") area, the impacts of firm NITS, including the impacts of generation-to-load;
2. For all adjacent TSP areas and other TSP areas which are covered by an executed coordination agreement, the impacts of any firm NITS, including the impacts of generation-to-load having a distribution factor (calculated using power flow models) equal to or greater than the percentage used to curtail in the Interconnection-wide congestion management procedure used by LG&E/KU.
3. The impacts of all confirmed firm PTP Transmission Service expected to be scheduled;
4. The impacts of any grandfathered firm obligations expected to be scheduled or to flow into LG&E/KU's area; and
5. The impacts of other firm services, as determined by the ITO, which are explained in the ATCID.

C. **Components of ETC Firm Commitments**

ETC_{Fi} contains two major components, ETC_{AMB} and ETC_{webT} .

ETC_{AMB} is the existing transmission commitments that are accounted for in the TVA AMB process (e.g., longer-term transactions in the planning model). ETC_{webT} is the existing transmission commitments accounted for in the ITO ATC process (OASIS reservations not included in ETC_{AMB}). Transmission commitments accounted for in the ETC_{AMB} should not be double counted in the ETC_{webT} .

1. **ETC_{AMB} is calculated with the model reflecting the following:**
 - a) **The impacts of generation-to-load for the LG&E/KU Transmission Service area. These values are calculated from (and reflected in the power flow models of):**
 - (i) *load forecast for the time period being calculated, including Native Load and NITS load, and*
 - (ii) *unit commitment and Dispatch Order, to include all designated network resources and other resources that are committed or have the legal obligation to run as specified in the ATCID.*
 - b) **The impact of generation-to-load for other TSP areas covered by an executed coordination agreement or where the impact is deemed significant. These values are calculated from (and reflected in the power flow models of):**
 - (i) *load forecast for the time period being calculated, and*

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(ii) *unit commitment and block generation dispatch.*

- c) **The impact of generation-to-load for all other TSP areas. These values are calculated from the seasonal peak load forecast included in the Multiregional Modeling Working Group (“MMWG”) or Near-Term Study Group (“NTSG”) models.**
- d) **The impact of confirmed PTP Transmission Service expected to be scheduled and modeled as expected interchange in the base models for the LG&E/KU TSP area and any other TSP areas covered by an executed coordination agreement.**
- e) **The impact of any grandfathered obligations expected to be scheduled or expected to flow and modeled as expected interchange in the base models for the LG&E/KU TSP area and any other TSP area covered by an executed coordination agreement.**

2. **ETC_{webT} is calculated taking into account the following:**

- a) **The impact of NITS for the LG&E/KU TSP area and any other TSP area covered by an executed coordination agreement.**
- b) **The impact of confirmed PTP Transmission Service for the LG&E/KU TSP area and any other TSP area covered by an executed coordination agreement.**

D. **Calculating the Impact of ETC for Non-Firm Commitments**

When calculating the impact of ETC for non-firm commitments (“ETC_{NFi}”) the following impacts shall be summed (which are thoroughly described in the ATCID to fully comply with MOD-030-3, R7):

- 1. **The impact of all confirmed non-firm PTP Transmission Service expected to be scheduled for the LG&E/KU TSP area and any other TSP area covered by an executed coordination agreement.**
- 2. **The impact of any grandfathered non-firm obligations expected to be scheduled or expected to flow for the LG&E/KU TSP area and any other TSP area covered by an executed coordination agreement.**
- 3. **The impact of non-firm NITS (secondary service) for the LG&E/KU TSP area and any other TSP area covered by an executed coordination agreement.**
- 4. **The impacts of other non-firm services, as determined by the ITO, which are explained in the ATCID.**

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E. *Counterflow Impact*

When applying transmission reservation impacts in the opposite direction of flow on a Flowgate in the AFC calculations, LG&E/KU uses a set of default counterflow assumptions listed in the ATCID for LG&E/KU Flowgates. The default counterflow assumptions are based on reasonable engineering judgment and closely align with the counterflow assumptions used by TVA. Future revisions to the default assumptions will be reflected in the ATCID. Historically, LG&E/KU have observed some flowgates located on its Transmission System experience more congestion in the real-time operating environment than other Flowgates. LG&E/KU, in coordination with the ITO, will revise the counterflow assumption for specific Flowgates in order to more accurately reflect expected conditions for the Flowgate; these revisions will be posted on OASIS. LG&E/KU reviews these default and flowgate specific counterflow adjustment factors annually (or more often if needed).

LG&E/KU honors Flowgate assumptions it receives through TVA on non-LG&E/KU Flowgates.

F. **Positive Flow Impacts**

For transactions that are expected to flow and are built into the base models (such as Network Resources serving Network Loads and off-System load modeled in a neighboring System), the transaction is modeled in the base model and therefore 100% positive impact is used in these circumstances. Since these transactions can be expected to flow, the 100% assumption creates a more accurate transfer capability calculation.

The default positive impact assumptions for reservations not modeled as expected interchange in base model is also 100% but can be modified on a flowgate basis based on industry practice and engineering experience. An example of these type reservations would be where a yearly reservation is scheduled during various seasons with a smaller MW amount than the original reservation MW amount or situations where an hourly or daily reservation could not be scheduled. To facilitate the calculation of AFC values that more accurately reflect expected conditions, LG&E/KU, in coordination with the ITO, may revise the default 100% positive impact assumption for specific Flowgates in order to calculate a more accurate AFC for the Flowgate. These revised assumptions will be posted on OASIS. LG&E/KU reviews periodically and updates these positive impact adjustment factors as needed.

G. **Point-to-Point Transmission Service Requests Incorporated in ETC**

The impact of confirmed PTP Transmission Service expected to be scheduled for the area of LG&E/KU TSP area and any other TSP area covered by an executed coordination agreement.

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H. Accounting for Rollover Rights in ETC

Transmission Service Requests (“TSRs”) that have met the requirements for rollover service, and that have been determined to have a likelihood of rolling over, are considered in the ETC calculations for the periods when the rollover would occur.

I. Release of Non-Firm Capacity

Non-firm AFC for the Hourly Scheduling and Planning Horizon is calculated considering known energy schedules for all reservations except hourly non-firm reservations. For hourly non-firm reservations, the reservation amount is used until the next initialization. If a NERC e-Tag has been submitted for hourly non-firm service, the amount on the e-Tag is used in the calculation.

VI. Addition or Elimination of Flowgates

A. Transmission Owner Adding or Eliminating Flowgates

LG&E/KU performs transfer and single contingency analysis on the four quarterly models used in the ATC process. Flowgates that monitor LG&E/KU facilities, which exceed a Power Transfer Distribution Factor (“PTDF”) of 4% and an Outage Transfer Distribution Factor (“OTDF”) of 2%, both of which are 1% less than the curtailment threshold, are tested for limitations to transfer. The three most restrictive Flowgates that limit transfers below 150% of LG&E/KU interconnected capability between the two control areas will be included in the LG&E/KU ATC process. Transfers between the Midwest ISO, PJM, and TVA will be tested up to the 10,000 MW level. Other paths that are not OASIS posted paths may be included in the transfer file if it is deemed that they are needed to ensure a complete set of potentially impacted flowgates are identified. This will typically be for paths to/from nearby entities that are part of MISO or PJM.

Existing Flowgates on the LG&E/KU Transmission System that do not meet any of the above criteria, have not been identified in the ATC process as a transfer limit in the past twelve months, and have not been identified as an operation limit in the past twelve months, will be recommended to the RC for removal.

LG&E/KU recommends the addition or elimination of Flowgates to TVA. TVA coordinates the identification of coordinated Flowgates and the addition or elimination of Flowgates with the CMP entities as the LG&E/KU RC.

B. Adding or Eliminating Flowgates

TVA may request LG&E/KU to add a Flowgate (permanent or temporary) to the ATC process. If LG&E/KU receives a request from or through TVA to add an external Flowgate to its ATC process, then LG&E/KU will do so if the Flowgate

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exceeds a 5% threshold. The same 5% threshold may apply to a Flowgate request from non-CMP entities.

VII. Available Flowgate Capability (“AFC”)

A. AFC Definition

AFC is a flow-based approach to the measure of the transfer capability remaining on a Flowgate for further commercial activity over and above already committed uses. It is defined as Total Flowgate Capacity (“TFC”), less ETC (including retail customer service), less a CBM, less a TRM, plus Postbacks, and plus Counterflows.

The NERC Glossary of Terms defines Flowgate as a mathematical construct, comprised of one or more monitored transmission facilities and optionally one or more contingency facilities, used to analyze the impact of power flows upon the Bulk Electric System (“BES”).

A Flowgate is a selected power transmission element or group of elements that act as a proxy for the power transmission system capability and are used to evaluate potential thermal, voltage, stability, and/or contractual system limits to power transfer.

B. Types of Flowgates

There are two types of Flowgates:

Outage Transfer Distribution Factor (“OTDF”) Flowgate: Composed of usually two power transmission elements in which the loss of one (contingency element) significantly increases the loading on the other transmission element (monitored element).

Power Transfer Distribution Factor (“PTDF”) Flowgate: Composed of one or more power transmission elements in which the total pre-contingency flow over the Flowgate cannot exceed a predetermined limit.

C. Total Flowgate Capability (“TFC”)

Once limiting elements have been identified as potential transfer constraints, they can be grouped with their related contingencies and identified as unique Flowgates. The rating of the Flowgate is called the TFC of the Flowgate and is monitored and used for evaluation of all viable transfers for commerce. The TFC values used in the AFC process are consistent with those used for planning purposes.

The TFC of each Flowgate is equal to the System Operating Limit (“SOL”) or Interconnection Reliability Operating Limit (“IROL”) of that Flowgate if the SOL

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or IROL is based on a thermal limit. For a voltage or stability limit, the TFC is equal to the flow limit that will respect the SOL or IROL.

1. **Types of TFCs**

There are four different TFCs for each Flowgate, one used for each season. The TFC used in the ATC calculation must match the seasonal capacity being calculated.

D. *Limiting Parameters and Assumptions*

In instances where there is a difference in derived limits, such as a tie line, the most limiting parameter is used as TFC.

The assumptions utilized in calculating TFC shall be no more limiting than those used in the planning of operations for the corresponding time period studied, providing such planning of operations has been performed for that time period.

E. *Updating TFC*

TFCs will be reviewed and, if needed, updated at least once per calendar year. If notified of a change in the facility rating by the Transmission Owner that would affect the TFC of a Flowgate used in the AFC process, the TFC should be updated within seven calendar days of the notification as required by MOD-030-3, R2.5 and 2.6 and documented in the ATCID.

VIII. AFC Calculation Methodology

A. *Mathematical Algorithms and Posting of Results*

The mathematical algorithms stated below are used to calculate firm and non-firm AFC. The results are available on LG&E/KU's OASIS.

B. *Flowgate Methodology for Calculating ATC*

LG&E/KU has selected the Flowgate Methodology for calculating ATC for each path identified for the LG&E/KU Transmission Operating area.

C. *Criteria for Including Flowgates in AFC Process*

The LG&E/KU Transmission Operator includes Flowgates used in the AFC process, at a minimum, based on the following criteria. These criteria are thoroughly described in the ATCID to fully comply with MOD-030-3, R2. The LG&E/KU Transmission Operator includes the following Flowgates:

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1. **those that appear in the results of a first Contingency transfer analysis for ATC Paths;**
2. **any limiting Element/Contingency combination within TVA's RC Area; and**
3. **any limiting Element/Contingency combination within the Transmission model that has been requested to be included by any other TSP using the Flowgate Methodology.**

Additionally, the LG&E/KU Transmission Operator maintains its list of Flowgates used in the AFC process by:

1. **At a minimum, establishing a list of Flowgates by creating, modifying, or deleting Flowgate definitions at least once per calendar year.**
2. **At a minimum, establishing a list of Flowgates by creating, modifying, or deleting Flowgates that have been requested within thirty calendar days from the request.**
3. **Establishing the TFC of each of the defined Flowgates as equal to:**
 - a) **For thermal limits, the SOL of the Flowgate.**
 - b) **For voltage or stability limits, the flow that will respect the SOL of the Flowgate.**
4. **At a minimum, establishing the TFC once per calendar year.**
 - a) **If notified of a change in the Rating by the Transmission Owner that would affect the TFC of a Flowgate used in the AFC process, the TFC should be updated within seven calendar days of the notification.**
5. **Providing the TSP with the TFCs within seven calendar days of their establishment.**
6. **When calculating AFCs, the TSP shall represent the impact of Transmission Service, as required by MOD-030-3, R4 and detailed in the ATCID.**

The ITO uses NTSG models provided by the LG&E/KU Transmission Operator. These models include expected generation and transmission outages (as specified in the ATCID), and the AFC values provided by the respective external TSPs for external Flowgates identified.

D. *Firm Available Flowgate Capability Calculations ("Firm AFC Flowgate Algorithm")*

The following algorithm (subject to allocation processes described in the ATCID) is used when calculating Firm AFC for a Flowgate for a specified period:

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$$AFC_F = TFC - ETC_{Fi} - CBM_i - TRM_i + Postbacks_{Fi} + Counterflows_{Fi}$$

Where:

AFC_F is the firm Available Flowgate Capability for the Flowgate for that period.

TFC is the Total Flowgate Capability of the Flowgate.

ETC_{Fi} is the sum of the impacts of existing firm Transmission commitments for the Flowgate during that period.

CBM_i is the impact of the Capacity Benefit Margin on the Flowgate during that period (as further described in the CBMID).

TRM_i is the impact of the Transmission Reliability Margin on the Flowgate during that Period (as further described in the TRMID).

Postbacks_{Fi}

LG&E/KU does not currently use the postback component of the AFC equation when calculating ATC. Since ETC_{webT} and ATC values are recalculated multiple times per day, changes in reservation statuses are incorporated in the ATC values when the ETC_{webT} and ATC components are recalculated, removing the need to use Postbacks.

Counterflows_{Fi} are adjustments to firm AFC due to power flows in the opposite direction of the Flowgate.

E. *Non-Firm Available Flowgate Capability Calculations*

The following algorithms (subject to allocation processes described in the ATCID) are used in calculating Non-Firm AFC:

$$AFC_{NF} = TFC - ETC_{Fi} - ETC_{NF_i} - CBM_{Si} - TRM_{Ui} + Postbacks_{NF_i} + Counterflows_{NF_i}$$

Where:

AFC_{NF} is the non-firm Available Flowgate Capability for the Flowgate for that period.

TFC is the Total Flowgate Capability of the Flowgate.

ETC_{Fi} is the sum of the impacts of existing firm Transmission commitments for the Flowgate during that period.

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ETC_{NFi} is the sum of the impacts of existing non-firm Transmission commitments for the Flowgate during that period.

CBM_{Si} is the impact of any Capacity Benefit Margin schedules on the Flowgate during that period (as further described in the CBMID).

TRM_{Ui} is the impact of the unreleased Transmission Reliability Margin on the Flowgate during that period (as further described in the TRMID).

Postbacks_{NFi}

LG&E/KU does not currently use the postback component of the AFC equation when calculating ATC. Since ETC_{webT} and ATC values are recalculated multiple times per day, changes in reservation statuses are incorporated in the ATC values when the ETC_{webT} and ATC components are recalculated, removing the need to use Postbacks.

Counterflows_{NFi} for Hourly Operating Horizons are adjustments from the impact of tags included in the NERC tag dump file to firm and non-firm AFC due to power flows in the opposite direction of the Flowgate in the hourly operating horizon.

Counterflows_{NFi} for Planning and Study Horizons are adjustments to firm AFC due to power flows in the opposite direction of the Flowgate; and adjustments to non-firm AFC in the planning and study horizons.

F. *Initial and Final AFC Calculation*

Each day at 12:00 noon EST, the Non-Firm Hourly ATC calculation for the Hourly Operating Horizon is modified so that unscheduled Firm capacity is available to transmission customers as Non-Firm service. The modification to the algorithm is achieved by replacing the impact of the Reservations with the impact of the Transmission Schedules.

TVA uses an intermediate step when calculating AFC called AFC initial ("AFC_{init}"). This step does not mathematically change the equations, only the order in which they are calculated. As previously mentioned, Postbacks and Counterflows are included in the AFC_{init} that TVA calculates for the LG&E/KU Base Case, posted on OASIS. This allows the ITO to utilize the AFC_{init} values calculated and supplied. TVA utilizes the Transmission Adequacy and Reliability Assessment ("TARA") AMB engine for calculating AFC_{init} values. LG&E/KU uses the OASIS webTrans engine for calculating final AFC ("AFC_{Final}") and ATC values. The current process calculates AFCs the following way:

$$AFC_{init} = TFC - ETC_{AMB}$$

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Where:

$$\text{Transmission Impacts} = \text{ETC}_{\text{webT}} - \text{Postbacks}_{\text{SNFi}} - \text{Counterflows}_{\text{SNFi}}$$

$$\text{AFC}_{\text{Final}} = \text{AFC}_{\text{Init}} - \text{Transmission Impacts} - \text{CBM}_{\text{Si}} - \text{TRM}_{\text{Ui}}$$

Where, ETC_{webT} = reservation impacts not included in AFC_{Init}

1. AFC Initial

Under normal circumstances TVA will calculate AFC_{Init} values as follows:

AFC_{Init} Horizon	Calculation Frequency
Hourly, Hours 1-48	Every hour
Hourly, Hours 46-192	Four times per day
Daily, Days 1-35	Eight times per day
Monthly, Months 1-18	Once per day

The above frequencies reflect the expected intervals for AFC_{Init} calculations. In the event of system maintenance or solution issues, TVA may calculate AFC_{Init} values on a less frequent basis, but no less once per day for hourly and daily AFC_{Init} values, and once per month for monthly AFC_{Init} values.

2. AFC Final

The ITO will calculate $\text{AFC}_{\text{Final}}$ values as follows:

AFC_{Final} Horizon	Calculation Frequency (Minimum)
Hourly Operating - Prior to 12 noon EST, current hour through midnight EST of the current day; After 12 noon EST, current hour through midnight EST of the next day	Every hour
Hourly Planning – From end of Hourly Operating Horizon through midnight EST 7 days beyond the current day	Every hour
Daily – From end of the Hourly Planning Horizon through the end of the next calendar month	Four times per day
Monthly Study – From the start of the upcoming calendar month through the end of the month 18 calendar months from the current month	Four times per day

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IX. Conversion of AFC Values to ATCs

When converting Flowgate AFCs to ATCs for evaluated transfer paths, the following algorithm is used:

$$\begin{aligned} \text{ATC} &= \min(P) \\ P &= \{\text{PATC}_1, \text{PATC}_2, \dots, \text{PATC}_n\} \\ \text{PATC}_{\text{AFC}_n} &= \text{AFC}_n / \text{DF}_{np} \end{aligned}$$

Where:

ATC is the Available Transfer Capability.

P is the set of Partial Available Transfer Capabilities for all “impacted” Flowgates honored by the ITO; a Flowgate is considered “impacted” by a path if the Distribution Factor for that path is greater than the percentage used to curtail in the Interconnection-wide congestion management procedure used by the ITO on an OTDF Flowgate or PTDF Flowgate.

PATC_{AFC_n} is the Partial Available Transfer Capability for a path relative to a Flowgate *n*.

AFC_n is the Available Flowgate Capability of a Flowgate *n*.

DF_{np} is the Distribution Factor for Flowgate *n* relative to path *p*.

The TDF used in the calculation must be greater than the cut-off. The current cut-off used for calculating transfer capability is 3% for OTDF Flowgates and 5% for PTDF Flowgates. An impact of less than the cut-off is considered no impact when calculating ATC.

X. ASTFC Process and Allocation by CMP

The CMP facilitates coordination between the non-market and market entities. A large part of this process involves honoring the available allocation called Available Share of Total Flowgate Capability (“ASTFC”) on certain Flowgates.

The amount of allocation on a Flowgate is based on the TFC of that Flowgate. The allocation is then split up between the reciprocal entities on that Flowgate, based on its historical impact on the Flowgate.

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Each entity can grant transmission service, as long as it has sufficient ASTFC on that Flowgate. If it does not have sufficient ASTFC, it can either borrow or transfer it in order to grant the transmission service. If no ASTFC is available from any entity, then the service shall be denied.

The ITO calculates final ASTFC values for each Flowgate in accordance with the CMP.

XI. ATC Contract Path Calculations

Contract Path ATC is calculated for path segments that are bound to the commercially reservable paths established on the LG&E/KU OASIS. ATC contract path calculations are the result of subtracting the existing reservations from TTC. Contract Path ATC values are calculated and posted by the ITO with the same frequencies as the AFC_{Final}.

A. Effective ATC Calculation (“ATC_{Eff}”)

The ITO calculates a final AFC value using the algorithms described herein, which accounts for ETC values not accounted for in the TVA calculation, ETC_{webT}. The ITO converts the final AFC to a final ATC_{AFC} value using the ITO’s OATI webTrans software. The final ATC_{AFC} value is then tested against the contract path ATC and any limiting ASTFC to select a final ATC_{Eff}, which is based on the minimum of those calculations. The ATC_{Eff} is the commercially available ATC value and is posted on the OASIS for each “transfer path.” A “transfer path” consists of a defined POR-POD pair.

ATC_{Eff} values are calculated and posted to OASIS using the same frequencies as AFC_{Final}, which meet or exceed the minimum ATC calculation intervals identified in NERC’s MOD-001-01, R8 reliability standard.

XII. Transmission Service Request Evaluation

A. Transmission Service Requests (“TSRs”) Intervals

TSRs are evaluated, respecting queue order, based on their impact on all Flowgates in the AFC process, such that the impact is greater than the cutoff of 3% for OTDF Flowgates and 5% for PTDF Flowgates. The affected Flowgates are also determined by On/Off path rules outlined in the CMP to determine transmission constraints and affected Flowgates. The requests are also checked against the amount of allocation available on the impacted Flowgates according to the CMP.

B. Criteria for Granting TSRs

For a TSR to be granted, it must pass the three following checks:

1. **Is there enough AFC available on the affected Flowgate?**

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2. **Is there sufficient ASTFC, including the borrowing of ASTFC, on the Reciprocal Coordinated Flowgates in accordance with the CMP?**
3. **Is there enough capacity available on the Contract Path to grant the request?**

If the request fails one of the three checks, it is then evaluated for bumping opportunities. If bumping is not available, the request is marked failed, and the TSR shall be denied.

XIII. Databases Utilized in AFC Calculation

The following databases are utilized in AFC calculation: (i) the NERC System Data Exchange (“SDX”), which is a compilation of reported loads and transmission and generation outages in the Eastern Interconnection; and (ii) the Interchange Distribution Calculator (“IDC”), or power flow model.

XIV. Assumptions Utilized in ATC and AFC Assessments

The assumptions used in AFC and ATC assessments regarding load levels, generation dispatch, and modeling of planned and contingency outages are listed in the calculation methodology documented in the ATCID. These assumptions shall be no more limiting than those used in the planning of operations for the corresponding time period studied, provided that such planning of operations has been performed for that time period.

Within thirty calendar days of receiving a request from any entity described in MOD-01-1a, R9, LG&E/KU will begin to make the requested data available to the requestor, subject to the conditions specified in R9.

XV. Available Transfer Capability Implementation Document (“ATCID”)

In accordance with NERC Standards, LG&E/KU has posted on its OASIS an ATCID at <http://www.oasis.oati.com/LGEE>, under the ATC Information link. This document provides detail of the process for calculating ATC by the ITO using a Flowgate Methodology. The ATCID includes details that satisfy NERC’s Standard MOD-030 requirements.

If a revised or new ATCID is implemented, LG&E/KU will notify the following entities of such implementation: each Planning Coordinator, RC, and Transmission Operator associated with the TSP’s area and each Planning Coordinator, RC, and TSP adjacent to the TSP’s area. At all times, LG&E/KU will ensure that the currently effective ATCID is available to the same entities.

XVI. Postback Requirements

In accordance with the current NAESB OASIS Standards, the ITO incorporates Postbacks (standard 01-18) in the ATC posted on OASIS due to a change in status of transmission reservations or unscheduled firm transmission service, including providing

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for the release of unscheduled firm capacity in its calculation of non-firm ATC or AFC, as appropriate. Also in accordance with current NAESB OASIS Standards, LG&E/KU has posted on its OASIS a Postback Methodology at <http://www.oasis.oati.com/LGEE>, under the ATC Information link.

XVII. Transmission Reliability Margin (“TRM”)

A. TRM Definition

Transmission Reliability Margin (“TRM”) is the amount of transmission transfer capability necessary to provide a reasonable level of assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and its associated effects on ATC calculations, and the need for operating flexibility to ensure reliable system operation as system conditions change. All transmission system users benefit from the preservation of TRM by TSPs. The assumptions and components of LG&E/KU’s TRM calculation are described in detail below.

B. TRM Calculation Methodology and Implementation Document (“TRMID”)

LG&E/KU, as the TSP, considers the ATC margin components described in this section in its TRM calculations. Some, or all, of the TRM component values may be set to zero. The TRM components descriptions include the requirements in NERC Standard MOD-008 and SERC Supplement – Transmission Reliability Margin Implementation Document.

LG&E/KU has posted on OASIS its TRMID at <http://www.oasis.oati.com/LGEE>, under the ATC Information link for TSPs, RCs, Planning Coordinators, Transmission Planners, and Transmission Operators to review. The TRMID details the components used in establishing TRM by the LG&E/KU Transmission Operator and the process used to do so.

On each of its respective ATC Paths or Flowgates, the TRMID provides identification of each of the following components of uncertainty if used in establishing TRM and a description of how that component is used to establish a TRM value. TRM will be considered for the following components of LG&E/KU transmission system uncertainty:

- Aggregate Load forecast
- Load distribution uncertainty
- Forecast uncertainty in Transmission system topology (including, but not limited to, forced or unplanned outages and maintenance outages) (included in network uncertainty)
- Allowances for parallel path (loop flow) impacts (included in network uncertainty)

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- Allowances for simultaneous path interactions (included in network uncertainty)
- Variations in generation dispatch (including, but not limited to, forced or unplanned outages, maintenance outages and location of future generation)
- Short-term System Operator response (Operating Reserve actions)
- Reserve sharing requirements
- Inertial response and frequency bias

The TRMID includes a description of the method used to allocate TRM across ATC Paths or Flowgates.

LG&E/KU will use only those components of uncertainty listed in the TRMID and will not include any of the components of CBM.

If requested, LG&E/KU shall make available to any TSP, RC, Planning Coordinator, Transmission Planner, or Transmission Operator the underlying documentation used to calculate TRM (if any) no more than 30 days after receiving a request for such information from any such entity.

LG&E/KU will establish TRM values in accordance with the TRMID at least every 13 months.

Within seven days after establishing or changing a TRM value, LG&E/KU will provide the established or changed value to the TSP and its Transmission Planner.

C. *Use of TRM in ATC Calculations*

LG&E/KU uses an AFC methodology (NERC MOD-030-3) for calculation of ATC for each posted Flowgate. Firm and Non-Firm AFC values include a decrement for TRM of Network Uncertainty (2%), plus the maximum of the applicable Contingency Reserve Sharing (“CRS”) and generation dispatch in all horizons.

D. *Databases Utilized in TRM Calculations*

LG&E/KU does not use any databases to calculate TRM.

E. *Transmission Provider’s Use of TRM*

TRM is utilized for all firm and non-firm Flowgate AFC calculations. 100% of the TRM value is utilized for firm and non-firm Flowgate AFC calculations.

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XVIII. Capacity Benefit Margin (“CBM”)

A. *LG&E/KU’s practice regarding CBM*

LG&E/KU does not reserve CBM on its own behalf or for other transmission customers without a specific request for CBM.

B. *Capacity Benefit Margin Implementation Document (“CBMID”)*

In accordance with NERC Standard MOD-004-1, LG&E/KU has posted on its OASIS a CBMID at <http://www.oasis.oati.com/LGEE>, under the ATC Information link for TSPs, RCs, Load-Serving Entities (“LSEs”), Planning Coordinators, Transmission Planners, and Transmission Operators to review. This document provides procedures for an LSE or Resource Planner to request transmission capacity set aside as CBM, including a description of the studies that must be performed. The CBMID further describes the operational criteria for administration of CBM once a set aside has been established.

C. *Transmission Provider’s Definition of CBM*

CBM is the amount of firm transmission transfer capability preserved for LSEs on the host transmission system where their LSE load is located, to enable access to generation from interconnected systems to meet generation reliability requirements. Preservation of CBM for a LSE allows that entity to reduce its installed generating capacity below what may otherwise have been necessary without interconnections to meet its generation reliability requirements. The transmission capacity preserved as CBM is intended to be used by the LSE only in times of emergency generation deficiencies.

D. *CBM Procedures during Emergencies*

LSEs on the LG&E/KU system requesting to import energy over firm Transfer Capability set aside as CBM must be experiencing a declared NERC Energy Emergency Alert (“EEA”) Level 2 or higher and must complete the steps as described in the CBMID.

When reviewing an Arranged Interchange using CBM, LG&E/KU will waive, within the bounds of reliable operation, any Real-time timing and ramping requirements. LG&E/KU will approve, within the bounds of reliable operation, any Arranged Interchange using CBM that is submitted by an “energy deficient entity” under an EEA 2 if:

- the CBM is available,
- an EEA 2 has been declared, and
- the load of the “energy deficient entity” is located within LG&E/KU’s TSP area.

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E. *Accounting for CBM Values in Subsequent Years*

LG&E/KU and the ITO will account for any CBM values in future year evaluations pursuant to the CBMID.

1. **ATC and AFC Calculations**

At least every 13 months, the ITO, as the TSP, when maintaining any CBM, as applicable, shall establish a CBM value for each ATC Path or Flowgate to be used for ATC or AFC calculations during the 13 full calendar months (months 2-14) following the current month (the month in which the ITO is establishing the CBM values). This value shall reflect the provisions of Section XVIII.E.3.

2. **CBM use in Transmission Planning**

At least every 13 months, LG&E/KU as the Transmission Planner, when CBM is applied, shall establish a CBM value for each ATC Path or Flowgate to be used in planning during each of the full calendar years two through ten following the current year (the year in which the Transmission Planner is establishing the CBM values). This value shall reflect the provisions of Section XVIII.E.3.

No later than 31 calendar days after the establishment of CBM, the TSP that maintains CBM shall notify all LSEs and Resource Planners that determined they had a need for CBM on the TSP's system of the amount of CBM set aside.

LG&E/KU shall also provide (subject to confidentiality and security requirements) copies of the applicable supporting data, including models, used in determining CBM or allocating CBM over each ATC Path or Flowgate to:

- each of the associated Transmission Operators within 30 calendar days of their making a request for data; and
- any TSP, RC, Transmission Planner, Resource Planner, or Planning Coordinator within 30 calendar days of their making a request for data.

3. **Accounting for CBM Values that are Continuing**

- a) **The CBM value for each ATC Path or Flowgate to be used for ATC or AFC calculations must reflect consideration of each of the following if available:**

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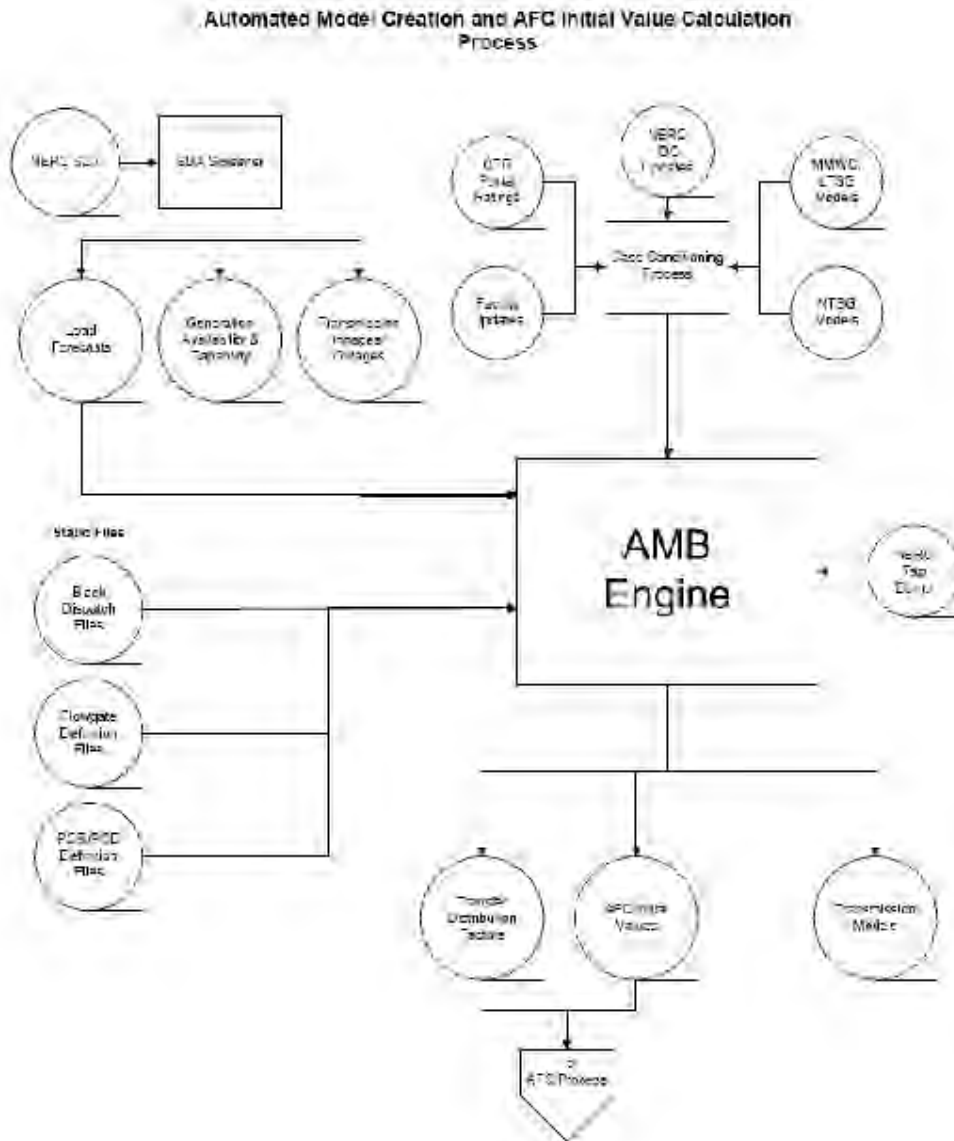
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- (i) *any studies performed by LSEs for loads within the TSP's area or Transmission Planner's area, as applicable;*
 - (ii) *any studies performed by Resource Planners for loads within the TSP's area or the Transmission Planner's area, as applicable; and*
 - (iii) *any reserve margin or resource adequacy requirements for loads within the TSP's area established by other entities, such as municipalities, state commissions, regional transmission organizations, independent system operators, Regional Reliability Organizations, or regional entities.*
- b) The CBM value for each ATC Path or Flowgate to be used for ATC or AFC calculations must be allocated as follows:**
- (i) *for ATC Paths, based on the expected import paths or source regions provided by LSEs or Resource Planners; and*
 - (ii) *for Flowgates, based on the expected import paths or source regions provided by LSEs or Resource Planners and the distribution factors associated with those paths or regions, as determined by the TSP or Transmission Planner, as applicable.*

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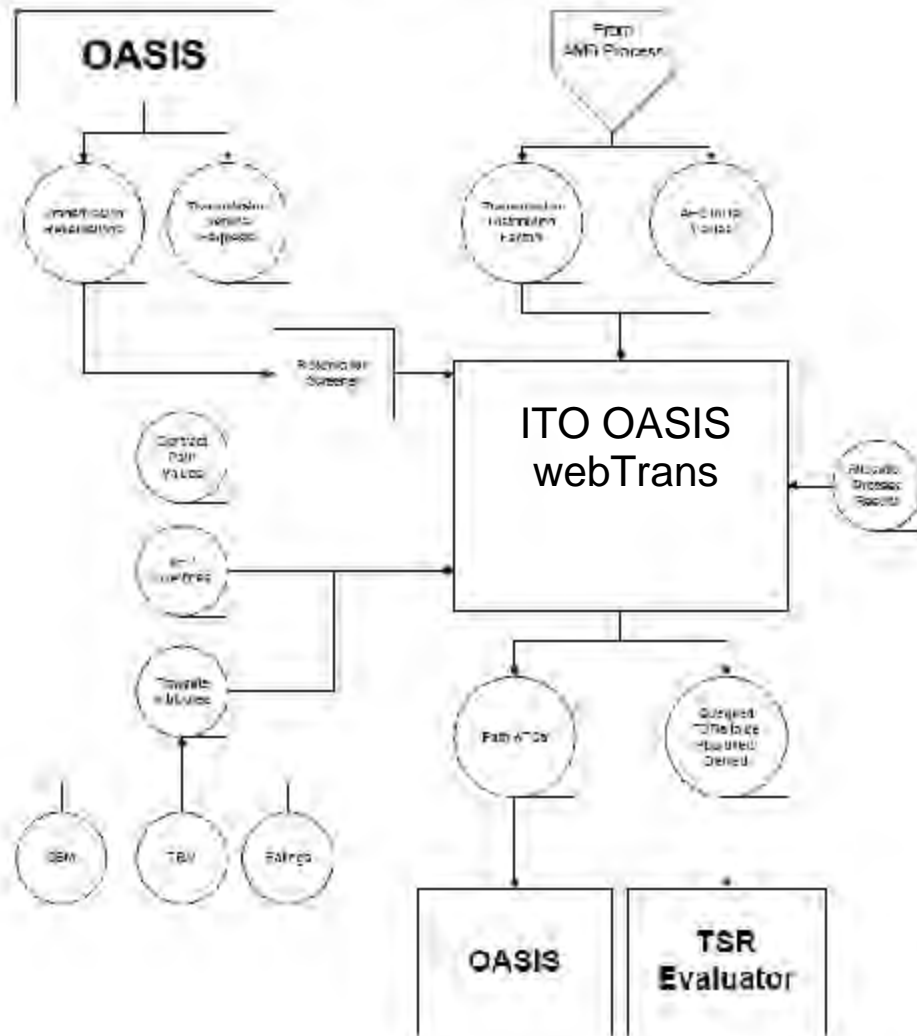
Appendix
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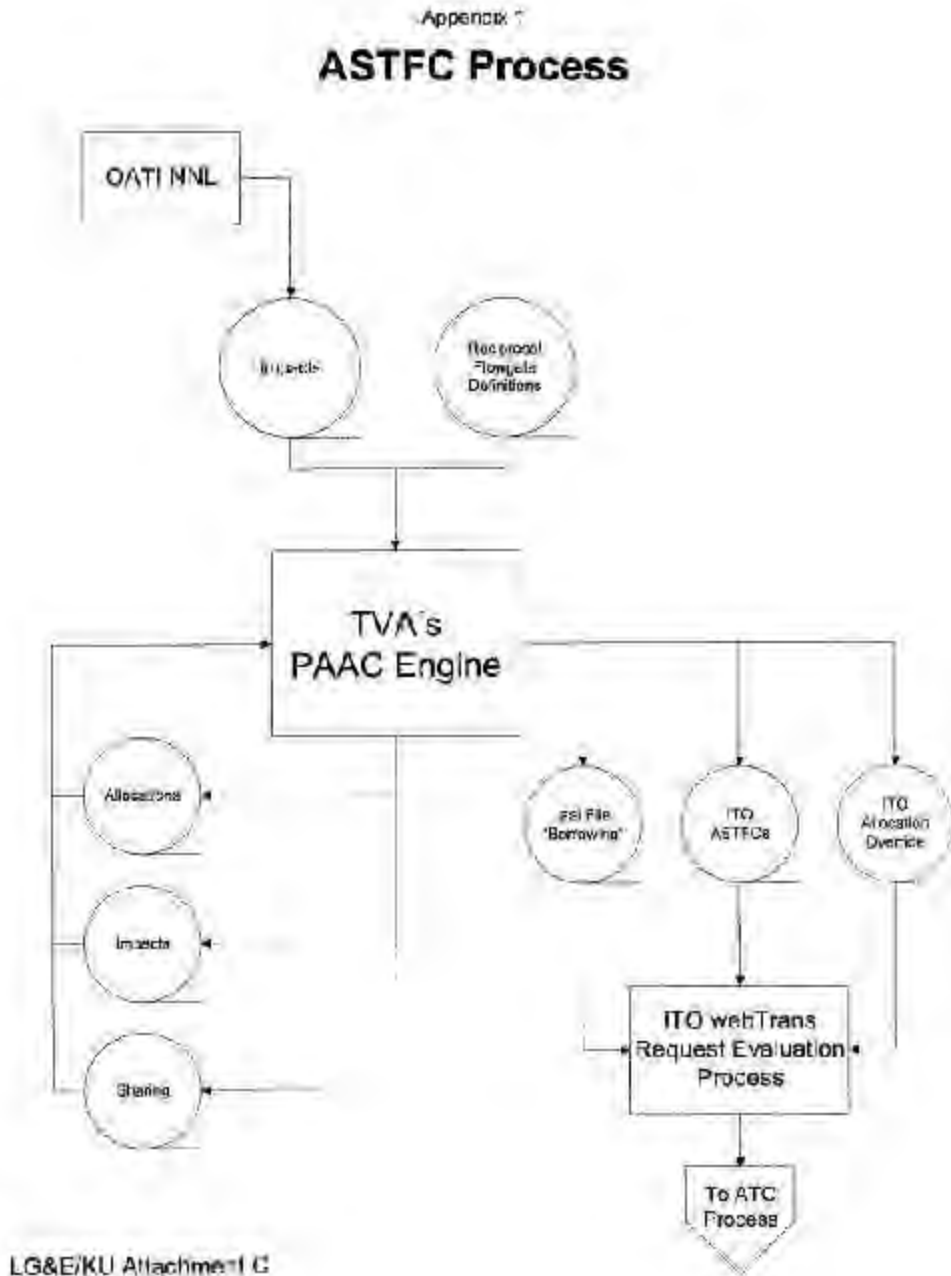
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ATC Process



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ATTACHMENT D

METHODOLOGY FOR COMPLETING A SYSTEM IMPACT STUDY

The ITO will assess the capability of the Transmission Owner's transmission system in order to provide transmission service to a qualified requester. The ITO will make a nondiscriminatory determination as to whether sufficient transfer capability exists to accommodate the request. If it is determined that a System Impact Study is required, the ITO will notify the requesting party and tender a System Impact Study Agreement.

The available point-to-point transfer capability will be the remaining transmission capability after accounting for the Transmission Owner's requirements to serve its Native Load Customers including adjustments for TRM and CBM and any other contractual commitments for Network Integration Service or Firm Point-to-Point Transmission Service agreements.

The ITO will adhere to Good Utility practice, NERC guidelines, and regional procedures and criteria when conducting the studies. In addition, the ITO will apply the Transmission Owner's own criteria (which are subject to review and ultimate approval by the ITO in accordance with Attachment P), which are contained in the Transmission Owner's FERC 715 filing. These criteria will be used to evaluate the performance of the Transmission Owner's Transmission System. Unacceptable performance would consist of conditions such as transmission loading in excess of first contingency criteria, unacceptable voltage, or the loss of power system stability that would result in the cascading loss of generation or transmission lines.

In addition to the studies mentioned in the above, it may be necessary to perform System Impact Studies for seasonal load levels, off-peak load levels, and/or multi-year periods.

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ATTACHMENT E
INDEX OF EXISTING TRANSMISSION CUSTOMERS

1 This Attachment E provides a list of all transmission agreements, grandfathered agreements, and OASIS reservations in place as of December 28, 2004. Pursuant to the terms of the Midwest ISO's Transmission Owner's Agreement Article V, as interpreted in *Louisville Gas & Electric Co., et al.* 114 FERC ¶ 61,282 (2006), all transmission agreements, GFAs, and OASIS reservations in place as of December 28, 2004 will receive service subject to the "service and pricing that they would have been entitled to receive, absent Applicants' withdrawal," (*Id.* at P 45) until said agreements, GFAs, or OASIS reservations terminate. The terms of this "hold harmless" requirement are found at Section 15.8 of this Tariff.

Transmission Service Agreements:

The numbers referred to herein reference the original request made on the Midwest ISO OASIS.

IMEA Agreement 1: #76047112, Customer IMEA, Source LGEE, Sink Illinois Power (MISO IP), Start 10/1/2004, End 3/1/2023, 62 MW

IMEA Agreement 2: #75230122, Customer IMEA, Source LGEE, Sink Illinois Power (MISO IP), Start 1/1/2007, End 1/1/2020, 91 MW

Hoosier Energy Agreement: #762855 13, Customer Hoosier Energy, Source Hoosier Energy (LGEE), Sink LGEE, Start 4/1/2005, End 1/1/2012, 10 MW

EKPC Agreement 1: #76285505, Customer EKPC, Source EKPC (LGEE), Sink LGEE, Start 4/1/2005, End 1/1/2016, 3 MW

Grandfathered Agreements:

The contract numbers assigned to the following grandfathered agreements refer to the numbers assigned to them in the Midwest ISO Attachment P.

IMPA Agreement 1: #214, LG&E FERC Rate Schedule No. 35, Customer IMPA, Interconnection Agreement, Dated 2/7/1989

EKPC Agreement 2: #2 15, LG&E FERC Rate Schedule No. 25, Customer EKPC, Interconnection Agreement, Dated 8/14/1968, Cancellation Notice given 9/13/2004, effective 9/13/2006

Ohio Valley Electric Cooperative: #2 16, LG&E FERC Rate Schedule No. 32, Customer Ohio Valley Electric Cooperative, Interconnection Agreement, no date given

IMPA Agreement 2: #2 17, Customer IMPA, LG&E FERC Rate Schedule No. 31, Interconnection Agreement, no date given

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EKPC Agreement 3: #2 18, LG&E FERC Rate Schedule No. 25, Customer EKPC, Transmission Lease Agreement, Dated 4/17/1989

TVA and CG&E Agreement: #2 19, FERC Rate Schedule Unknown, Customers TVA and CG&E, Interconnection Agreement, Dated 9/23/1 957

EKPC Agreement 4: #220, KU FERC Rate Schedule No. 203, Customer EKPC, Interconnection Agreement, Dated 10/22/1994, Cancellation Notice given 8/8/2002, effective 8/8/200 6

EKPC Agreement 5: #22 1, KU FERC Rate Schedule No. 213, Customer EKPC, Transmission Agreement, Dated 2/9/2005, Cancellation notice given 1/5/2005, effective 1/5/2006

Electric Energy, Inc., et al. Agreement: #222, KU FERC Rate Schedule No. 199, Electric Energy, Inc., Central Illinois Public Service Co., Illinois Power Co., and Union Electric Co., Power Supply Agreement, Dated 9/2/1987

City of Owensboro Agreement: #223, KU FERC Rate Schedule No. 74, Customer City of Owensboro City Utility Commission, Agreement, Dated 9/30/1960

Atomic Energy Agreement: #224, FERC Rate Schedule Unknown, Customer Atomic Energy Commission, Power Agreement, Dated 10/15/1952

TVA Agreement: #225, KU FERC Rate Schedule 93, Customer TVA, Interconnection Agreement, Dated 3/22/1951

KU Municipals Agreement 1: #418, FERC Rate Schedule Unknown, Customers City Utilities Commission of Barbourville; Bardstown Municipal Electric Light & Power; Bardwell City Utilities; The Electric Plant Board of Benham; Berea College (subsequently assigned to City of Berea); Corbin City Utilities Commission; Falmouth City Utilities; Frankfort Electric & Water Plant Board; City of Madisonville; City of Nicholasville; and Providence Electric Department, Kentucky, Contract for Electric Service, Dated 1987 to 1990

KU Municipals Agreement 2: #4 19, FERC Rate Schedule Unknown, Customer City of Paris, Kentucky, Interchange Agreement, Dated 9/7/1990

KU Municipals Agreement 3: #420, FERC Rate Schedule Unknown, Customers City Utilities Commission of Barbourville; Bardstown Municipal Electric Light & Power; Bardwell City Utilities; The Electric Plant Board of Benham; Corbin City Utilities Commission; Falmouth City Utilities; Frankfort Electric & Water Plant Board; City of Madisonville; City of Nicholasville; Providence Electric Department; City of Paris; and City of Owensboro, Various SEPA Contracts, Dated 12/31/1996

2 The following comprises a complete list of Transmission Customers as of July 13, 2007;

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only those agreements specifically listed in Section 1 above receive the “hold harmless” treatment described in Section 15.8 of this Tariff. NOTE: These are customers who have signed service agreements; not all are currently taking service over the Transmission System.

- IMEA, effective September 1, 2006, for Long-Term Firm Service

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- IMEA, effective January 1, 2010, for Long-Term Firm Service
- IMPA, effective January 1, 2010, for Long-Term Firm Service
- LG&E/KU, effective September 1, 2006, for Long-Term Firm Service
- LG&E/KU, effective September 1, 2006, for Short-Term Non-Firm Service
- LG&E Energy Marketing, effective September 1, 2006, for Long-Term Firm Service
- LG&E Energy Marketing, effective September 1, 2006, for Short-Term Non-Firm Service
- IMPA, effective September 1, 2006, for Short-Term Firm Service
- IMPA, effective September 1, 2006, for Short-Term Non-Firm Service
- Cargill Power Markets, effective September 6, 2006, for Short-Term Firm Service
- Cargill Power Markets, effective September 6, 2006, for Short-Term Non-Firm Service
- DTE Energy Trading, Inc., effective September 1, 2006, for Short-Term Firm Service
- DTE Energy Trading, Inc., effective September 1, 2006, for Short-Term Non-Firm Service
- The Energy Authority, effective October 15, 2006, for Short-Term Firm Service
- The Energy Authority, effective October 15, 2006, for Short-Term Non-Firm Service
- TVA, effective October 15, 2006 for Short-Term Firm Service
- TVA, effective October 15, 2006, for Short-Term Non-Firm Service
- Dynegy Power Marketing, Inc., effective October 15, 2006, for Short-Term Non-Firm Service
- Dynegy Power Marketing, Inc., effective October 15, 2006, for Short-Term Firm Service
- East Kentucky Power Cooperative, Inc., effective October 24, 2006, for Short-Term Firm Service
- East Kentucky Power Cooperative, Inc., effective October 24, 2006, for Short-Term Non-Firm Service
- MidAmerican Energy Company, effective October 31, 2006, for Short-Term Firm Service

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- MidAmerican Energy Company, effective October 31, 2006, for Short-Term Non-Firm Service
- American Electric Power Company, Inc., effective December 14, 2006, for Short-Term Firm Service
- American Electric Power Company, Inc., effective December 14, 2006, for Short-Term Non-Firm Service
- Big Rivers Electric Corporation, effective February 3, 2007, for Short-Term Non-Firm Service

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Part V_ATTACH F Srvc Agmt For NITS
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ATTACHMENT F
SERVICE AGREEMENT FOR NETWORK INTEGRATION TRANSMISSION
SERVICE

This Service Agreement, made and entered into this ____ day of _____, 20____, is by and between Louisville Gas & Electric Company / Kentucky Utilities Company (“LG&E/KU” or “Transmission Owner”) and _____ (“Network Customer”) (LG&E/KU and the Network Customer are hereinafter referred to jointly as “Parties”) to provide Network Integration Transmission Service (“NITS”), as approved by the Independent Transmission Organization (“ITO”) under the Transmission Owner’s Open Access Transmission Tariff (hereinafter referred to as the “Tariff”).

The Network Customer agrees to all terms and conditions set forth in the Tariff as may be in effect from time to time. The Network Customer must fulfill requirements outlined in Section 29.1 of the Tariff, Conditions Precedent for Receiving Service.

Any notice or request made to or by the Transmission Owner or Network Customer regarding this Service Agreement shall be made in writing and shall be telecommunicated or delivered either in person or by prepaid mail to the representative of the other party as indicated below. Such representative and address for notices or requests may be changed from time to time by notice by one party to the other.

Service under this Service Agreement shall commence on the later of (1) _____, (2) the date on which construction of all of the Direct Assignment Facilities and/or Network Upgrades are completed that are required to provide reliable service, or (3) such other date as it is permitted to become effective by the Commission. Service under this Service Agreement shall terminate on _____.

The terms and conditions of the Network Operating Agreement between the Transmission Owner and the Network Customer are incorporated by reference herein.

TRANSMISSION OWNER:

NETWORK CUSTOMER:

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IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

Transmission Customer:

By: _____
Name Title Date

Transmission Owner:

By: _____
Name Title Date

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SPECIFICATIONS FOR NETWORK INTEGRATION TRANSMISSION SERVICE

1.0 Term of Network Service: _____
Start Date: _____
Termination Date: _____

2.0 Description of capacity and/or energy to be transmitted across the Transmission Owner's Transmission System (including electric Balancing Area in which the transaction originates).

3.0 Network Resources

(1) Transmission Customer Generation Owned:

Resource Capacity Designated as Network Resource

(2) Transmission Customer Generation Purchased:

Source Capacity

Total Network Resources: (1) + (2) = _____

4.0 Network Load

Transmission Customer Loads:

Transmission Voltage

<u>Location</u>	<u>Level</u>	<u>Total MWs</u>	<u>Interruptible MWs</u>
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Total MWs:

Total Interruptible MWs:

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5.0 Designation of party subject to reciprocal service obligation:

6.0 Service under this Agreement may be subject to some combination of the charges detailed below. (The appropriate charges for individual transactions will be determined in accordance with the terms and conditions of the Tariff.)

6.1 Load Ratio Share of Annual Transmission Revenue Requirement:

6.2 Facilities Study Charge:

6.3 Direct Assignment Facilities Charge:

6.4 Ancillary Services Charge:

6.5 Redispatch Charges:

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ATTACHMENT G
Network Operating Agreement

This Network Operating Agreement (“NOA”), made and entered into this ____ day of _____, _____, and effective as of _____ by and between Louisville Gas & Electric Company/Kentucky Utilities Company (“LG&E/KU” or “Transmission Owner”) and _____ (“Network Customer” or “_____”) (LG&E/KU and Network Customer are hereafter referred to individually as “Party” or jointly as “Parties”) sets forth the operating conditions associated with Network Integration Transmission Service (“NITS”) approved by the Independent Transmission Organization (“ITO”) under the Transmission Owner’s Open Access Transmission Tariff (“Tariff”).

The Parties agree that the provisions of this Network Operating Agreement (“NOA”) are incorporated by reference into the Network Integration Transmission Service Agreement (“NITSA”) between the Parties and govern the provision of transmission services in accordance with the Tariff as it may be amended from time to time.

This NOA defines the terms and conditions under which the Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of the Tariff. The Transmission Owner and the Network Customer shall operate and maintain equipment necessary for integrating the Network Customer within LG&E/KU’s Transmission System (including, but not limited to, Remote Terminal Units (“RTUs”), metering, communication equipment and relaying equipment) according to Good Utility Practice. In furtherance of this requirement, the Parties agree the following customer-owned listed items shall apply to service hereunder: RTUs:_____, Metering:_____, Communications Equipment:_____, Relaying Equipment:_____, Other:_____.

1. NERC Balancing Authority, Power Supply, and Distribution/Generation Requirements

- (a) The Network Customer shall: (i) operate as a NERC-certified Balancing Authority (“BA”) under applicable guidelines of the North American Electric Reliability Corporation (“NERC”) and the SERC Reliability Corporation (“SERC”); or (ii) satisfy its NERC BA requirements by contracting with the Transmission Owner; or (iii) satisfy its NERC BA requirements by contracting with another entity that can satisfy those requirements in a manner that is consistent with the Tariff and Good Utility Practice and satisfies NERC and SERC standards. The Network Customer shall procure its power supply in a manner consistent with Good Utility Practice and in satisfaction of NERC and SERC standards.
- (b) The Network Customer shall cause the transmission, distribution and generation facilities and systems belonging to it (as defined in the NITSA) that will be used to serve the Network Customer’s Network Load, to be planned, constructed,

Effective On: January 6, 2018

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operated and maintained in accordance with Good Utility Practice, which shall include, but not be limited to, all applicable guidelines of NERC and SERC, as they may be modified from time to time, and any generally accepted practices in the region that are consistently adhered to by the Transmission Owner.

- (c) The Network Customer shall be responsible for registering with all applicable reliability entities for all pertinent functions under the NERC Reliability Functional Model.
- (d) The Network Customer shall be responsible for complying with applicable NERC and SERC Reliability Standards, including, but not limited to, any Reliability Standards applicable to contingencies.
- (e) The Transmission Owner shall be entitled to pass through to the Network Customer the costs of any penalty, fine or charges from any reliability entity allocated when there is a finding by a Regional Entity, NERC or the Commission that the Network Customer's actions caused or contributed to the violation, subject to the following conditions:
 - (i) The Network Customer will only be required to pay its proportionate share of any penalty, fine or charges based on the percentage of the violation determined to have been caused by, or contributed to by, the Network Customer that led to the assessment of such penalty, fine or charges.
 - (ii) The Transmission Owner is required to file a FPA Section 205 filing for the Commission to approve the pass-through of each specific penalty, fine or charge.
 - (iii) No such FPA Section 205 filing shall be made unless the Network Customer, NERC, the Regional Entity and the Commission have been notified during the course of the investigation, hearing or other inquiry into the matter that the Transmission Owner believes that the Network Customer may be responsible for a violation.

2. The Operating Committee

- (a) The Operating Committee shall consist of one representative and an alternate representative of each Party. Each Party shall notify the other Party of its appointments in writing. Such appointments may be changed at any time by providing similar advance notice in writing to the other Party.
- (b) The Operating Committee shall meet at least once a year to carry out the duties set forth herein, subject to the Operating Committee's determination of which of its duties are appropriately carried out at that time, as necessary and appropriate at

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the time of the meetings.

- (c) The Operating Committee shall ensure that the facilities of the Network Customer are operated on a coordinated basis in full accordance with the FERC-approved LG&E/KU OATT, the FERC-approved NERC Standards, SERC, or the then-current regional reliability organization standards, operating guides, North American Energy Standards Board (“NAESB”) Business Practices, LG&E/KU Business Practices and Good Utility Practice.
- (d) The duties of the Operating Committee shall include the following:
 - (i) Establish and maintain control and operating procedures, including those pertaining to information transfers between the Parties, consistent with the provisions of this NOA;
 - (ii) Establish appropriate procedures in order to carry out the requirements of NERC and SERC, or the then-current regional reliability organization requirements;
 - (iii) Assemble and exchange information necessary for transmission planning;
 - (iv) Establish data requirements necessary for the Transmission Owner to provide Network Integration Transmission Service in accordance with the terms and conditions of the Tariff;
 - (v) Review data acquisition equipment, protective equipment, and other equipment or software requirements, standards and procedures;
 - (vi) Coordinate among the members of the Operating Committee with regard to any modifications to the Network Customer’s facilities that might require changes in the Transmission Owner’s real-time telemetry and data acquisition system in order for the Transmission Owner to continue to provide service under the NITSA;
 - (vii) Establish standards for the design, operation, and maintenance of the facilities necessary to integrate the Network Customer’s Network Loads with the Transmission Owner’s Transmission System (including, but not limited to, RTUs, communication equipment, relaying equipment and voltage/power factor measures);
 - (viii) Develop, coordinate and monitor operational procedures for implementation and application of the Transmission Owner’s redispatch procedures in connection with service under the NITSA;

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- (ix) Review annually and update, as appropriate, information related to the Network Customer's Network Load, the delivery points and voltage levels, and associated network load forecasts; and
 - (x) Review annually the plans and procedures agreed to by the Parties under other contractual arrangements that could impact either Party's performance or obligations under this NOA or the NITSA.
- (e) If the Operating Committee is unable to agree unanimously on a matter coming under its jurisdiction, the Parties shall refer the dispute to a designated senior representative of the Transmission Owner and the Network Customer for resolution of such dispute on an informal basis as promptly as possible. In the event that the designated representatives are unable to resolve the dispute within 30 days (or such other period as the Parties may mutually agree upon), then such dispute may, if agreed to by Transmission Owner and Network Customer, be resolved by arbitration under the Kentucky Uniform Arbitration Act, as amended.
- (f) As described more below, in the event of a failure by the Network Customer to manually shed load when required to do so pursuant to the provisions of Section 6(d) of this NOA, the Operating Committee will review the circumstances surrounding such failure and will also adopt remedial measures and protection deemed appropriate to avoid a similar failure in the future.

3. Redispatch Procedures

When necessary to maintain the reliable operation of the Transmission System, the Transmission Owner will take actions intended to effectively relieve an existing or potential transmission constraint in the following order: (i) interrupt or curtail non-firm transactions that impact the constraint; (ii) redispatch Network Resources that impact the constraint; and (iii) curtail firm transactions that impact the constraint. Redispatch Procedures shall include the following:

- (a) If the BA or Reliability Coordinator ("RC") determines that redispatching resources (including reductions in off-system purchases and sales) to relieve an existing or potential transmission constraint is the most effective way to ensure the reliable operation of the Transmission System, the BA will redispatch Network Resources and the Transmission Owner's own resources on a least-cost basis, without regard to the ownership of such resources. The BA will apprise the Network Customer of its redispatch practices and procedures, as they may be modified from time to time.
- (b) The Network Customer will submit verifiable cost data for its resources, which estimates the cost to the Network Customer of changing the generation output of each of its Network Resources, to the Transmission Owner. This cost data will be

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used, along with similar data for the Transmission Owner's resources, as the basis for least-cost redispatch for all Network Customers overall. The Transmission Owner's bulk power operations personnel will keep this data confidential, and will not disclose it to the Transmission Owner's marketing personnel. If the Network Customer experiences changes to its costs, the Network Customer will submit those changes to the Transmission Owner. Based on this information, the BA will implement least-cost redispatch consistent with existing contractual obligations and current practices and procedures applicable to the Transmission Owner's resources. The Network Customer shall respond immediately to requests for redispatch from the BA.

- (c) The Network Customer or the Transmission Owner may audit, at its own expense, redispatch event data (such as data relating to the cause or necessity of the redispatch, response, cost or any other necessary data) during normal business hours provided it has given reasonable notice to the holder of such data. Each Party to this Agreement may request an audit of the other Party's cost data. Any audit of cost data will be performed by an additional independent agent at the requesting Party's cost. Such independent agent will be a nationally recognized accounting firm and will be required to keep all cost data confidential. A Party shall cooperate in any audit requested by the other Party.
- (d) Once redispatch has been implemented, the Network Customer will submit its incremental cost data to the Transmission Owner and the Transmission Owner will book in a separate account the redispatch costs incurred by each Network Customer, including its own cost data. The Transmission Owner and each Network Customer will each bear a proportional share of the total redispatch costs in a calendar month based on their then-current Load Ratio Shares. The redispatch charge or credit, as appropriate, will be reflected on the Network Customer's monthly bill.

4. Metering

Metering requirements shall include the following:

- (a) The Network Customer will be responsible for the purchase, installation, operation, maintenance, repair and replacement of all metering equipment necessary to provide NITS and any related Ancillary Services. All metering equipment of the Network Customer shall conform to Good Utility Practice and the standards and practices of the Transmission Owner's BA. Prior to the installation of new or replacement metering equipment, the Transmission Owner and the Network Customer shall review the metering equipment to ensure its conformance with such standards or practices.
- (b) Electric capacity and energy from the Network Customer's Network Resources

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will be measured by meters installed at the output of the Network Customer's Network Resources located within the LG&E/KU BA Area, except when Network Customer's Network Load is served with behind-the-meter generation, in which case, the requirements of subsection (i) to this section apply.

- (c) When measurement is made at any location other than a Delivery Point, suitable adjustment for losses between the point of measurement and the Delivery Point will be agreed upon in writing between the Transmission Owner and Network Customer and will be applied to all measurements so made. Metered receipts used in billing and accounting hereunder will in all cases include adjustments for such losses.
- (d) Meters at the Network Customer's Network Resources or Network Load will be tested at least biennially by the Network Customer. Representatives of the Transmission Owner will be afforded an opportunity to witness such tests.
- (e) The Network Customer will, upon request of the Transmission Owner, test any meter at its Network Resources or any meter owned by the Network Customer and used for determining the receipt or delivery of capacity and energy for Network Service by the Transmission Owner which is reasonably suspected to be inaccurate. In the event the test shows the meter to be inaccurate, the Network Customer will make any necessary adjustments, repairs or replacements thereon as soon as practicable. In the event that the test shows the meter to be accurate, as defined by Section 4(f) of this NOA, the Transmission Owner will reimburse the Network Customer for its costs of performing the test.
- (f) In the event any meter used to measure capacity and energy fails to register or is found to be inaccurate, appropriate billing adjustments, based on the best information available, will be agreed upon by the Transmission Owner and Network Customer. Any meter tested and found to be not more than one (1) percent above or below normal will be considered to be correct and accurate insofar as correction of billing is concerned. If, as a result of any test, a meter is found to register in excess of one (1) percent either above or below normal, then the reading of such meter previously taken will be corrected according to the percentage of inaccuracy so found, but no correction will extend beyond ninety (90) days previous to the day on which inaccuracy is discovered by such test.
- (g) The Transmission Owner will have the right to install suitable metering equipment at any point(s) of receipt for Network Resources or delivery, as herein provided for the purpose of checking the meters installed by the Network Customer.
- (h) The Network Customer will read the meters owned by it, except as may be mutually agreed by the Transmission Owner and the Network Customer, and will

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furnish to the Transmission Owner all meter readings and other information required for billing purposes by the second business day of each month. All metering and billing information will remain available to the Transmission Owner for three (3) years.

- (i) In cases where Network Customer's Network Load is being served with behind-the-meter generation, either in part or in its entirety, electric capacity and energy delivered to the Network Customer's Network Load will be measured on an hourly integrated basis by suitable metering equipment installed at each connection to such Network Load and Delivery Point, and at each generating facility and at each auxiliary load at such generating facility. Network Customer shall provide a diagram of the metering equipment at each of these locations to the Transmission Owner and such diagram will be attached to this NOA. This diagram may be amended from time to time by the Parties to reflect metering changes. The actual hourly components of Network Customer's Network Load, by Delivery Point, internal generation site, auxiliary load, and point where power may flow to and from the Network Customer and its Network Resources, with separate readings for each direction of flow, shall be provided.

5. Balancing Authority Area and Data Equipment

BA Area and Data Equipment requirements shall include the following:

- (a) The Network Customer will be responsible for the purchase, installation, operation, maintenance, repair and replacement of all data acquisition equipment, metering equipment, protection equipment, and any other associated equipment and software, which may be required by the Transmission Owner for the Network Customer to operate in accordance with the Metering Requirements of this NOA. Such equipment shall conform to Good Utility Practice and the standards and practices of the Transmission Owner's BA Area. Prior to the installation of new or replacement equipment, the Transmission Owner and the Network Customer shall, and the Transmission Owner may, review the equipment and software required by this Section to ensure conformance with such standards or practices.
- (b) The Transmission Owner, using reasonable discretion, shall select the real time telemetry and data to be received by the Transmission Owner and the Network Customer as deemed necessary for reliability, security, economics, and/or monitoring of system operations. This telemetry includes, but is not limited to, loads, line flows, voltages, generator output, and breaker status at any of the Network Customer's transmission facilities. To the extent telemetry is required that is not available, the Network Customer shall, at its own expense, install any metering equipment, data acquisition equipment, or other equipment and software necessary for the telemetry to be received by the Transmission Owner. The Network Customer shall consult with the BA regarding the necessary data and

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telemetry needed for reliability, security, economics, and/or monitoring of system operations.

- (c) The Transmission Owner and Network Customer shall be responsible for implementing any computer modifications or changes required to their own computer system(s) as necessary to implement this Section (Balancing Authority Area and Data Equipment).

6. Operating Requirements

Operating Requirements shall include the following:

- (a) The Network Customer shall operate its generating resources located within the Transmission Owner's BA Area located on the Transmission Owner's system, if any, in a manner consistent with that of the Transmission Owner, following voltage schedules, free governor response, meeting power factor requirements at the point of interconnection of such generating resources with the Transmission Owner's system, and other such criteria required by NERC and SERC and consistently adhered to by the Transmission Owner.
- (b) Network Customer will take operational steps required consistent with Good Utility Practice to ensure that the deliveries to all Delivery Points (specified in the appendix to the NITSA) do not exceed the annually forecasted Network Load. Changes to forecasted Network Load amounts must be made consistent with the requirements of the Tariff, the Transmission Owner's Business Practices, and the Criteria for Notification of Network Customer Load Changes procedures posted on OASIS.
- (c) Insofar as practicable, the Transmission Owner and the Network Customer shall protect, operate, and maintain their respective systems so as to avoid or minimize the likelihood of disturbances which might cause impairment of service on the system(s) of the other.
- (d) For Network Customers that elect to satisfy their NERC BA requirements by contracting with the Transmission Owner as provided in Section 1(a) (ii) above of this agreement, the following requirements apply:
 - (i) The Transmission Owner is not required to provide Backup Supply Service to, for, on behalf of, or for the benefit of, any of the Network Customer's loads and/or resources. In Order No. 888, the Commission has described Backup Supply Service as an alternative source of generation that a customer may use in the event that its primary generation source becomes unavailable for more than a few minutes and has ruled that the Transmission Owner is not required to provide Backup Supply

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Service as an Ancillary Service. While the Transmission Owner will offer to provide the Network Customer Ancillary Services, including short-term operating reserve services (spinning and supplemental reserves), if a Network Customer uses either type of such short-term operating reserve, it must expeditiously replace the reserve with Backup Supply Service to reestablish reserve levels. Backup Supply Service is a generation service that is the responsibility of the Network Customer, who may contract for Backup Supply Service with any power supplier or may determine to curtail load. Thus, the Transmission Owner is not required to provide any Backup Supply Service in the event that the Network Customer experiences a supply shortage.

- (ii) Ancillary Services. The Network Customer must purchase Schedule 1 Scheduling, System Control and Dispatch Service, Schedule 2 Reactive Supply and Voltage Control from Generation Sources Services, and comply with Schedule 11 Losses. The Network Customer must either self-supply or purchase from the Transmission Owner Schedule 3 Regulation and Frequency Response, Schedule 4 Imbalance Energy, Schedules 5 and 6 Supplemental and Spinning Reserves and Schedule 9 Generation Imbalance Service.

- (iii) As noted above, Transmission Owner is obligated to provide the Tariff-required Ancillary Services for imbalances under Schedules 4 and 9 if the Network Customer has not either self-supplied these services or obtained them from a third party. Under Schedule 4, Energy Imbalance Service is provided when a difference occurs between the scheduled and the actual delivery of energy to a load located within the control area over a single hour. The Transmission Owner must offer this service when the transmission service is used to serve load within its BA Area. Under Schedule 9, Generator Imbalance Service is provided when a difference occurs between the output of a generator located in the Transmission Owner's BA Area and a delivery schedule from that generator to (1) another BA Area or (2) a load within the Transmission Provider's BA Area over a single hour. The Transmission Owner must offer Energy Imbalance Services and Generation Imbalance Services, to the extent physically feasible from its resources or resources available to it, when transmission service is used to deliver energy from a generator within its BA Area. As stated in such schedules, Energy and Generation Imbalance Services supplied to the Network Customer are limited to the difference between scheduled load and actual load and scheduled generation deliveries and the actual output of a generator over a single hour. Energy Imbalance Service is not to be relied upon by the Network Customer as a Backup Supply Service.

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- (iv) The Parties shall implement load shedding programs to maintain the reliability and integrity of the Transmission System. Such load shedding programs shall include: (1) automatic load shedding by underfrequency relay and (2) manual load shedding. The Network Customer will manually shed Network Load as necessary: (a) if, despite pursuing mitigation procedures pursuant to Appendix A hereto, the Network Customer remains unable to deliver power to its Network Load due to a power supply shortage affecting the Network Customer, or (b) to the extent that a contingency exists on the system in accordance with Section 33.6 of the Tariff (proportionately with all of the Transmission Owner's other firm transmission commitments affecting, or affected by, a transmission constraint). The Transmission Owner will implement load shedding to maintain the relative sizes of load served, unless otherwise required by circumstances beyond the control of the Transmission Owner or the Network Customer. Automatic load shedding devices will operate without notice. When manual load shedding is necessary, the Transmission Owner shall notify the Network Customer's dispatchers or schedulers of the required action and the Network Customer shall comply immediately.

In the event that the Network Customer fails to manually shed Network Load as required hereunder, the Network Customer shall pay: a penalty as set forth in Schedule 13 of the Tariff applied to the amount of load at those Delivery Points that the Transmission Owner requested to be shed that was not shed; energy imbalance pursuant to Schedule 4; and any other costs or damages incurred due to the Network Customer's failure to shed Network Load (including, but not limited to, costs in connection with unit start up, system losses and changes in the generation dispatch and all applicable NERC and SERC penalties subject to Commission approval and other conditions as set forth in 1 (e) above).

In the event of a failure by the Network Customer to manually shed load, the Network Operating Committee will review the circumstances surrounding such failure and will also adopt remedial measures and protection deemed appropriate to avoid a similar failure in the future.

The Transmission Owner does not employ any Special Protective Schemes ("SPS") and does not allow its own load to use SPS.

- (e) The Network Customer shall, at its own expense, provide, operate, and maintain or cause to be provided, operated, and maintained in service high-speed, underfrequency load shedding equipment. The Network Customer will install, or cause to be installed, underfrequency relays to disconnect automatically

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approximately thirty percent (30%) of its Network Load in a manner consistent with SERC's Automatic Underfrequency Load Shedding ("UFLS") standard. (See SERC UFLS Standard PRC-006-SERC-001). The installation of underfrequency relays to accomplish any additional load shedding above that already installed shall be completed on a schedule agreed to by the Operating Committee. The Operating Committee may review the amount of load that would be disconnected automatically and make such adjustments and changes as necessary.

- (i) In the event the Transmission Owner modifies the load shedding system, the Network Customer shall, at its expense, make changes, or cause such changes to be made, to the load shedding equipment and setting of such equipment, as required. The Network Customer shall test and inspect the load shedding equipment within ninety (90) days of taking Network Integration Transmission Service under the Tariff and thereafter in accordance with Good Utility Practice, and provide a written report to the Transmission Owner. The Transmission Owner may request a test of the load shedding equipment with reasonable notice.

7. Scheduling

- (a) When the Network Customer is (i) serving Network Load located within the Transmission Owner's BA Area from a Network Resource that is physically or electronically located outside of the Transmission Owner's BA Area, or (ii) is serving load with a Network Resource that is located within the Transmission Owner's BA Area but is not owned by the Transmission Owner (e.g., the generation is owned by a municipal system located in the Transmission Owner's BA Area or an independent power producer), then the Network Customer shall provide the Transmission Owner with an electronic schedule or e-Tag for the operation of such Network Resource.
- (b) If the Transmission Owner is required to proportionally curtail firm transmission commitments in accordance with Section 33 of the Tariff, the Network Customer will adjust its scheduled deliveries, and/or Network Resource Output by the amount of the curtailment. As soon as practicable, the Network Customer will purchase power or adjust other Network Resource schedules to serve the Network Load for the duration of the transmission curtailments.

8. Operational Information

The Network Customer shall provide data needed for the safe and reliable operation of the Network Customer's and the Transmission Owner's respective facilities and to implement the provisions of the Tariff. The Transmission Owner will treat this information as confidential and will not divulge it to its marketing personnel.

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- (a) The Transmission Owner and the Network Customer shall notify and coordinate with the other Party prior to the commencement of any work by either Party (or contractors or agents performing on their behalf), which may directly or indirectly have an adverse effect on the facilities of the other Party.
- (b) The Network Customer shall promptly notify the Transmission Owner whenever any scheduled or forced outages occur that would affect the reliable operation of the Transmission Owner's Transmission System. Prompt notice shall also be given when such unscheduled or forced outages end.
- (c) In no event shall the Network Customer connect any new generator to the Transmission Owner's Transmission System without requesting Generator Interconnection Service under the Tariff and without either a FERC approved Large Generator or Small Generator Interconnection Service Agreement, as applicable.
- (d) The addition of new generators or modifications of existing generators that are not interconnected to the Transmission System, but rather, are interconnected to the Network Customer's system, will be studied for effects on the Transmission System as an Affected System Study which will be coordinated by the Network Customer with the Transmission Owner and other appropriate transmission entities, if any. Appropriate agreements, executed by both the Network Customer and the Transmission Owner, will be entered into to cover the timing for the study as well as the Transmission Owner's costs of studying the impacts of such facility modifications on the LG&E/KU system. The costs of constructing any Network Upgrades on the LG&E/KU Transmission System identified in the Affected System Study will be determined by the Transmission Owner during a Facility Study after the execution of a Facility Study Agreement by the Network Customer. Nothing in this subsection grants the Network Customer any transmission services under the Transmission Owner's Tariff for the new or modified facilities.
- (e) In the event that the Transmission Owner determines that the Network Customer's generators are adversely affecting the transmission system operations or reliable service on the transmission system or otherwise impairing the Transmission Owner's ability to operate the transmission system or serve customers, the Network Customer will follow the Transmission Owner's instructions, including a request to disconnect the generators. The Transmission Owner will issue all disconnect orders in a manner consistent with NERC Standards; however, nothing in this statement shall be construed by the Network Customer as providing a basis for not obeying a disconnect order.
- (f) For Network Customers that elect to satisfy their NERC BA requirements by contracting with the Transmission Owner as provided in Section 1(a) (ii) above of

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this agreement, the following requirements apply:

- (i) For all Network Customers Service (except for as-available Secondary Service under Section 28.4 of the Tariff), the Network Customer shall provide, at least 36 hours in advance of every calendar day the Network Customer's best forecast of any planned transmission or Network Resource availability and/or outage(s), the external transmission arrangements for Network Resource delivery, a certification that all transmission paths external to the LG&E/KU transmission system have been obtained as firm (if a certification has not been previously given), an estimate of load each hour that is not covered by firm Network Resources with firm transmission from sink to source and other operating information that the Transmission Owner and/or ITO deems appropriate. In the event that such planned outages cannot be accommodated due to a transmission constraint on the Transmission Owner's Transmission System, the provisions of Section 33 of the Tariff will be implemented. For Secondary Service under Section 28.4 of the Tariff, the Network Customer shall provide notice in accordance with Section 18 of the Tariff (Procedures for Arranging Non-Firm Point-To-Point Transmission Service, including the time restrictions in Section 18.3 of the Tariff), and state the external transmission arrangements if any, an estimate of load at each hour that is being served by Secondary Service and any other operating information deemed appropriate by the Transmission Owner and/or ITO to provide the service, and
- (ii) In the event that the Network Customer's import schedule for a Designated Network Resource is curtailed by any third-party transmission provider, or the Network Customer is aware or should be aware that any curtailment of its import schedule is imminent, the Network Customer shall immediately notify the Transmission Owner's BA Authority function and the ITO of such a change or probable change in its schedule. At such time, the Network Customer shall provide the Transmission Owner with notification of: (i) the reasons for such curtailment; and (ii) the alternative arrangements made or to be made by the Network Customer for replacing any such curtailed power and energy pursuant to the terms of Section 6(d) hereof.

9. Network Planning

- (a) In order for the Transmission Owner to plan, on an ongoing basis, to meet the Network Customer's requirements for Network Integration Transmission Service, the Network Customer shall provide to the ITO and the Transmission Owner, no later than October 31 of each year, updated information (current year and 10-year projection) for Network Loads and Network Resources, as well as any other

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information reasonably necessary to plan for Network Integration Service. The forecast shall include consideration of the Network Customer's peak load data from the most recent summer peak. This type of information is consistent with the information requirements for the Transmission Owner's plan to serve its Native Load Customers. The data will be provided in a format consistent with that used by the Transmission Owner and its Reliability Coordinator.

- (b) The Network Customer shall provide no later than October 31 of each year the Network Customer's Network Resource availability forecast (e.g., all planned resource outages, including off-line and on-line dates) for the following year. Such forecast shall be made in accordance with Good Utility Practice, and shall include consideration of the Network Customer's peak load data from the most recent summer peak. The Network Customer shall inform the Transmission Owner, in a timely manner, of any changes to the Network Customer's Network Resource availability forecast. In the event that the Transmission Owner determines that such forecast cannot be accommodated due to a transmission constraint on its Transmission System, and such constraint may jeopardize the security of the Transmission System or adversely affect the economic operation of either the Transmission Owner's system or the Network Customer's facilities, the provisions of Section 33 of the Tariff will be implemented.

10. Character of Service

Power and energy delivered under the NITSA and this NOA shall be delivered as three-phase alternating current at a frequency of approximately sixty (60) Hertz, and at the nominal voltages at the delivery and receipt points.

11. Transfer of Power and Energy Through Other Systems

Since the Transmission Owner's Transmission System is, and will be, directly and indirectly connected with other electric systems, it is recognized that, because of the physical and electrical characteristics of the facilities involved, power delivered under the NITSA and this NOA may flow through such other systems. The Transmission Owner and the Network Customer agree to advise other electric systems as deemed appropriate of such scheduled transfers and to attempt to maintain good relationships with affected third parties.

12. Notice

Any Notice or request made to or by any Party regarding this NOA shall be made to the representative of each Party as indicated in the NITSA.

13. Incorporation

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The Tariff and the NITSA are incorporated herein and made a part hereof.

14. Term

The term of this NOA shall be concurrent with the term of the NITSA between the Parties.

IN WITNESS WHEREOF, the Parties have caused this Network Operating Agreement to be executed by their respective authorized officials.

Network Customer:

By: _____
Name Title Date

Transmission Owner:

By: _____
Name Title Date

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MAP OF METERING

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Appendix A - Imbalance Events

I. Application

This Appendix A states the actions to be taken when a Network Customer experiences a real-time imbalance of +/- five percent of the Network Customer's Annual Peak Load or five megawatts (whichever is greater) ("Imbalance Event"). "Annual Peak Load" is defined as the Network Customer's hour of peak load during the previous calendar year, rounded up to the next full MW. Transmission Owner shall provide the Annual Peak Load to each customer at or prior to the beginning of each calendar year, subject to modification if the customer modifies its delivery points during the course of a calendar year. An Imbalance Event that occurs when load exceeds actual supply, or generation is deficient to scheduled supply, is a negative Imbalance Event ("Negative Imbalance Event"). An Imbalance Event that occurs when actual delivery of energy exceeds load, or generation is in excess of scheduled supply, is a positive Imbalance Event ("Positive Imbalance Event").

All Imbalance Events must end within ninety (90) minutes of commencement of the Imbalance Event.

II. Notifications

If the Network Customer anticipates an Imbalance Event that will last for fifteen (15) minutes or longer, the Network Customer shall notify the BA promptly, informing the BA of the cause and potential duration of such Imbalance Event.

No later than fifteen (15) minutes after the commencement of an Imbalance Event, the Network Customer shall promptly notify the BA of the plan to mitigate such Imbalance Event within ninety (90) minutes of commencement.

In the event that the Network Customer anticipates that it will experience an Imbalance Event due to normal operating conditions (for example, regular morning and evening ramps) in a given day, a single notification in the morning of the same day will satisfy this notification requirement unless conditions change from the anticipated conditions communicated to Transmission Owner, in which case, additional notifications may be required.

III. Mitigation procedures for a Negative Imbalance Event

For all Negative Imbalance Events that occur prior to April 1, 2017, the Network Customer shall follow the procedures in Attachment 1-EOP-002 to NERC Reliability Standard EOP-002-3.1 applicable to Load Serving Entities. Beginning April 1, 2017, the following procedures shall apply to Negative Imbalance Events that last at least fifteen (15) minutes:

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A. Imbalance Level A

If the Network Customer experiences a Negative Imbalance Event, then after fifteen (15) consecutive minutes of the commencement of the Negative Imbalance Event the Network Customer shall curtail all non-firm wholesale energy sales (other than those that are recallable only to meet reserve requirements).

B. Imbalance Level B

If after the Network Customer curtails all non-firm wholesale energy sales the Negative Imbalance Event is still continuing, then in addition to curtailing non-firm wholesale energy sales (as detailed under Imbalance Level A), the Network Customer shall implement mitigation procedures which may include, but are not limited to:

- Managing its generation resource(s) to increase capability;
- Public appeals for voluntary load reduction;
- Requests to government agencies to implement their programs to achieve necessary energy reductions;
- Reduction of internal utility energy use;
- Use of interruptible load, curtailable load and demand response;
- Voltage reduction;
- Purchasing energy from third parties, regardless of the cost; and
- Making a request (through the BA) to the Reliability Coordinator to declare an Energy Emergency for purposes of triggering the availability of Capacity Benefit Margin (CBM).

The Network Customer shall take any and all mitigation actions necessary to ensure that a Negative Imbalance Event ends within ninety (90) minutes of the commencement of such Imbalance Event.

IV. Mitigation procedures for a Positive Imbalance Event

For Positive Imbalance Events, within fifteen (15) minutes of the commencement of such

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Positive Imbalance Event the Network Customer shall take steps to balance energy and load, including, but not limited to the following options:

- Reduce generation to minimum levels which may include the usage of stabilization fuel;
- Sell surplus generation at a loss; and/or
- Shut down or cycle generating units.

The Network Customer shall take any and all mitigation actions necessary to ensure that a Positive Imbalance Event ends within ninety (90) minutes of the commencement of such Imbalance Event.

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ATTACHMENT H
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Part V_ATTACH I
Part V_ATTACH I Index of NITS Customers
Version 12.0.0

ATTACHMENT I
INDEX OF NETWORK INTEGRATION TRANSMISSION SERVICE CUSTOMERS

Big Rivers Electric Corporation
East Kentucky Power Cooperative
Hoosier Energy REC, Inc.
Kentucky Municipal Power Agency
Kentucky Municipal Energy Agency
Louisville Gas & Electric Company/Kentucky Utilities Company
Owensboro Municipal Utilities
Tennessee Valley Authority

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Part V_ATTACH J
Part V_ATTACH J Procedures for Addressing Parallel
Flows
Version 10.0.0

ATTACHMENT J

The North American Electric Reliability Corporation's ("NERC")'s Transmission Loading Relief ("TLR") Procedures originally filed March 18, 1998, which are now the mandatory Reliability Standards that address TLR, and any amendments thereto, on file and accepted by the Commission, are hereby incorporated and made part of this tariff. See www.nerc.com for the current version of the NERC's TLR Procedures.

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**ATTACHMENT K
TRANSMISSION PLANNING PROCESS**

The following procedures establish the process for transmission system planning on the LG&E/KU Transmission System, in accordance with the requirements of FERC Order No. 890, *Preventing Undue Discrimination and Preference in Transmission Service*, as revised by FERC Order No. 1000, *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*.

Local transmission system planning for the LG&E/KU transmission system is conducted in accordance with the following Sections of this Attachment K:

- Section 1 - Coordination
- Section 2 - Openness
- Section 3 - Transparency
- Section 4 - Information Exchange
- Section 5 - Comparability
- Section 6 - Dispute Resolution
- Section 7 - Regional Coordination
- Section 8 - Local Economic Planning and Local Consideration of Public Policy Requirements
- Section 9 - Cost Allocation
- Section 10 - Recovery of Planning Costs

Regional transmission system planning is conducted in accordance with Southeastern Regional Transmission Planning Process (“SERTP Process”), as embodied in the following Sections of this Attachment K:

- Section 11 - Coordination
- Section 12 - Openness
- Section 13 - Transparency
- Section 14 - Information Exchange

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- Section 15 - Dispute Resolution
- Section 16 - [Reserved]
- Section 17 - Economic Planning Studies
- Section 18 - [Reserved]
- Section 19 - Recovery of Planning Costs
- Section 20- Consideration of Transmission Needs Driven by Public Policy Requirements
- Section 21- Regional Analyses of Potentially More Efficient or Cost Effective Transmission Solutions
- Section 22 - Merchant Transmission Developers Proposing Transmission Facilities Impacting the SERTP
- Section 23 - Enrollment
- Section 24 - Pre-Qualification Criteria for a Transmission Developer to be Eligible to Submit a Regional Transmission Project Proposal for Potential Selection in a Regional Transmission Plan for RCAP
- Section 25 - Transmission Projects Potentially Eligible for Selection in a Regional Transmission Plan for RCAP
- Section 26 - Submission of Proposals for Potential Selection in a Regional Transmission Plan for RCAP
- Section 27 - Evaluation and Potential Selection of Proposals for Selection in a Regional Transmission Plan for RCAP
- Section 28 - Cost Allocation to the Beneficiaries
- Section 29 - On-Going Evaluations of the Regional Transmission Plan
- Section 30 - Delay or Abandonment
- Section 31- Milestones of Required Steps Necessary to Maintain Status as Being Selected for RCAP

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Section 32 - Credit and Security Requirements to Protect the Beneficiaries Against
Delay or Abandonment of a Transmission Project Selected in a Regional
Transmission Plan for RCAP

Local Transmission Planning Process

1. Coordination

FERC requires that transmission providers meet with and allow stakeholders to have input into the transmission planning process. FERC does not mandate the number of, or scope of, meetings with stakeholders, so long as the coordination process allows stakeholders an opportunity to comment meaningfully at the early stages of the transmission plan's development. LG&E/KU has developed the plan so that stakeholders will be able to provide input into the next years' plan as that plan is developed from the initial stages of development, and encourages stakeholders to be involved early in the process, as opposed to commenting only on the final plan.

Stakeholder Planning Committee

The LG&E/KU coordination plan will include the formation of a Stakeholder Planning Committee ("SPC"), which will act as a standing committee. The SPC will provide a forum for stakeholders to provide input to the Transmission Owner regarding the transmission planning process.

Membership on the SPC will be open to all interested parties. Any interested party that wants to participate in the SPC must designate a representative by sending such information to the Transmission Owner (and providing contact information for the representative) within 30 days of Commission approval of the Transmission Owner's coordination plan. After this 30 day start-up period, an interested party may join the SPC by designating a representative (and providing contact information for the representative) and sending a notice to the Transmission Owner and the Chair of the SPC.

The Transmission Owner shall be responsible for coordinating the first meeting of the SPC within 120 days of approval of the Transmission Owner's coordination plan. Afterwards, the SPC shall appoint a Chair to lead the SPC calls and coordinate any teleconferences or meetings. The Chair shall rotate annually among the members of the SPC. The SPC shall hold conference calls monthly, or quarterly, depending upon the workload at the time, to provide input to the Transmission Owner regarding planning issues. If required, the Chair may call meetings on a more frequent basis.

Upon formation, the SPC will provide a forum to allow members the opportunity to comment on the development of accurate data inputs for study simulations, the appropriateness

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of study simulations being performed, and the correctness of the execution of study simulations. The SPC will also enable members to review study results as they are performed over the study development cycle. The SPC will also provide an opportunity to produce comments and reports. Further, the SPC will be responsible for forming an Economic Expansion Subcommittee.

The SPC will decide its own processes and procedures, including frequency, location and format of meetings; membership criteria (e.g., number of representatives per Eligible Customer, provisions for alternates). The SPC will also determine the responsibilities of the SPC Chair, such as: supervision of SPC activities, scheduling and posting notice of meetings, developing agendas, and presiding at meetings. Although the Transmission Owner and the ITO are not formal members of the SPC, the Transmission Owner and the ITO will be invited to participate in all SPC activities.

It is the Transmission Owner’s intent that issues before the SPC be resolved on a consensus basis; nevertheless, there may be circumstances where sending an issue to a vote would be appropriate. Because of the SPC’s potential breadth, if and when the SPC needs to vote on certain issues, each SPC member’s vote will be weighted based on whether the member represents a current Transmission or NITS Customer, an Eligible Customer, a regulatory body, a developer of transmission, generation or demand resources, or the general public (i.e., an unaffiliated individual).

SPC Member	Weighted Vote
Current Transmission Customer	1.00
Current NITS Customer	1.00
Eligible Customer	1.00
Regulatory Body (KPSC, FERC, or similar)	1.00
Developers of Transmission	1.00
Developers of Generation	1.00
Developers of Demand Resources	1.00
General Public	1.00

Transmission Planning Cycle

The Transmission Owner’s coordination plan involves a combination of SPC meetings and semi-annual stakeholder meetings to discuss draft annual transmission expansion plans, as well as opportunities for stakeholders to provide written comments early in the process. The transmission planning process is an approximately 14 month cycle. The transmission planning process will begin in November with the Transmission Owner starting the process of running the required planning models for the next planning year (e.g., in November 2015 for the 2016 planning year). During the transmission planning cycle, the SPC will hold either quarterly or monthly meetings to update stakeholders on the status of the next year’s transmission plan and provide an opportunity for stakeholders to comment, both on the development of the transmission plan and on the criteria, data, and assumptions used by the Transmission Owner in

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developing the annual transmission plan.

In November, the ITO will convene a stakeholder meeting. The November stakeholder meeting serves two functions in the transmission planning cycle.

- **Review ongoing development of Next Year's plan** - First, the ITO will issue a request for stakeholder input on development of the next year's transmission plan (e.g., during the November of 2015 for 2016 planning year). Stakeholders will have thirty days from the November meeting in which to transmit their additional suggestions for the next year's transmission plan.
- **Finalize Current Year's Transmission plan** - Second, the November stakeholder meeting also involves the presentation of the final draft transmission plan and the ITO's response to the draft plan for the current calendar year (e.g., during November of 2015 for the 2015 planning year). The ITO will present its comments on the final version of the annual transmission expansion plan for the current year, and will receive comments. Stakeholders may submit written comments for up to 30 days after the November meeting on the current year's plan.

The ITO will convene another stakeholder meeting in July of each year. Fifteen days prior to the July stakeholder meeting, the ITO will distribute the draft transmission plan for the current year (e.g., in July of 2016, the Transmission Owner will distribute its draft for the 2016 planning year, which incorporates all comments received from stakeholders to date on the 2016 plan). Stakeholders will have an opportunity to discuss the draft transmission plan at the July stakeholder meeting, and may submit written comments regarding the draft transmission plan for up to 30 days following the July stakeholder meeting.

Following the completion of the comment period, the Transmission Owner will incorporate the comments to the extent possible in the draft plan to be submitted to the ITO. The Transmission Owner's final draft of the transmission expansion plan is presented to the ITO by October 31, for final review and approval.

Between the July and November stakeholder meetings, the SPC will continue to hold quarterly or monthly meetings on the state of the next year's transmission plan and will have opportunities to comment on plan development.

Additionally, stakeholder input is not restricted to the SPC and semi-annual stakeholder meetings but can be sent to the Manager of Transmission or the SPC at any time. Written comments are preferred and may be sent via e-mail. Comments received outside the semi-annual meetings and SPC meetings will be made available to other stakeholders via OASIS.

The Transmission Owner is the entity responsible for drafting the annual transmission plan, with input from the SPC and stakeholders, which is then reviewed and revised or approved by the ITO. The SPC will be responsible for coordinating the monthly and quarterly conference

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calls and will provide input to the TO on planning issues at that time. The ITO will be responsible for coordinating the semi-annual stakeholder meetings, and the Transmission Owner will attend to present the annual transmission plan, or draft of the annual transmission plan as appropriate, and will take stakeholder comments at that time. Stakeholders also may address their written comments to the Transmission Owner or the SPC, which the Transmission Owner will take into account when drafting or revising the annual transmission expansion plan.

The ITO already holds an annual stakeholder meeting to address customer and other stakeholder issues. Transmission expansion planning has been added to this process, and an additional meeting added to the yearly calendar. Additionally, the scope of stakeholders invited to participate in the meetings will be expanded for transmission planning meetings to include interested parties, neighboring transmission systems, and state commission representatives, as well as customers.

SPC meetings will occur quarterly, monthly, or more often, as determined by the SPC or its Chair.

Notice of the monthly or quarterly teleconference meetings of the SPC will be sent out by the Transmission Owner for the first meeting to a list of Eligible Customers based on those that inform the Transmission Owner of their interest in participating in the SPC. Afterward, the Chair of the SPC will be in charge of coordinating and notifying the SPC members of the conference calls. A notice of the semi-annual meetings will be placed on OASIS, as well as the ITO's website. Customers will receive an e-mail notifying them of the meeting, and other stakeholders (neighboring transmission systems, state commission representatives) will be invited by the Transmission Owner. Meetings will take place in person in Louisville, Kentucky. If participants are unable to attend in person, a teleconference line will be made available.

Any significant planning developments or events will trigger a notice by the Transmission Owner to the ITO and a posting on OASIS to notify the SPC and any other Eligible customer under the OATT of the opportunity to provide input during the planning process with regard to the significant development or event.

2. Openness

Except as noted below, the transmission planning portion of the stakeholder meetings will be open to any interested party, including current Transmission and Network Customers, representatives from the Kentucky Public Service Commission, and utilities with whom the Transmission Owner's transmission system is interconnected. Entities attending the transmission planning portion of the stakeholder meetings will be invited to provide their comments, concerns, or relevant study data using the procedures set forth in Part I above.

The Transmission Owner will use a confidentiality agreement, included as Appendix 1 to this Attachment K, to address sharing of potential Critical Energy Infrastructure Information or similar information (collectively, "CEII") and/or confidential transmission planning information.

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Any File Transfer Protocol (“FTP”) sites containing such information will require such agreement to be executed in order to obtain access. If a stakeholder meeting will include discussion of CEII and/or confidential information, the Transmission Owner will provide notice to stakeholders beforehand, together with an opportunity to execute a confidentiality agreement (if the stakeholder has not already executed one), so that the stakeholder can participate in such meeting. In the alternative, stakeholder meetings will be structured to have separate discussion of issues involving CEII and/or confidential data, with only those participants who have agreed to execute the confidentiality agreement in Appendix 1.

The Transmission Owner will not use a confidentiality agreement to address sharing of information that is neither CEII nor confidential transmission planning information. If a stakeholder meeting will not include discussion of CEII and/or confidential transmission planning information, the Transmission Owner will provide notice to stakeholders beforehand so that the stakeholders can participate in such meeting.

Pursuant to FERC regulations, the Transmission Owner and the ITO will identify as CEII specific engineering, vulnerability or detailed design information about proposed or existing critical infrastructure that:

- (i) Relates details about the production, generation, transportation, transmission, or distribution of energy;
- (ii) Could be useful to a person planning an attack on critical infrastructure;
- (iii) Is exempt from mandatory disclosure under FOIA; and
- (iv) Does not simply give the general location of the critical infrastructure.

This definition includes, but is not limited to, the annual transmission expansion plan and all drafts thereof.

In order to participate in the transmission planning portion of the stakeholder meetings in which any CEII or confidential transmission planning information is discussed, or to gain access to the transmission planning links on the Transmission Owner’s OASIS which include CEII or confidential transmission planning information, the entity requesting participation must execute a Confidentiality Agreement, the form of which is attached hereto in Appendix 1.

Additionally, pursuant to Section 6 of the Confidentiality Agreement, each employee, expert, agent or representative of the stakeholder who is to receive access to the confidential information must be identified on the List of Authorized Recipients, included as Exhibit A to the confidentiality agreement. Once the confidentiality agreement is executed, the ITO will contact the participating entity regarding the digital certificates, passwords, or key encryption required to access the transmission planning portion of the Transmission Owner’s OASIS. Nothing herein shall require or obligate the Transmission Owner or ITO to release or provide access to potential

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CEII, critical assets or critical cyber assets-related information in a manner inconsistent with applicable law, regulation, mandatory reliability standards or prudent utility practice, as determined in the discretion of the Transmission Owner or ITO, reasonably applied.

Stakeholders that have not executed a confidentiality agreement can still participate in portions of the transmission planning portion of the stakeholder meetings that do not involve confidential information and/or CEII.

3. Transparency

Under the terms of the Network Operating Agreement (“NOA”), Network Customers, including the Transmission Owner’s Load Serving Entity, are required to provide no later than October 31 of each year, Network Resource availability forecast (e.g., all planned resource outages, including off-line and on-line dates) for the following year. The primary focus for transmission planning is contracted, long-term firm usage. The Transmission Owner invites firm Point-to-Point customers to provide information regarding their usage that will exceed five years, including information such as the Point-to-Point customer’s anticipated volumes, identification of source and sink points, and whether the customer anticipates using the system on- or off-peak. This information should also be provided no later than October 31 of each year.

The Transmission Owner commences its transmission expansion planning process considering any input from the SPC and the information provided by transmission customers, as described in this Section 3. A preliminary draft of the transmission expansion plan will be prepared by the Transmission Owner, and distributed to stakeholders who have executed a confidentiality agreement fifteen days prior to the July stakeholder meeting. The Transmission Owner will take the oral comments provided by stakeholders at the July stakeholder meeting, and any other written comments provided on the draft transmission expansion plan up to 30 days after the July stakeholder meeting, into account when preparing the final draft of the transmission expansion plan. The final draft is presented to the ITO for review and approval by October 31. The final version of the transmission expansion plan, along with the comments of the ITO, will be distributed to stakeholders fifteen days prior to the November stakeholder meeting.

The timelines/dates for data exchange are included in the flowchart attached hereto as Appendix 2.

The planning criteria are available at: <http://www.oatioasis.com/LGEE/index.html> under the heading “Business Practices, Waivers, and Exemptions” and then “LG&E-KU Transmission Planning Guidelines.” See Appendix 3.

The Planning Guidelines are applied to power flow models containing all of the data collected from customers to identify overloaded elements. Potential solutions are identified, and a least cost revenue requirements analysis is then applied to select solutions to resolve these problems.

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The Transmission System Planning Guidelines are to be made available on the OASIS. These guidelines outline the basic criteria, assumptions, and data that underlie transmission planning for the Transmission System, including:

- Adherence to NERC and SERC reliability standards;
- Treatment of native load;
- Transmission contingencies and measurements;
- Thermal and voltage limits;
- Minimum operating voltage at Generators; and
- Modeling considerations.

These Transmission System Planning Guidelines have been designed to allow others to replicate the transmission modeling process. All of the underlying data and assumptions used in developing the transmission plan will be available on the OASIS. This information will be available to any stakeholder who has completed a confidentiality agreement. Additionally, the Transmission Owner uses GE's PSLF ("Positive Sequence Load Flow") software in the planning process.

Via the transmission planning portion of OASIS, semi-annual updates on the status of all transmission expansion projects, including projected completion dates, will be posted. In addition, members of the SPC will receive status reports in advance of each SPC meeting. If stakeholders have questions for the monthly meetings, they may submit such inquiries to the Manager of Transmission Strategy and Planning via the ITO.

4. Information Exchange

Under the terms of the Network Operating Agreement ("NOA"), Network Customers are required to provide no later than October 31 of each year, Network Resource availability forecast (e.g., all planned resource outages, including off-line and on-line dates) for the following year. Such forecasts are required to be made in accordance with Good Utility Practice. The Network Customer must inform the Transmission Owner, in a timely manner, of any changes to the Network Customer's Network Resource availability forecast. In addition to the information required under the NOA, for the purposes of transmission planning, Network Customers will also be required to provide, no later than October 31 of each year, their load forecasts for the next ten years (the planning horizon). Additionally, Network Customers will also be required to update these load forecasts to the extent that they change during the year.

The primary focus for the Transmission Owner's transmission planning is contracted, long-term firm usage. The Transmission Owner invites long-term firm Point-to-Point customers to provide information regarding their usage, including information such as the Point-to-Point customer's anticipated volumes, identification of source and sink points, and whether the customer anticipates using the system on- or off-peak. This information should also be provided

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no later than October 31 of each year.

Information to be used by the Transmission Owner in drafting the transmission expansion plan must be submitted no later than October 31 of each year. This information shall be provided to the Transmission Owner in PSLF Format or in a spreadsheet via e-mail or on CD-ROM via Federal Express to the Manager of Transmission Strategy Planning. Transmission customers should provide the Transmission Owner with timely written notice of material changes in any information previously provided relating to its load, its resources, or other aspects of its facilities or operations affecting the Transmission Owner's ability to provide service.

To the extent that the Transmission Owner requires additional information from Transmission Customers and/or other interested parties in support of regional transmission planning pursuant to Sections 11-32 herein, the Transmission Owner may request such additional information as described in Section 14 herein.

5. Comparability

For the purposes of transmission planning, including participation in the SPC and stakeholder meetings, all Network Customers, including the Transmission Owner's native load, and Long-Term Firm Point-to-Point Customers (*i.e.*, with a term of five years or more) will be treated comparably.

Stakeholders may propose transmission, generation and demand resources or other alternative solutions to needs identified during the transmission planning process, and proponents of all alternative solutions will be given equal opportunity to participate. Any entity proposing resources must complete a data sheet which will be posted on OASIS that will identify direct control load and interruptible demand. Advanced technologies and demand-side resources will be treated comparably, where appropriate in the transmission planning process, to transmission and generation solutions. Transmission plans developed under this Attachment K will be technology neutral, balancing costs, benefits and risks associated with the use of demand-side resources, transmission, generation or other alternative solutions to meet the needs of transmission customers and the Transmission Owner.

6. Dispute Resolution

Any dispute, claim or controversy amongst the Transmission Owner, the ITO and/or a stakeholder regarding application of, or results from, local transmission planning undertaken pursuant to Sections 1-10 herein, including any Transmission Owner activities undertaken pursuant to Section 7, Regional Coordination (each a "Dispute") shall be resolved in accordance with the procedures set forth in this Section 6. For the avoidance of doubt, any dispute between the ITO and the Transmission Owner shall be resolved pursuant to the dispute resolution provisions of the ITO Agreement.

a. Notice of Dispute. In the event of a Dispute under this Section 6, any party to the

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Dispute may provide written notice to the other parties to the Dispute, including a description of the nature of the Dispute.

b. Dispute Resolution by Representatives. The parties to the Dispute shall first refer the Dispute to their respective representatives who shall negotiate in good faith to resolve the Dispute.

c. Dispute Resolution by Executive Management Representatives. If the Dispute is not resolved within fifteen (15) days of being referred to the disputing parties' representatives pursuant to subsection b of this Section 6, then each party shall have five (5) days to appoint an executive management representative who shall negotiate in good faith to resolve the Dispute.

d. Dispute Resolution by Mediation. If the parties' executive management representatives are unable to resolve the Dispute within thirty (30) days of their appointment, the parties shall proceed in good faith to submit the matter to a mediator mutually acceptable to the disputing parties. The parties will share equally in the cost of such mediation, which will be conducted in accordance with the Commercial Mediation Rules of the American Arbitration Association.

e. Arbitration. If the parties are unable to resolve the Dispute within thirty (30) days after the appointment of a mediator pursuant to subsection d of this Section 6, then the Dispute may be filed as a complaint at FERC, or may be resolved according to the provisions for arbitration and any other remedies as outlined in this subsection e.

i. Choice of Arbitrator(s). Any arbitration initiated under subsection e shall be conducted before a single neutral arbitrator appointed by the disputing parties. If the disputing parties fail to agree upon a single arbitrator within ten (10) days of the referral of the Dispute to arbitration, each disputing party shall choose one arbitrator who shall sit on a three-member arbitration panel. The arbitrator(s) shall provide each of the disputing parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association.

ii. Arbitration Decisions. Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of appointment and shall notify the disputing parties in writing of such decision and the reasons therefore. The decision of the arbitrator(s) shall be final and binding upon the disputing parties, and judgment on the award may be entered in any court having jurisdiction; provided, to the extent the final decision of the arbitrator(s) affects jurisdictional rates, terms and conditions of service or facilities, it must also be filed with the FERC consistent with applicable law, and its effectiveness is contingent upon applicable filing and acceptance provisions of applicable law, if any. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act and/or the Administrative Dispute Resolution Act.

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- iii. Costs. Each disputing party shall be responsible for its own costs incurred during the arbitration process and for the cost of the arbitrator chosen by the disputing party to sit on the three member panel or, if applicable, one third of the cost of the single arbitrator jointly chosen by the disputing parties.
- f. Notwithstanding these Dispute Resolution procedures, any party to dispute retains its rights to file a complaint pursuant to Section 206 of the Federal Power Act.
- g. [RESERVED].
- h. Any procedural or substantive dispute that arises from the SERTP Process will be addressed by the regional Dispute Resolution Measures contained in Section 15 herein.

7. Regional Coordination

This planning principle applies only to the Transmission Owner's local transmission planning process. For the avoidance of doubt, the Transmission Owner's regional transmission planning in accordance with Order No. 1000 is conducted in accordance with the SERTP Process, Sections 11-32 herein.

The Transmission Owner is involved in the TVA sub regional planning process, or Central Public Power Partners group. The Transmission Owner also participates in the MISO-PJM-TVA planning process, as an interested neighboring utility. TVA is the Reliability Coordinator under this OATT, and is a signatory to the Congestion Management Process ("CMP," referenced herein at Attachment Q); TVA participates in the CMP on its own behalf and on behalf of the Transmission Owner. In addition to this contractual relationship, the Transmission Owner participates with affected systems such as MISO, PJM, and TVA on affected system studies when new generator interconnections so require.

The Transmission Owner participates in the NERC Working Group annual Multi-regional Modeling ("MMWG") process through SERC. This is a bottom-up process: when projects are added to the Transmission Owner's model through the stakeholder processes outlined in this Attachment K, the information gathered through that process may be included in the MMWG plan if it meets the Working Group's criteria. There is no separate timeline for evaluating under the MMWG; once a project is added to the Transmission Owner's model, it is included in the MMWG.

Additionally, the Transmission System is interconnected with the transmission systems of East Kentucky Power Cooperative, Inc. ("EKPC"), American Electric Power subsidiaries Kentucky Power Company, Appalachian Power Company, and Ohio Power Company (collectively, "AEP"), and Duke Energy Ohio and Duke Energy Indiana (collectively, "Duke Energy"). Under the terms of the wires-to-wires interconnection agreements with each of these entities, the Transmission Owner, EKPC, AEP, and Duke Energy provide input to NERC which

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develops models of the eastern interconnection.

SERC is the regional reliability organization for the Transmission Owner. The Transmission Owner supports the concept of regional and/or subregional processes evolving over time as stakeholders gain experience, and is happy to participate in the proposed inter-regional SERC process.

As an overall matter, the regional programs described herein operate on bottom-up principles: the individual transmission-owning participants work with their stakeholders to identify problems or projects, which are then presented to the regional group as appropriate. The project or problem is then studied and/or acted upon pursuant to the regional group's standards committee using objective criteria. If a project moves forward at the regional level, costs are allocated pursuant to the regional group's cost allocation methodology (if any).

As part of the Transmission Owner's on-going transmission planning efforts, the Transmission Owner will assess whether alternative transmission solutions may be required in addition to, or in place of, a potential regional transmission project selected in the SERTP regional plan for regional cost allocation purposes due to the delay in its development or abandonment of the regional project. In this regard, the transmission developer shall promptly notify the Transmission Owner should any material changes or delays be encountered in the development of the potential transmission project. If, due to such delay or abandonment, the Transmission Owner determines that a project selected in the SERTP regional plan for regional cost allocation purposes no longer adequately addresses underlying transmission needs and/or no longer remains more efficient and cost effective, then the Transmission Owner may proceed with reevaluating its local transmission plan to seek appropriate solution(s). If the regional project is removed from being selected in the SERTP regional plan for regional cost allocation purposes due to delay or abandonment by the transmission developer, then the transmission developer shall be responsible for any increased costs as provided for in Section 30 herein.

8. Local Economic Planning and Local Consideration of Public Policy Requirements

A. Economic Expansion Planning and Public Policy Requirements Subcommittee

Members of the SPC will form the Economic Expansion Planning and Public Policy Requirements Subcommittee ("EP") subcommittee. The EP subcommittee will be made up of members from the SPC. The EP will be responsible for developing a process for considering local economic projects, and will provide input to the Transmission Owner's identification and evaluation of transmission needs driven by Public Policy Requirements.

In August, each Transmission or Network Customer, or other member of the SPC, may nominate one person to the EP Subcommittee. The EP Subcommittee will establish its own rules of procedure.

B. Local Economic Planning Studies

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Local economic planning studies will be open to participation by all Transmission and Network Customers and interested parties. Local economic planning studies may be used to evaluate network additions or upgrades that are not required to maintain NERC or SERC standards of reliability on the Transmission System, or to accommodate a request for transmission service, but that may alleviate significant and/or recurring congestion on some portion of the Transmission System. Local economic planning studies may also be used to evaluate network additions or upgrades necessary to integrate any new resource or load on the local Transmission System.

In July, the ITO will open a queue on the OASIS for the submission of requests for local economic planning studies. Requests for local economic planning studies may be submitted by Transmission Customers, Network Customers, Eligible Customers, Interconnection Customers, or other stakeholders. The queue will remain open for sixty (60) days. The EP Subcommittee will evaluate and prioritize the requests for local economic studies, including clustering any study requests. The EP Subcommittee shall present its recommendations to the SPC at the November stakeholder meeting. The top five (5) requests approved by the SPC shall be performed by the Transmission Owner by the next July stakeholder meeting each year, so that the results may be reviewed in conjunction with the transmission expansion planning process. The results will also be posted on OASIS.

As discussed below, the costs for the top five (5) requests identified by the SPC shall be included in the Transmission Owner's transmission rates. If a customer's request was not identified in the top five (5), then the customer may request that the Transmission Owner complete the study and assess the customer directly for the costs of the study.

The Transmission Owner shall perform the local economic planning studies to the extent it has the data necessary to perform such a study. The Transmission Owner may solicit the requesting customer(s), or the Transmission Owner's Load Serving Entity for additional information and data necessary to perform the requested economic planning study. Such information and data will be subject to confidentiality provisions, and/or Standards of Conduct, as appropriate.

The performance of a local economic planning study is for evaluation purposes only. The Transmission Owner is under no obligation to build any network additions or upgrades identified by the economic planning studies.

The costs for the top five (5) yearly local economic planning studies performed solely for the Transmission Owner's system shall be included in the Transmission Owner's transmission rates via a line-item added to the Transmission Owner's formula rate to collect these expense items. If a customer's request was not identified in the top five (5), then the customer may request that the Transmission Owner complete the study and assess the customer directly for the costs of the study.

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Economic Study requests that are regional in nature will be referred to the regional economic study process outlined in Section 17.

C. Local Consideration of Public Policy Requirements

1. Procedures for the Consideration of Local Transmission Needs Driven by Public Policy Requirements: The Transmission Owner addresses transmission needs driven by enacted state, federal and local laws and/or regulations (“Public Policy Requirements”) in its routine planning, design, construction, operation, and maintenance of the Transmission System. The Transmission Owner addresses transmission needs driven by the Public Policy Requirements of load serving entities and wholesale transmission customers through the planning for and expansion of physical transmission system delivery capacity to provide long-term firm transmission services to meet i) native load obligations and ii) wholesale Transmission Customer obligations under the Tariff.
2. The Consideration of Local Transmission Needs Driven by Public Policy Requirements Identified Through Stakeholder Input and Proposals
 - a. Required Information: In July, the ITO will open a queue on OASIS for Stakeholders to submit requests for consideration of possible transmission needs driven by Public Policy Requirements. The submitting Stakeholder must provide the following information in accordance with the directions provided on OASIS:
 - i. The applicable Public Policy Requirement, which must be a requirement established by an enacted state, federal, or local law(s) and/or regulation(s); and
 - ii. An explanation of the possible transmission need driven by the Public Policy Requirement identified in subsection 8.C.2.a.i. (*e.g.*, the situation or system condition for which possible solutions may be needed, as opposed to a specific transmission project).
 - b. Deadline for Providing Such Information: Stakeholders that propose a possible transmission need driven by a Public Policy Requirement for evaluation by the Transmission Owner in the current transmission planning cycle must provide the requisite information identified above via OASIS within 60 calendar days after the queue has opened.
3. Evaluation of Possible Local Transmission Needs Driven by Public Policy Requirements
 - a. Identification of Public Policy-Driven Local Transmission Needs: In order to identify, out of the set of possible transmission needs driven by Public Policy Requirements proposed by Stakeholders, those transmission needs for which transmission solutions will be evaluated in the current planning cycle, the

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Transmission Owner, in consultation with the EP Subcommittee, will assess:

- i. Whether the Stakeholder-identified Public Policy Requirement is an enacted local, state, or federal law(s) and/or regulation(s);
 - ii. Whether the Stakeholder-identified Public Policy Requirement drives a Transmission Need(s); and
 - iii. If the answers to the foregoing questions i) and ii) are affirmative, whether the potential transmission need(s) driven by the Public Policy Requirement is already addressed or otherwise being evaluated in the then-current planning cycle.
 - b. Identification and Evaluation of Possible Local Transmission Solutions for Public Policy-Driven Local Transmission Needs that Have Not Already Been Addressed: If a Public Policy-driven transmission need is identified that is not already addressed, or that is not already being evaluated in the transmission expansion planning process, the Transmission Owner will identify a transmission solution(s) to address the aforementioned need. The Transmission Owner shall study the potential solution to the extent it has the data necessary to perform such a study. The Transmission Owner may solicit the Stakeholder(s) (if any) that identified the specific transmission need driven by Public Policy Requirements, or the Transmission Owner's Load Serving Entity, for additional information and data necessary to evaluate the proposed transmission solution. Such information and data will be subject to confidentiality provisions, and/or Standards of Conduct, as appropriate.
4. Stakeholder Input During the Evaluation of Public Policy-Driven Transmission Needs and Possible Transmission Solutions:
 - a. Not later than the second quarter SPC meeting for the given transmission planning cycle, the Transmission Owner will review the Stakeholder-proposed transmission needs driven by Public Policy Requirements to be evaluated in the then-current planning cycle. In performing the assessment described in Section 8.C.3.a, above, The Transmission Owner shall consult with the EP Subcommittee via conference call or web-based meeting, as appropriate. Information about such conference call or web-based meeting shall be communicated to the members of the EP Subcommittee via e-mail, and will also be posted on OASIS.
 - b. Prior to the meeting at which transmission needs driven by Public Policy Requirements will be reviewed, the ITO will post on OASIS which possible transmission needs driven by Public Policy Requirements proposed by Stakeholders (if any) are transmission needs(s) that are not already addressed in the planning process and will, pursuant to Section 8.c.3, be evaluated in the current planning cycle.

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- c. Stakeholders, including those who are not Transmission Customers, may provide input regarding Stakeholder-proposed possible transmission need(s) and may provide input during the evaluation of potential transmission solutions to identified transmission needs consistent with Section 13.
 - d. Stakeholder input regarding possible transmission needs driven by Public Policy Requirements may be directed to the governing Tariff process as appropriate. For example, if the possible transmission need identified by the Stakeholder is essentially a request by a network customer to integrate a new network resource, the request would be directed to that existing Tariff process.
5. The Transmission Owner will provide and the ITO will post on OASIS an explanation of (1) those transmission needs driven by Public Policy Requirements that have been identified for evaluation for potential transmission projects in the then-current planning cycle; and (2) why other suggested, possible transmission needs driven by Public Policy Requirements proposed by Stakeholders were not selected for further evaluation.

9. Cost Allocation

The Transmission Owner has included the following cost allocation criteria for economic upgrades or additions for purposes of its Order 890 filing; for the avoidance of doubt, this planning principle only applies to the Transmission Owner's local transmission planning process.

Once formed, the SPC will examine the criteria to form a recommendation to the Transmission Owner on whether revised criteria should be developed (including any criteria regarding protection against "free riders"), with input from all stakeholders and interested parties including the Kentucky Public Service Commission.

The following cost allocation criteria do not apply to network upgrades or additions necessary to maintain Transmission System reliability pursuant to NERC or SERC standards, nor do they apply to network upgrades or additions identified in conjunction with a transmission service request. No upgrades described in this Section 9 will be built unless the Transmission Owner has a guarantee from the customers requesting such upgrade that they will pay for the upgrade and that the Transmission Owner will not be responsible for any of the costs of the upgrade.

- A. Local Economic Upgrades or Additions. If a network upgrade or addition is identified in a local economic planning study requested by a single customer, and if such addition or upgrade is then approved for construction, then the customer requesting the upgrade shall agree to pay for the costs of the upgrade. If the customer(s) fail to agree to pay the costs identified, then the request will be deemed withdrawn.
- B. Projects with Multiple Transmission Customers. For a network upgrade or addition that is requested by more than one Transmission or Network

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Customer, the customers requesting the upgrade shall agree as to how the costs of the upgrade shall be allocated among the customer(s) identified in the local economic planning study. If the customer(s) fail to reach an agreement, the ITO shall allocate the costs of the upgrade on an equal, per capita basis to all customers requesting the upgrade.

10. Recovery of Planning Costs

The LG&E/KU OATT does not separately track planning-related costs; rather, the costs of all such reliability planning is included in the rates for jurisdictional transmission services. To the extent that the Transmission Owner is required to provide local economic planning, and to the extent that the Transmission Owner is permitted to recover costs for such local economic planning, for studies in excess of the five annual studies identified by the EP, the Transmission Owner proposes to book such expenses in a separate transmission operating subaccount and charge these costs to all entities that sign an economic expansion study agreement. A copy of the local economic planning study agreement, for those stakeholders who commission economic planning studies outside of the five identified by the EP, is attached hereto as Appendix 5.

The Transmission Owner agrees to work with stakeholders and state agencies to determine if any other entities are in need of cost recovery for planning related activities and, if so, how those costs will be recovered.

The Transmission Owner's costs associated with planning activities for the SERTP Process (Sections 11 - 32) will be rolled into jurisdictional transmission rates.

Regional Transmission Planning Process

The Transmission Owner participates in SERTP described herein and on the Regional Planning Website, a link to which is found on the Transmission Owner's OASIS. The Transmission Owner and the other transmission owners and transmission providers that participate in this Southeastern Regional Transmission Planning Process are identified on the Regional Planning Website ("Sponsors").¹

The Transmission Owner participates in the SERTP through which transmission facilities and non-transmission alternatives may be proposed and evaluated. This regional transmission planning process develops a regional transmission plan that identifies the transmission facilities necessary to meet the needs of transmission providers and transmission customers in the transmission planning region for purposes of Order No. 1000. This regional transmission planning process is consistent with the provision of Commission-jurisdictional services at rates, terms and conditions that are just and reasonable and not unduly discriminatory or preferential, as described in Order No. 1000.

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¹ The Transmission Owner's participation in the SERTP is for purposes of regional planning only, since the Transmission Owner's local planning is conducted in accordance with its local planning process as described in Sections 1 through 10 of this Attachment K. Further, while this Attachment K discusses the Transmission Owner largely effectuating the activities of the SERTP Process that are discussed herein, the Transmission Owner expects that the other Sponsors will also sponsor those activities. For example, while this Attachment K discusses the Transmission Owner hosting the Annual Transmission Planning Meetings, the Transmission Owner expects that it will be co-hosting such meetings with the other Sponsors. Accordingly, many of the duties described herein as being performed by the Transmission Owner may be performed in conjunction with one or more other Sponsors or may be performed entirely by, or be applicable only to, one or more other Sponsors. To the extent that this Attachment K makes statements that might be construed to imply establishing duties or obligations upon other Sponsors, no such duty or obligation is intended. Rather, such statements are intended to only mean that it is the Transmission Owner's expectation that other Sponsors will engage in such activities. Accordingly, this Attachment K only establishes the duties and obligations of the Transmission Owner and the means by which Stakeholders may interact with the Transmission Owner with respect to regional planning, through the SERTP Process described herein.

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This regional transmission planning process satisfies the following seven principles, as set out and explained in Order Nos. 890 and 1000: coordination, openness, transparency, information exchange, comparability,² dispute resolution, and economic planning studies. This regional transmission planning process includes at Section 20 the procedures and mechanisms for considering transmission needs driven by Public Policy Requirements, consistent with Order No. 1000. Transmission needs consist of physical transmission system delivery capacity requirements necessary to reliably and economically satisfy the load projections; resource assumptions including on-system and off-system supplies for current and future native load and network customer needs, public policy requirements, and transmission service commitments within the region.³ This regional transmission planning process provides at Section 19 a mechanism for the recovery and allocation of planning costs consistent with Order No. 890. This regional transmission planning process includes at Section 23 a clear enrollment process for public and non-public utility transmission providers that make the choice to become part of a transmission planning region for purposes of cost allocation. This regional transmission planning process subjects enrollees to cost allocation if they are found to be Beneficiaries of new transmission facilities selected in the regional transmission plan for purposes of cost allocation⁴ Appendix 11 contains a list of Enrollees as of the effective date of such tariff record. The relevant cost allocation method or methods that satisfy the six regional cost allocation principles set forth in Order No. 1000 are described in Sections 27-28 of this Attachment K. Nothing in this regional transmission planning process includes an unduly discriminatory or preferential process for transmission project submission and selection.

As provided below, with respect to regional planning, the SERTP includes sufficient detail to enable Transmission Customers to understand:

- (i) The process for enrollment and terminating enrollment in the SERTP, which is set forth in Section 23 of this Attachment K;
- (ii) The process for consulting with customers regarding regional transmission planning, which is set forth in Section 11 of this Attachment K;

² The Transmission Owner is committed to providing comparable and non-discriminatory transmission service. As such, comparability is not separately addressed in a stand-alone section of this Attachment K but instead permeates the SERTP process described in this Attachment K.

³ As provided herein, Transmission Customers can provide input regarding updates to these needs assumptions consistent with the Information Exchange provisions of Sections 4 and 14. Additionally, Stakeholder input is considered in the determination of transmission needs through input regarding the transmission planning modeling assumptions consistent with the Coordination provisions of Sections 1 and 11 and specifically related to transmission needs driven by public policy requirements consistent with Sections 8.C. and 20.2. Stakeholders can also provide input on Economic Planning Studies pursuant to Sections 8.B. and 17.

⁴ Enrollees that are identified pursuant to Section 27 to potentially receive cost savings (associated with the regional cost allocation components in Section 28) due to the transmission developer's proposed transmission project for possible selection in a regional transmission plan for regional cost allocation purposes ("RCAP") shall be referred to as "Beneficiaries."

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- (iii) The notice procedures and anticipated frequency of regional planning meetings, which is set forth in Sections 11 and 12 of this Attachment K;(iv) The Transmission Owner's regional transmission planning methodology, criteria, and processes, which are set forth in Section 13 of this Attachment K;
- (v) The method of disclosure of regional transmission planning criteria, assumptions and underlying data, which is set forth in Sections 12 and 13 of this Attachment K;
- (vi) The obligations of and methods for transmission customers to submit data if necessary to support the regional transmission planning process, which are set forth in Section 14 of this Attachment K;
- (vii) The process for submission of data by nonincumbent developers of transmission projects that wish to participate in the regional transmission planning process and seek regional cost allocation for purposes of Order No. 1000, which is set forth in Sections 24-32 of this Attachment K;
- (viii) The process for submission of data by merchant transmission developers that wish to participate in the regional transmission planning process, which is set forth in Section 22 of this Attachment K;
- (ix) The regional dispute resolution process, which is set forth in Section 15 of this Attachment K;
- (x) The study procedures for regional economic upgrades to address congestion or the integration of new resources, which is set forth in Section 17 of this Attachment K;
- (xi) The procedures and mechanisms for considering regional transmission needs driven by Public Policy Requirements, consistent with Order No. 1000, which are set forth in Section 20 of this Attachment K;
- (xii) The relevant regional cost allocation method or methods satisfying the six regional cost allocation principles set forth in Order No. 1000, which is set forth at Section 27-28; and
- (xiii) Interregional coordination with those transmission planning regions that neighbor the SERTP is addressed in Appendices 6-10 to this Attachment K.
 - Appendix 6 - Interregional transmission coordination between the SERTP and the FRCC regions;
 - Appendix 7 - Interregional transmission coordination between the SERTP and MISO regions;
 - Appendix 8 - Interregional transmission coordination between the SERTP

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- and PJM regions;
- Appendix 9 - Interregional transmission coordination between the SERTP and SCRTP regions; and
- Appendix 10 - Interregional transmission coordination between the SERTP and SPP regions.

11. Coordination

11.1 General: The Southeastern Regional Transmission Planning Process is designed to eliminate the potential for undue discrimination in planning by establishing appropriate lines of communication between the Transmission Owner, its transmission-providing neighbors, affected state authorities, Transmission Customers, and other Stakeholders regarding transmission planning issues.

11.2 Meeting Structure: Each calendar year, the Southeastern Regional Transmission Planning Process will generally conduct and facilitate four (4) meetings (“Annual Transmission Planning Meetings”) that are open to all Stakeholders. However, the number of Annual Transmission Planning Meetings, or duration of any particular meeting, may be adjusted by announcement upon the Regional Planning Website, provided that any decision to reduce the number of Annual Transmission Planning Meetings must first be approved by the Sponsors and by the Regional Planning Stakeholders’ Group (“RPSG”). These meetings can be done in person, through phone conferences, or through other telecommunications or technical means that may be available. The details regarding any such meeting will be posted on the Regional Planning Website, with a projected meeting schedule for a calendar year being posted on the Regional Planning Website on or before December 31st of the prior calendar year, with firm dates for all Annual Transmission Planning Meetings being posted at least 60 calendar days prior to a particular meeting. The general structure and purpose of these four (4) meetings will be as follows:

11.2.1 First RPSG Meeting and Interactive Training Session: At this meeting, which will be held in the first quarter of each calendar year, the RPSG will be formed for purposes of that year. In addition, the Transmission Owner will meet with the RPSG and any other interested Stakeholders for the purposes of allowing the RPSG to select up to five (5) Stakeholder requested Economic Planning Studies⁵ that they would like to have studied by the Transmission Owner and the Sponsors. At this meeting, the Transmission Owner will work with the RPSG to assist the RPSG in formulating these Economic Planning Study requests.

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⁵ As indicated *infra* at footnote 1, the Economic Planning Studies discussed in the regional planning portion of this Attachment K (Sections 11-32) refer to the regional Economic Planning Studies conducted through the SERTP process.

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The Transmission Owner will also conduct an interactive training session regarding its transmission planning for all interested Stakeholders. This session will explain and discuss the underlying methodology and criteria that will be utilized to develop the transmission expansion plan⁶ before that methodology and criteria are finalized for purposes of the development of that year's transmission expansion plan (*i.e.*, the expansion plan that is intended to be implemented the following calendar year).⁷ Stakeholders may submit comments to the Transmission Owner regarding the Transmission Owner's criteria and methodology during the discussion at the meeting or within ten (10) business days after the meeting, and the Transmission Owner will consider such comments. Depending upon the major transmission planning issues presented at that time, the Transmission Owner will provide various technical experts that will lead the discussion of pertinent transmission planning topics, respond to Stakeholder questions, and provide technical guidance regarding transmission planning matters.

It is foreseeable that it may prove appropriate to shorten the training sessions as Stakeholders become increasingly knowledgeable regarding the Transmission Owner's transmission planning process and no longer need detailed training in this regard.

The Transmission Owner will also address transmission planning issues that the Stakeholders may raise.

11.2.2 Preliminary Expansion Plan Meeting: During the second quarter of each calendar year, the Transmission Owner will meet with all interested Stakeholders to explain and discuss: the Transmission Owner's preliminary transmission expansion plan, which is also input into that year's SERC (or other applicable NERC region's) regional model; internal model updating and any other then-current coordination study activities with the transmission providers in the Florida Reliability Coordinating Council ("FRCC"); and any *ad hoc* coordination study

⁶ The expectation is that in any given planning cycle the Transmission Owner's ten year transmission expansion plan, along with those of other Sponsors, will be included in the regional transmission plan. Processes relevant to local transmission planning are set forth in Sections 1-10 and govern all local transmission plans. Moreover, the iterative nature of transmission planning bears emphasis, with underlying assumptions, needs, and data inputs continually changing to reflect market decisions, load service requirements, and other developments. A transmission plan, thus, only represents the status of transmission planning when the plan was prepared.

⁷ A regional transmission expansion plan completed during one calendar year (and presented to Stakeholders at that calendar year's Annual Transmission Planning Summit) is intended to be the starting point plan for the

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following calendar year. For example, the regional transmission expansion plan developed during 2014 and presented at the 2014 Annual Transmission Planning Summit is for the 2015 calendar year.

activities that might be occurring. These preliminary transmission expansion plan, internal model updating, and coordination study activities will be described to the Stakeholders, with this meeting providing them an opportunity to supply their input and feedback, including the transmission plan/enhancement alternatives that the Stakeholders would like the Transmission Owner and the Sponsors to consider. The Transmission Owner will also provide an update as to the status of its regional planning analyses performed pursuant to Section 21. In addition, the Transmission Owner will address transmission planning issues that the Stakeholders may raise and otherwise discuss with Stakeholders developments at the SERC (or other applicable NERC region's) reliability assessment process.

11.2.3 Second RPSG Meeting: During the third quarter of each calendar year, the Transmission Owner will meet with the RPSG and any other interested Stakeholders to report the preliminary results for the Economic Planning Studies requested by the RPSG at the First RPSG Meeting and Interactive Training Session. This meeting will give the RPSG an opportunity to provide input and feedback regarding those preliminary results, including alternatives for possible transmission solutions that have been identified. At this meeting, the Transmission Owner shall provide feedback to the Stakeholders regarding transmission expansion plan alternatives that the Stakeholders may have provided at the Preliminary Expansion Plan Meeting, or within a designated time following that meeting. The Transmission Owner will also discuss with the Stakeholders the results of the SERC (or other applicable NERC region's) regional model development for that year (with the Transmission Owner's input into that model being its ten (10) year transmission expansion plan); any on-going coordination study activities with the FRCC transmission providers; and any *ad hoc* coordination study activities. In addition, the Transmission Owner will address transmission planning issues that the Stakeholders may raise.

11.2.4 Annual Transmission Planning Summit and Assumptions Input Meeting: During the fourth quarter of each calendar year, the Transmission Owner will host the annual Transmission Planning Summit and Assumptions Input Meeting.

11.2.4.1 Annual Transmission Planning Summit: At the Annual Transmission Planning Summit aspect of the Annual Transmission Planning Summit and Assumptions Input Meeting, the Transmission Owner will present the final results for the Economic Planning Studies. The Transmission Owner

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will also provide an overview of the ten (10) year transmission expansion plan, which reflects the results of planning analyses performed in the then-current planning cycle, including analyses performed pursuant to Section 21. The Transmission Owner will also provide an overview of the regional transmission plan for Order No. 1000 purposes, which should include the ten (10) year transmission expansion plan of the Transmission Owner. In addition, the Transmission Owner will address transmission planning issues that the Stakeholders may raise.

11.2.4.2 Assumptions Input Session: The Assumptions Input Session aspect of the Annual Transmission Planning Summit and Assumptions Input Meeting will take place following the annual Transmission Planning Summit and will provide an open forum for discussion with, and input from, the Stakeholders regarding: the data gathering and transmission model assumptions that will be used for the development of the Transmission Owner's following year's ten (10) year transmission expansion plan, which includes the Transmission Owner's input, to the extent applicable, into that year's SERC regional model development; internal model updating and any other then-current coordination study activities with the transmission providers in the Florida Reliability Coordinating Council ("FRCC"); and any *ad hoc* coordination study activities that might be occurring. This meeting may also serve to address miscellaneous transmission planning issues, such as reviewing the previous year's regional planning process, and to address specific transmission planning issues that may be raised by Stakeholders.

11.3 Committee Structure - the RPSG: To facilitate focused interactions and dialogue between the Transmission Owner and the Stakeholders regarding transmission planning, and to facilitate the development of the Economic Planning Studies, the RPSG was formed in March 2007. The RPSG has two primary purposes. First, the RPSG is charged with determining and proposing up to five (5) Economic Planning Studies on an annual basis and should consider clustering similar Economic Planning Study requests. Second, the RPSG serves as the representative in interactions with the Transmission Owner and Sponsors for the eight (8) industry sectors identified below.

11.3.1 RPSG Sector Representation: The Stakeholders are organized into the following eight (8) sectors for voting purposes within the RPSG:

- (1) Transmission Owners/Operators⁸
- (2) Transmission Service Customers

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(3) Cooperative Utilities

⁸ The Sponsors will not have a vote within the Transmission Owners/Operators sector, although they (or their affiliates, subsidiaries or parent company) shall have the right to participate in other sectors.

- (4) Municipal Utilities
- (5) Power Marketers
- (6) Generation Owners/Developers
- (7) ISO/RTOs
- (8) Demand Side Management/Demand Side Response

11.3.2 Sector Representation Requirements: Representation within each sector is limited to two members, with the total membership within the RPSG being capped at 16 members (“Sector Members”). The Sector Members, each of whom must be a Stakeholder, are elected by Stakeholders, as discussed below. A single company, and all of its affiliates, subsidiaries, and parent company, is limited to participating in a single sector.

11.3.3 Annual Reformulation: The RPSG will be reformed annually at each First RPSG Meeting and Interactive Training Session discussed in Section 11.2.1. Specifically, the Sector Members will be elected for a term of approximately one year that will terminate upon the convening of the following year’s First RPSG Meeting and Interactive Training Session. Sector Members shall be elected by the Stakeholders physically present at the First RPSG Meeting and Interactive Training Session (voting by sector for the respective Sector Members). If elected, Sector Members may serve consecutive, one-year terms, and there is no limit on the number of terms that a Sector Member may serve.

11.3.4 Simple Majority Voting: RPSG decision-making that will be recognized by the Transmission Owner for purposes of this Attachment K shall be those authorized by a simple majority vote by the then-current Sector Members, with voting by proxy being permitted for a Sector Member that is unable to attend a particular meeting. The Transmission Owner will notify the RPSG of the matters upon which an RPSG vote is required and will use reasonable efforts to identify upon the Regional Planning Website the matters for which an RPSG decision by simple majority vote is required prior to the vote, recognizing that developments might occur at a particular Annual Transmission Planning Meeting for

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which an RPSG vote is required but that could not be reasonably foreseen in advance. If the RPSG is unable to achieve a majority vote, or should the RPSG miss any of the deadlines prescribed herein or clearly identified on the Regional Planning Website and/or at a particular meeting to take any action, then the Transmission Owner will be relieved of any obligation that is associated with such RPSG action.

11.3.5 RPSG Guidelines/Protocols: The RPSG is a self-governing entity subject to the following requirements that may not be altered absent an appropriate filing with the Commission to amend this aspect of the Tariff: (i) the RPSG shall consist of the above-specified eight (8) sectors; (ii) each company, its affiliates, subsidiaries, and parent company, may only participate in a single sector; (iii) the RPSG shall be reformed annually, with the Sector Members serving terms of a single year; and (iv) RPSG decision-making shall be by a simple majority vote (*i.e.*, more than 50%) by the Sector Members, with voting by written proxy being recognized for a Sector Member unable to attend a particular meeting. There are no formal incorporating documents for the RPSG, nor are there formal agreements between the RPSG and the Transmission Owner. As a self-governing entity, to the extent that the RPSG desires to adopt other internal rules and/or protocols, or establish subcommittees or other structures, it may do so provided that any such rule, protocol, etc., does not conflict with or otherwise impede the foregoing requirements or other aspects of the Tariff. Any such additional action by the RPSG shall not impose additional burdens upon the Transmission Owner unless it agrees in advance to such in writing, and the costs of any such action shall not be borne or otherwise imposed upon the Transmission Owner unless the Transmission Owner agrees in advance to such in writing.

11.4 The Role of the Transmission Owner in Coordinating the Activities of the Southeastern Regional Transmission Planning Process Meetings and of the Functions of the RPSG: The Transmission Owner will host and conduct the above-described Annual Transmission Planning Meetings with Stakeholders.⁹

11.5 Procedures Used to Notice Meetings and Other Planning-Related Communications: Meetings notices, data, stakeholder questions, reports, announcements, registration for inclusion in distribution lists, means for being certified to receive CEII, and other transmission planning-related information will be posted on the Regional Planning Website. Stakeholders will also be provided notice regarding the annual meetings by e-mail messages (if they have appropriately registered on the Regional Planning Website to be so notified). Accordingly, interested Stakeholders may register on the Regional Planning

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Website to be included in e-mail distribution lists (“Registered Stakeholder”). For purposes of clarification, a Stakeholder does not have to have received certification to access CEII in order to be a Registered Stakeholder.

⁹ As previously discussed, the Transmission Owner expects that the other Sponsors will also be hosts and sponsors of these activities.

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- 11.6 Procedures to Obtain CEII Information:** For access to information considered to be CEII, there will be a password protected area that contains such CEII information. Any Stakeholder may seek certification to have access to this CEII data area.
- 11.7 The Regional Planning Website:** The Regional Planning Website will contain information regarding the Southeastern Regional Transmission Planning Process, including:
- Notice procedures and e-mail addresses for contacting the Sponsors and for questions;
 - A calendar of meetings and other significant events, such as release of draft reports, final reports, data, etc.;
 - A registration page that allows Stakeholders to register to be placed upon an e-mail distribution list to receive meetings notices and other announcements electronically; and
 - The form in which meetings will occur (*i.e.*, in person, teleconference, webinar, *etc.*).

12. Openness

- 12.1 General:** The Annual Transmission Planning Meetings, whether consisting of in-person meetings, conference calls, or other communicative mediums, will be open to all Stakeholders. The Regional Planning Website will provide announcements of upcoming events, with Stakeholders being notified regarding the Annual Transmission Planning Meetings by such postings. In addition, Registered Stakeholders will also be notified by e-mail messages. Should any of the Annual Transmission Planning Meetings become too large or otherwise become unmanageable for the intended purpose(s), smaller breakout meetings may be utilized.
- 12.2 Links to OASIS:** In addition to open meetings, the publicly available information, CEII-secured information (the latter of which is available to any Stakeholder certified to receive CEII), and certain confidential non-CEII information (as set forth below) shall be made available on the Regional Planning Website, a link to which is found on the Transmission Owner's OASIS website, so as to further facilitate the availability of this transmission planning information on an open and comparable basis.
- 12.3 CEII Information**

12.3.1 Criteria and Description of CEII: The Commission has defined CEII as

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being specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure (physical or virtual) that:

1. Relates details about the production, generation, transmission, or distribution of energy;
2. Could be useful to a person planning an attack on critical infrastructure;
3. Is exempt from mandatory disclosure under the Freedom of Information Act; and
4. Does not simply give the general location of the critical infrastructure.

12.3.2 Secured Access to CEII Data: The Regional Planning Website will have a secured area containing the CEII data involved in the Southeastern Regional Transmission Planning Process that will be password accessible to Stakeholders that have been certified to be eligible to receive CEII data. For CEII data involved in the Southeastern Regional Transmission Planning Process that did not originate with the Transmission Owner, the duty is incumbent upon the entity that submitted the CEII data to have clearly marked it as CEII.

12.3.3 CEII Certification: In order for a Stakeholder to be certified and be eligible for access to the CEII data involved in the Southeastern Regional Transmission Planning Process, the Stakeholder must follow the CEII certification procedures posted on the Regional Planning Website (*e.g.*, authorize background checks and execute the SERTP CEII Confidentiality Agreement posted on the Regional Planning Website). The Transmission Owner reserves the discretionary right to waive the certification process, in whole or in part, for anyone that the Transmission Owner deems appropriate to receive CEII information. The Transmission Owner also reserves the discretionary right to reject a request for CEII; upon such rejection, the requestor may pursue the dispute resolution procedures of Section 15.

12.3.4 Discussions of CEII Data at the Annual Transmission Planning Meetings: While the Annual Transmission Planning Meetings are open to all Stakeholders, if CEII information is to be discussed during a portion of such a meeting, those discussions will be limited to being only with those Stakeholders who have been certified eligible to have access to CEII information, with the Transmission Owner reserving the discretionary right at such meeting to certify a Stakeholder as being eligible if the Transmission Owner deems it appropriate to do so.

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12.4 Other Sponsor - and Stakeholder - Submitted Confidential Information: The other Sponsors and Stakeholders that provide information to the Transmission Owner that foreseeably could implicate transmission planning should expect that such information will be made publicly available on the Regional Planning Website or may otherwise be provided to Stakeholders in accordance with the terms of this Attachment K. Should another Sponsor or Stakeholder consider any such information to be CEII, it shall clearly mark that information as CEII and bring that classification to the Transmission Owner's attention at, or prior to, submittal. Should another Sponsor or Stakeholder consider any information to be submitted to the Transmission Owner to otherwise be confidential (*e.g.*, competitively sensitive), it shall clearly mark that information as such and notify the Transmission Owner in writing at, or prior to, submittal, recognizing that any such designation shall not result in any material delay in the development of the transmission expansion plan or any other transmission plan that the Transmission Owner (in whole or in part) is required to produce.

12.5 Procedures to Obtain Confidential Non-CEII Information

12.5.1 The Transmission Owner shall make all reasonable efforts to preserve the confidentiality of information in accordance with the provisions of the Tariff, the requirements of (and/or agreements with) NERC, the requirements of (and/or agreements with) SERC or other applicable NERC region, the provisions of any agreements with the other Sponsors, and/or in accordance with any other contractual or legal confidentiality requirements.

12.5.2 [RESERVED]

12.5.3 [RESERVED]

12.5.4 Without limiting the applicability of Section 12.5.1, to the extent competitively sensitive and/or otherwise confidential information (other than information that is confidential solely due to its being CEII) is provided in the transmission planning process and is needed to participate in the transmission planning process and to replicate transmission planning studies, it will be made available to those Stakeholders who have executed the SERTP Non-CEII Confidentiality Agreement (which agreement is posted on the Regional Planning Website). Importantly, if information should prove to contain both competitively sensitive/otherwise confidential information and CEII, then the requirements of both Section 12.3 and Section 12.5 would apply.

12.5.5 Other transmission planning information shall be posted on the Regional Planning Website and may be password protected, as appropriate.

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13. Transparency

13.1 General: Through the Annual Transmission Planning Meetings and postings made on the Regional Planning Website, the Transmission Owner will disclose to its Transmission Customers and other Stakeholders the basic criteria, assumptions, and data that underlie its transmission expansion plan, as well as information regarding the status of upgrades identified in the transmission plan. The process for notifying stakeholders of changes or updates in the data bases used for transmission planning shall be through the Annual Transmission Planning Meetings and/or by postings on the Regional Planning Website.

13.2 The Availability of the Basic Methodology, Criteria, and Process the Transmission Owner Uses to Develop its Transmission Plan: In an effort to enable Stakeholders to replicate the results of the Transmission Owner's transmission planning studies, and thereby reduce the incidences of after-the-fact disputes regarding whether transmission planning has been conducted in an unduly discriminatory fashion, the Transmission Owner will provide the following information, or links thereto, on the Regional Planning Website:

- (1) The Electric Reliability Organization and Regional Entity reliability standards that the Transmission Owner utilizes, and complies with, in performing transmission planning.
- (2) The Transmission Owner's internal policies, criteria, and guidelines that it utilizes in performing transmission planning.
- (3) Software titles and version numbers that may be used to access and perform transmission analyses on the then-current posted data bases.

Any additional information necessary to replicate the results of the Transmission Owner's planning studies will be provided in accordance with, and subject to, the CEII and confidentiality provisions specified in this Attachment K and Appendix 4.

13.3 Additional Transmission Planning-Related Information: In an effort to facilitate the Stakeholders' understanding of the Transmission System, the Transmission Owner will also post additional transmission planning-related information that it deems appropriate on the Regional Planning Website.

13.4 Additional Transmission Planning Business Practice Information: In an effort to facilitate the Stakeholders' understanding of the Business Practices related to Transmission Planning, the Transmission Owner will also post the following information on the Regional Planning Website:

- (1) Means for contacting the Transmission Owner.

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- (2) Procedures for submittal of questions regarding transmission planning to the Transmission Owner (in general, questions of a non-immediate nature will be collected and addressed through the Annual Transmission Planning Meeting process).
- (3) Instructions for how Stakeholders may obtain transmission base cases and other underlying data used for transmission planning.
- (4) Means for Transmission Customers having Service Agreements for Network Integration Transmission Service to provide load and resource assumptions to the Transmission Owner; provided that if there are specific means defined in a Transmission Customer's Service Agreement for Network Integration Transmission Service ("NITSA") or its corresponding NOA, then the NITSA or NOA shall control.
- (5) Means for Transmission Customers having Long-Term Service Agreements for Point-To-Point Transmission Service to provide to the Transmission Owner projections of their need for service over the planning horizon (including any potential rollover periods, if applicable), including transmission capacity, duration, receipt and delivery points, likely redirects, and resource assumptions; provided that if there are specific means defined in a Transmission Customer's Long-Term Transmission Service Agreement for Point-To-Point Transmission Service, then the Service Agreement shall control.

13.5 Transparency Provided Through the Annual Transmission Planning Meetings

13.5.1 The First RPSG Meeting and Interactive Training Session

13.5.1.1 An Interactive Training Session Regarding the Transmission Owner's Transmission Planning Methodologies and Criteria: As discussed in (and subject to) Section 11.2.1, at the First RPSG Meeting and Interactive Training Session, the Transmission Owner will, among other things, conduct an interactive, training and input session for the Stakeholders regarding the methodologies and criteria that the Transmission Owner utilizes in conducting its transmission planning analyses. The purpose of these training and interactive sessions is to facilitate the Stakeholders' ability to replicate transmission planning study results to those of the Transmission Owner.

13.5.1.2 Presentation and Explanation of Underlying Transmission Planning Study Methodologies: During the training session

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in the First RPSG Meeting and Interactive Training Session, the Transmission Owner will present and explain its transmission study methodologies. While not all of the following methodologies may be addressed at any single meeting, these presentations may include explanations of the methodologies for the following types of studies:

1. Steady state thermal analysis.
2. Steady state voltage analysis.
3. Stability analysis.
4. Short-circuit analysis.
5. Nuclear plant off-site power requirements.
6. Interface analysis (*i.e.*, import and export capability).

13.5.2 Presentation of Preliminary Modeling Assumptions: At the Annual Transmission Planning Summit, the Transmission Owner will also provide to the Stakeholders its preliminary modeling assumptions for the development of the Transmission Owner's following year's ten (10) year transmission expansion plan. This information will be made available on the Regional Planning Website, with CEII information being secured by password access. The preliminary modeling assumptions that will be provided may include:

1. Study case definitions, including load levels studied and planning horizon information.
2. Resource assumptions, including on-system and off-system supplies for current and future native load and network customer needs.
3. Planned resource retirements.
4. Renewable resources under consideration.
5. Demand side options under consideration.
6. Long-term firm transmission service agreements.
7. Current TRM and CBM values.

13.5.3 The Transmission Expansion Review and Input Process: The Annual

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Transmission Planning Meetings will provide an interactive process over a calendar year for the Stakeholders to receive information and updates, as well as to provide input, regarding the Transmission Owner's development of its transmission expansion plan. This dynamic process will generally be provided as follows:

1. At the Annual Transmission Planning Summit and Assumptions Input Meeting, the Transmission Owner will describe and explain to the Stakeholders the database assumptions for the ten (10) year transmission expansion plan that will be developed during the upcoming year. The Stakeholders will be allowed to provide input regarding the ten (10) year transmission expansion plan assumptions.
2. At the First RPSG Meeting and Interactive Training Session, the Transmission Owner will provide interactive training to the Stakeholders regarding the underlying criteria and methodologies utilized to develop the transmission expansion plan. The databases utilized by the Transmission Owner will be posted on the secured area of the Regional Planning Website.
3. To the extent that Stakeholders have transmission expansion plan/enhancement alternatives that they would like for the Transmission Owner and other Sponsors to consider, the Stakeholders shall perform analysis prior to, and provide any such analysis at, the Preliminary Expansion Plan Meeting. At the Preliminary Expansion Plan Meeting, the Transmission Owner will present its preliminary transmission expansion plan for the current ten (10) year planning horizon, including updates on the status of regional assessments being performed pursuant to Section 21. The Transmission Owner and Stakeholders will engage in interactive expansion plan discussions regarding this preliminary analysis. This preliminary transmission expansion plan will be posted on the secure/CEII area of the Regional Planning Website at least 10 calendar days prior to the Preliminary Expansion Plan meeting.
4. The transmission expansion plan/enhancement alternatives suggested by the Stakeholders will be considered by the Transmission Owner for possible inclusion in the transmission expansion plan. When evaluating such proposed alternatives, the Transmission Owner will, from a transmission planning perspective, take into account factors such as, but not limited to, the proposed alternatives' impacts on reliability, relative economics, effectiveness of performance, impact on transmission

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service (and/or cost of transmission service) to other customers and on third-party systems, project feasibility/viability and lead time to install.

5. At the Second RPSG Meeting, the Transmission Owner will report to the Stakeholders regarding the suggestions/alternatives suggested by the Stakeholders at the Preliminary Expansion Plan Meeting. The then-current version of the transmission expansion plan will be posted on the secure/CEII area of the regional planning website at least 10 calendar days prior to the Second RPSG Meeting.
6. At the Annual Transmission Planning Summit, the ten (10) year transmission expansion plan that is intended to be implemented the following year will be presented to the Stakeholders along with the regional transmission plan for purposes of Order 1000. The Transmission Planning Summit presentations and the regional transmission plan, which is expected to include the ten (10) year transmission expansion plan will be posted on the Regional Planning Website at least 10 calendar days prior to the Annual Transmission Planning Summit.

13.5.4 Flowchart Diagramming the Steps of the Southeastern Regional Transmission Planning Process: A flowchart diagramming the Southeastern Regional Transmission Planning Process, as well as providing the general timelines and milestones for the performance of the reliability planning activities described in Section 16 to this Attachment K, is provided in Exhibit K-3.

14. Information Exchange

To the extent that the information described in this Section 14 has not already been exchanged pursuant to the Transmission Owner's local transmission planning process described in Sections 1-10 herein, the Transmission Owner may request that Transmission Customers and/or other interested parties provide additional information pursuant to this Section 14 in support of regional transmission planning pursuant to Sections 11-31 herein.

- 14.1 General:** Transmission Customers having Service Agreements for Network Integration Transmission Service are required to submit information on their projected loads and resources on a comparable basis (*e.g.*, planning horizon and format) as used by transmission providers in planning for their native load. Transmission Customers having Service Agreements for Point-To-Point Transmission Service are required to submit any projections they have a need for service over the planning horizon and at what receipt and delivery points. Interconnection Customers having Interconnection Agreements under the Tariff

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are required to submit projected changes to their generating facility that could impact the Transmission Owner's performance of transmission planning studies. The purpose of this information that is provided by each class of customers is to facilitate the Transmission Owner's transmission planning process, with the September 1 due date of these data submissions by customers being timed to facilitate the Transmission Owner's development of its databases and model building for the following year's ten (10) year transmission expansion plan.

- 14.2 Network Integration Transmission Service Customers:** By September 1 of each year, each Transmission Customer having Service Agreement[s] for Network Integration Transmission Service shall provide to the Transmission Owner an annual update of that Transmission Customer's Network Load and Network Resource forecasts for the following ten (10) years consistent with those included in its Application for Network Integration Transmission Service under Part III of the Tariff.
- 14.3 Point-to-Point Transmission Service Customers:** By September 1 of each year, each Transmission Customers having Service Agreement[s] for long-term Firm Point-To-Point Transmission Service shall provide to the Transmission Owner usage projections for the term of service. Those projections shall include any projected redirects of that transmission service, and any projected resells or reassignments of the underlying transmission capacity. In addition, should the Transmission Customer have rollover rights associated with any such service agreement, the Transmission Customer shall also provide non-binding usage projections of any such rollover rights.
- 14.4 Demand Resource Projects:** The Transmission Owner expects that Transmission Customers having Service Agreements for Network Integration Transmission Service that have demand resource assets will appropriately reflect those assets in those customers' load projections. Should a Stakeholder have a demand resource asset that is not associated with such load projections that the Stakeholder would like to have considered for purposes of the transmission expansion plan, then the Stakeholder shall provide the necessary information (*e.g.* technical and operational characteristics, affected loads, cost, performance, lead time to install) in order for the Transmission Owner to consider such demand response resource comparably with other alternatives. The Stakeholder shall provide this information to the Transmission Owner by the Annual Transmission Planning Summit and Assumptions Input Meeting of the year prior to the implementation of the pertinent ten (10) year transmission expansion plan, and the Stakeholder should then continue to participate in this Southeastern Regional Transmission Planning Process. To the extent similarly situated, the Transmission Owner shall treat such Stakeholder submitted demand resource projects on a comparable basis for transmission planning purposes.

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- 14.5 Interconnection Customers:** By September 1 of each year, each Interconnection Customer having an Interconnection Agreement[s] under the Tariff shall provide to the Transmission Owner annual updates of that Interconnection Customer's planned addition or upgrades (including status and expected in-service date), planned retirements, and environmental restrictions.
- 14.6 Notice of Material Change:** Transmission Customers and Interconnection Customers shall provide the Transmission Owner with timely written notice of material changes in any information previously provided related to any such customer's load, resources, or other aspects of its facilities, operations, or conditions of service materially affecting the Transmission Owner's ability to provide transmission service or materially affecting the Transmission System.

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15. Dispute Resolution¹⁰

15.1 Negotiation: Any substantive or procedural dispute between the Transmission Owner and one or more Stakeholders (collectively, the “Parties”) that arises from the Attachment K transmission planning process generally shall be referred to a designated senior representative of the Transmission Owner and a senior representative of the pertinent Stakeholder(s) for resolution on an informal basis as promptly as practicable. Should the dispute also involve one or more other Sponsors of this Southeastern Regional Transmission Planning Process, then such entity(ies) shall have the right to be included in “Parties” for purposes of this section and for purposes of that dispute, and any such entity shall also include a designated senior representative in the above discussed negotiations in an effort to resolve the dispute on an informal basis as promptly as practicable. In the event that the designated representatives are unable to resolve the dispute within thirty (30) days, or such other period as the Parties may unanimously agree upon, by unanimous agreement among the Parties such dispute may be voluntarily submitted to the use of the Commission’s Alternative Means of Dispute Resolution (18 C.F.R. § 385.604, as those regulations may be amended from time to time), the Commission’s Arbitration process (18 C.F.R. § 385.605, as those regulations may be amended from time to time) (collectively, “Commission ADR”), or such other dispute resolution process that the Parties may unanimously agree to utilize.

15.2 Use of Dispute Resolution Processes: In the event that the Parties voluntarily and unanimously agree to the use of a Commission ADR process or other dispute resolution procedure, then the Transmission Owner will have a notice posted to this effect on the Regional Planning Website, and an e-mail notice in that regard will be sent to Registered Stakeholders. In addition to the Parties, all Stakeholders and Sponsors shall be eligible to participate in any Commission ADR process as “participants”, as that or its successor term in meaning is used in 18 C.F.R. §§ 385.604, 385.605 as may be amended from time to time, for purposes of the Commission ADR process; provided, however, any such Stakeholder or Sponsor must first have provided written notice to the Transmission Owner within thirty (30) calendar days of the posting on the Regional Planning Website of the Parties’ notice of their intent to utilize a Commission ADR Process.

¹⁰ Any dispute, claim or controversy amongst the Transmission Owner, the ITO and/or a stakeholder regarding application of, or results from the Transmission Owner’s local transmission planning process contained in Sections 1-10 herein, including any Transmission Owner activities undertaken pursuant to Section 7, Regional Coordination (each a “Dispute”) shall be resolved in accordance with the procedures set forth in Section 6 herein. Any procedural or substantive dispute that arises from the SERTP will be addressed by the regional Dispute

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Resolution Measures contained in this Section 15.

15.3 Costs: Each Party involved in a dispute resolution process hereunder, and each “participant” in a Commission ADR Process utilized in accordance with Section 15.2, shall be responsible for its own costs incurred during the dispute resolution process. Should additional costs be incurred during the dispute resolution process that are not directly attributable to a single Party/participant, then the Parties/participants shall each bear an equal share of such cost.

15.4 Rights under the Federal Power Act: Nothing in this section shall restrict the rights of any party to file a Complaint with the Commission under relevant provisions of the Federal Power Act.

16. [Reserved]

17. Economic Planning Studies¹¹

17.1 General - Economic Planning Study Requests: Stakeholders will be allowed to request that the Transmission Owner perform up to five (5) Stakeholder requested economic planning studies (“Economic Planning Studies”) on an annual basis.

17.2 Parameters for the Economic Planning Studies: These Economic Planning Studies shall be confined to sensitivity requests for bulk power transfers and/or to evaluate potential upgrades or other investments on the Transmission System that could reduce congestion or integrate new resources. Bulk power transfers from one area to another area with the region encompassed by this Southeastern Regional Transmission Planning Process (the “Region”) shall also constitute valid requests. The operative theory for the Economic Planning Studies is for them to identify meaningful information regarding the requirements for moving large amounts of power beyond that currently feasible, whether such transfers are internal to the Region or from this Region to interconnected regions.

17.3 Other Tariff Studies: The Economic Planning Studies are not intended to replace System Impact Studies, Facility Studies, or any of the studies that are performed for transmission delivery service or interconnection service under the Tariff.

17.4 Clustering: The RPSG should consider clustering similar Economic Planning Study requests. In this regard, if two or more of the RPSG requests are similar in nature and the Transmission Owner concludes that clustering of such requests and studies is appropriate, the Transmission Owner may, following communications with the RPSG, cluster those studies for purposes of the transmission evaluation.

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¹¹ The economic planning studies undertaken pursuant to this Section 17 are regional. Local economic planning studies are undertaken pursuant to Section 8 herein.

17.5 Additional Economic Planning Studies: Should a Stakeholder(s) request the performance of an Economic Planning Study in addition to the above-described five (5) Economic Planning Studies that the RPSG may request during a calendar year, then any such additional Economic Planning Study will only be performed if such Stakeholder(s) first agrees to bear the Transmission Owner's actual costs for doing so and the costs incurred by any other Sponsor to perform such Economic Planning Study, recognizing that the Transmission Owner may only conduct a reasonable number of transmission planning studies per year. If affected by the request for such an additional Economic Planning Study, the Transmission Owner will provide to the requesting Stakeholder(s) a non-binding but good faith estimate of what the Transmission Owner expects its costs to be to perform the study prior to the Stakeholder(s) having to agree to bear those costs. Should the Stakeholder(s) decide to proceed with the additional study, then it shall pay the Transmission Owner's and other affected Sponsor[s]' estimated study costs up-front, with those costs being true-up to the Transmission Owner's and other affected Sponsor[s]' actual costs upon the completion of the additional Economic Planning Study.

17.6 Economic Planning Study Process

1. Stakeholders will be prompted at the Annual Transmission Planning Summit to provide requests for the performance of Economic Planning Studies. Corresponding announcements will also be posted on the Regional Planning Website, and Registered Stakeholders will also receive e-mail notifications to provide such requests. An Economic Planning Study Request Form will be made available on the Regional Planning Website, and interested Stakeholders may submit any such completed request form on the non-secure area of the Regional Planning Website (unless such study request contains CEII, in which case the study request shall be provided to the Transmission Owner with the CEII identified, and the study request shall then be posted on the secure area of the Regional Planning Website).
2. Prior to each First RPSG Meeting, the RPSG shall compile the Economic Planning Study requests. At the First RPSG Meeting, the RPSG shall meet to discuss and select up to five (5) Economic Planning Studies to be requested to be performed. At the First RPSG Meeting, the Transmission Owner will coordinate with the RPSG and any interested Stakeholders to facilitate the RPSG's efforts regarding its development and selection of the Economic Planning Study requests. Once the RPSG selects the

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Economic Planning Study(ies) (up to five annually), the RPSG will notify the Transmission Owner, who will post the results on the Regional Planning Website.

3. The Transmission Owner will post on the secure area of the Regional Planning Website the study assumptions for the five (5) Economic Planning Studies within thirty (30) days of the postings of the selected Economic Planning Studies on the Regional Planning Website. Registered Stakeholders will receive an e-mail notification of this posting, and an announcement will also be posted on the Regional Planning Website.
4. Stakeholders will have thirty (30) calendar days from the Transmission Owner's posting of the assumptions for the RPSG to provide comments regarding those assumptions. Any such comments shall be posted on the secure area of the Regional Planning Website if the comments concern CEII.
5. The preliminary results of the Economic Planning Studies will be presented at the Second RPSG Meeting. These results and related data will be posted on the secure area of the Regional Planning Website a minimum of 10 calendar days prior to the Second RPSG Meeting. The Second RPSG Meeting will be an interactive session with the RPSG and other interested Stakeholders in which the Transmission Owner will explain the results, alternatives, methodology, criteria, and related considerations pertaining to those preliminary results. At that meeting, the Stakeholders may submit alternatives to the enhancement solutions identified in those preliminary results. All such alternatives must be submitted by Stakeholders within thirty (30) calendar days from the close of the Second RPSG Meeting. The Transmission Owner will consider the alternatives provided by the Stakeholders.
6. The final results of the Economic Planning Studies will be presented at the Annual Transmission Planning Summit, and the Transmission Owner will report regarding its consideration of the alternatives provided by Stakeholders. These final results will be posted on the secure area of the Regional Planning Website a minimum of 10 calendar days prior to the Transmission Planning Summit.
7. The final results of the Economic Planning Studies will be non-binding upon the Transmission Owner and will provide general non-binding estimations of the required transmission upgrades, timing for their construction, and costs for completion.

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18. [Reserved]
19. **Recovery of Planning Costs:** The Transmission Owner will recover its costs for regional transmission planning consistent with the terms of Section 10 herein.
20. **Consideration of Transmission Needs Driven by Public Policy Requirements**
- 20.1 **Procedures for the Consideration of Transmission Needs Driven by Public Policy Requirements:** The Transmission Owner addresses transmission needs driven by enacted state, federal and local laws and/or regulations (“Public Policy Requirements”) in its routine planning, design, construction, operation, and maintenance of the Transmission System.
- 20.2 **The Consideration of Transmission Needs Driven by Public Policy Requirements Identified Through Stakeholder Input and Proposals**
- 20.2.1 **Requisite Information:** In order for the Transmission Owner to consider possible transmission needs driven by Public Policy Requirements that are proposed by a Stakeholder, the Stakeholder must provide the following information in accordance with the submittal instructions provided on the Regional Planning Website:
1. The applicable Public Policy Requirement, which must be a requirement established by an enacted state, federal, or local law(s) and/or regulation(s); and
 2. An explanation of the possible transmission need(s) driven by the Public Policy Requirement identified in subsection 20.2.1(1) (*e.g.*, the situation or system condition for which possible solutions may be needed, as opposed to a specific transmission project).
- 20.2.2 **Deadline for Providing Such Information:** Stakeholders that propose a possible transmission need driven by a Public Policy Requirement for evaluation by the Transmission Owner in the current transmission planning cycle must provide the requisite information identified in Section 20.2.1 to the Transmission Owner no later than 60 calendar days after the SERTP Annual Transmission Planning Summit and Input Assumptions Meeting for the previous transmission planning cycle.
- 20.3 **Transmission Owner Evaluation of SERTP Stakeholder Input Regarding Possible Transmission Needs Driven by Public Policy Requirements**
- 20.3.1 **Identification of Public Policy-Driven Transmission Needs:** In order to identify, out of the set of possible transmission needs driven by Public Policy Requirements proposed by Stakeholders, those transmission needs

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for which transmission solutions will be evaluated in the current planning cycle, the Transmission Owner will assess:

1. Whether the Stakeholder-identified Public Policy Requirement is an enacted local, state, or federal law(s) and/or regulation(s);
2. Whether the Stakeholder-identified Public Policy Requirement drives a transmission need(s); and
3. If the answers to the foregoing questions 1) and 2) are affirmative, whether the transmission need(s) driven by the Public Policy Requirement is already addressed or otherwise being evaluated in the then-current planning cycle.

20.3.2 Identification and Evaluation of Possible Transmission Solutions for Publicly Policy-Driven Transmission Needs that Have Not Already Been Addressed: If a Public Policy-driven transmission need is identified that is not already addressed, or that is not already being evaluated in the transmission expansion planning process, the Transmission Owner will identify a transmission solution(s) to address the aforementioned need in the planning processes. The potential transmission solutions will be evaluated consistent with Section 21.

20.4 Stakeholder Input During the Evaluation of Public Policy-Driven Transmission Needs and Possible Transmission Solutions

20.4.1 Typically at the First RPSG Meeting and Interactive Training Session, but not later than the Preliminary Expansion Plan Meeting, for the given transmission planning cycle, the Transmission Owner will review the Stakeholder-proposed transmission needs driven by Public Policy Requirements to be evaluated in the then-current planning cycle. Prior to the meeting at which transmission needs driven by Public Policy Requirements will be reviewed, the Transmission Owner will identify, on the Regional Planning Website, which possible transmission needs driven by Public Policy Requirements proposed by Stakeholders (if any) are transmission needs(s) that are not already addressed in the planning process and will, pursuant to Sections 20.3.1 and 20.3.2, be addressed in the current planning cycle.

20.4.2 Stakeholders, including those who are not Transmission Customers, may provide input regarding Stakeholder-proposed possible transmission need(s) and may provide input during the evaluation of potential transmission solutions to identified transmission needs driven by Public Policy Requirements. Specifically, with regard to the evaluation of such potential transmission solutions, the Stakeholder may provide input at a Preliminary Expansion Plan Meeting. If a Stakeholder has performed analysis regarding such a potential transmission solution, the Stakeholder

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may provide any such analysis at that time.

20.4.3 Stakeholder input regarding possible transmission needs driven by Public Policy Requirements may be directed to the governing Tariff process as appropriate. For example, if the possible transmission need identified by the Stakeholder is essentially a request by a network customer to integrate a new network resource, the request would be directed to that existing Tariff process.

20.5 Posting Requirement: The Transmission Owner will provide and post on the Regional Planning Website an explanation of (1) those transmission needs driven by Public Policy Requirements that have been identified for evaluation for potential transmission projects in the then-current planning cycle; and (2) why other suggested, possible transmission needs driven by Public Policy Requirements proposed by Stakeholders were not selected for further evaluation.

21. Regional Analyses of Potentially More Efficient or Cost Effective Transmission Solutions

21.1 Regional Planning Analyses

21.1.1 During the course of each transmission planning cycle, the Transmission Owner will conduct regional transmission analyses to assess if the then-current regional transmission plan addresses the Transmission Owner's transmission needs, including those of its Transmission Customers and those which may be driven, in whole or in part, by economic considerations or Public Policy Requirements. This regional analysis will include assessing whether there may be more efficient or cost effective transmission projects to address transmission needs than transmission projects included in the latest regional transmission plan (including projects selected in a regional transmission plan for RCAP pursuant to Section 27).

21.1.2 The Transmission Owner will perform power flow, dynamic, and short circuit analyses, as necessary, to assess whether the then-current regional transmission plan would provide for the physical transmission capacity required to address the Transmission Owner's transmission needs, including those transmission needs of its Transmission Customers and those driven by economic considerations and Public Policy Requirements. Such analysis will also evaluate those potential transmission needs driven by Public Policy Requirements identified by Stakeholders pursuant to Section 20.3.1. If the Transmission Owner determines that the on-going planning being performed for the then-current cycle would not provide sufficient physical transmission capacity to address a transmission need(s), the Transmission Owner will identify potential transmission projects to

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address the transmission need(s).

21.2 Identification and Evaluation of More Efficient or Cost Effective Transmission Project Alternatives

21.2.1 The Transmission Owner will look for potential regional transmission projects that may be more efficient or cost effective solutions to address transmission needs than transmission projects included in the latest regional transmission plan or otherwise under consideration in the then-current transmission planning process for the ten (10) year planning horizon. Consistent with Section 21.1, through power flow, dynamic, and short circuit analyses, as necessary, the Transmission Owner will evaluate regional transmission projects identified to be potentially more efficient or cost effective solutions to address transmission needs, including those transmission alternatives proposed by Stakeholders pursuant to Section 13.5.3(3) and transmission projects proposed for RCAP pursuant to Section 26. The evaluation of transmission projects in these regional assessments throughout the then-current planning cycle will be based upon their effectiveness in addressing transmission needs, including those driven by Public Policy Requirements, reliability and/or economic considerations. Such analysis will be in accordance with, and subject to (among other things), state law pertaining to transmission ownership, siting, and construction. In assessing whether transmission alternatives are more efficient and/or cost effective transmission solutions, the Transmission Owner shall consider factors such as, but not limited to, a transmission project's:

- Impact on reliability.
 - Feasibility, including the viability of constructing and tying in the proposed project by the required in-service date.
- Relative transmission cost, as compared to other transmission project alternatives to reliably address transmission needs.
- Ability to reduce real power transmission losses on the transmission system(s) within the SERTP region, as compared to other transmission project alternatives to reliably address transmission needs.

21.2.2 Stakeholder Input: Stakeholders may provide input on potential transmission alternatives for the Transmission Owner to consider throughout the SERTP planning process for each planning cycle in accordance with Section 13.5.3.

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22. Merchant Transmission Developers Proposing Transmission Facilities Impacting the SERTP: Merchant transmission developers not seeking regional cost allocation pursuant to Sections 26-32 ("Merchant Transmission Developers") who propose to develop a transmission project(s) potentially impacting the Transmission System and/or transmission system(s) within the SERTP region shall provide information and data necessary for the Transmission Owner to assess the potential reliability and operational impacts of those proposed transmission facilities. That information should include:

- Transmission project timing, scope, network terminations, load flow data, stability data, HVDC data (as applicable), and other technical data necessary to assess potential impacts.

23. Enrollment

23.1 General Eligibility for Enrollment: A public utility or non-public utility transmission service provider and/or transmission owner who is registered with NERC as a Transmission Owner or a Transmission Service Provider may enroll in the SERTP. Such Transmission Service Providers and Transmission Owners are thus potential Beneficiaries for cost allocation purposes on behalf of their transmission customers. Entities that do not enroll will nevertheless be permitted to participate as Stakeholders in the SERTP.

23.2 Enrollment Requirement In Order to Seek Regional Cost Allocation: While enrollment is not generally required in order for a transmission developer to be eligible to propose a transmission project for evaluation and potential selection in a regional transmission plan for RCAP pursuant to Sections 26-32, a potential transmission developer must enroll in the SERTP in order to be eligible to propose a transmission project for potential selection in a regional transmission plan for RCAP if it, an affiliate, subsidiary, member, owner or parent company has load in the SERTP.

23.3 Means to Enroll: Entities that satisfy the general eligibility requirements of Section 23.1 or are required to enroll in accordance with Section 23.2 may provide an application to enroll by submitting the form of enrollment posted on the Regional Planning Website.

23.4 List of Enrollees in the SERTP: Appendix 11 provides the list of the entities who have enrolled in the SERTP in accordance with the foregoing provisions ("Enrollees"). Appendix 11 is effective as of the effective date of the tariff record (and subject to Section 23.5, below) that contains Appendix 11. In the event a non-public utility listed in Appendix 11 provides the Transmission Owner with notice that it chooses not to enroll in, or is withdrawing from, the SERTP pursuant to Section 23.5 or Section 23.6, as applicable, such action shall be effective as of the date prescribed in accordance with that respective Section. In such an event, the Transmission Owner shall file revisions to the lists of Enrollees in Appendix

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11 within fifteen business days of such notice. The effective date of any such revised tariff record shall be the effective date of the non-public utility's election to not enroll or to withdraw as provided in Section 23.5 or 23.6, as applicable.

23.5 Enrollment, Conditions Precedent, Conditions Subsequent, and Cost Allocation Responsibility: Enrollment will subject Enrollees to cost allocation if, during the period in which they are enrolled, it is determined in accordance with this Attachment K that the Enrollee is a Beneficiary of a transmission project(s) selected in the regional transmission plan for RCAP; subject to the following:

23.5.1 Upon Order on Compliance Filing: The initial non-public utilities that satisfy the general eligibility requirements of 23.1 and who have made the decision to enroll at the time of the Transmission Owner's compliance filing in response to FERC's July 18, 2013 Order on Compliance Filings in Docket Nos. ER13-897, ER13-908, and ER13-913, 144 FERC ¶ 61,054, do so on the condition precedent that the Commission accepts: i) that compliance filing without modification and without setting it for hearing or suspension and ii) the Transmission Owner's July 10, 2013 compliance filing made in Docket Nos. ER13-1928, ER13-1930, ER13-1940, and ER13-1941 without modification and without setting it for hearing or suspension. Should the Commission take any such action upon review of such compliance filings or in any way otherwise modify, alter, or impose amendments to this Attachment K, then each such non-public utility shall be under no obligation to enroll in the SERTP and shall have sixty (60) days following such an order or action to provide written notice to the Transmission Owner of whether it will, in fact, enroll in the SERTP. If, in that event, such non-public utility gives notice to the Transmission Owner that it will not enroll, such non-public utility shall not be subject to cost allocation under this Attachment K (unless it enrolls at a later date).

23.5.2 Upon Future Regulatory Action: Notwithstanding anything herein to the contrary, should the Commission, a Court, or any other governmental entity having the requisite authority modify, alter, or impose amendments to this Attachment K, then an enrolled non-public utility may immediately withdraw from this Attachment K by providing written notice within 60 days of that order or action, with the non-public utility's termination being effective as of the close of business the prior business day before said modification, alteration, or amendment occurred (although if the Commission has not acted by that prior business day upon both of the compliance filings identified in Section 23.5.1, then the non-public utility shall never have been deemed to have enrolled in the SERTP). In the event of such a withdrawal due to such a future regulatory and/or judicial

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action, the withdrawing Enrollee will be subject to cost allocations, if any, that were determined in accordance with this Attachment K during the period in which it was enrolled and that determined that the withdrawing Enrollee would be a Beneficiary of new transmission projects selected in the regional transmission plan for RCAP.

23.6 Notification of Withdrawal: An Enrollee choosing to withdraw its enrollment in the SERTP may do so by providing written notification of such intent to the Transmission Owner. Except for non-public utilities electing to not enroll or withdraw pursuant to Section 23.5, a non-public utility Enrollee's withdrawal shall be effective as of the date the notice of withdrawal is provided to the Transmission Owner pursuant to this Section 23.6. For public utility Enrollees, the withdrawal shall be effective at the end of the then-current transmission planning cycle provided that the notification of withdrawal is provided to the Transmission Owner at least sixty (60) days prior to the Annual Transmission Planning Summit and Assumptions Input Meeting for that transmission planning cycle.

23.7 Cost Allocation After Withdrawal: Any withdrawing Enrollee will not be allocated costs for transmission projects selected in a regional transmission plan for RCAP after its termination of enrollment becomes effective in accordance with the provisions of Section 13.5 or Section 13.6. However, the withdrawing Enrollee will be subject to cost allocations determined in accordance with this Attachment K, during the period it was enrolled, if any, for which the Enrollee was identified as a Beneficiary of new transmission projects selected in the regional transmission plan for RCAP.

24. Pre-Qualification Criteria for a Transmission Developer to be Eligible to Submit a Regional Transmission Project Proposal for Potential Selection in a Regional Transmission Plan for RCAP

24.1 Transmission Developer Pre-Qualification Criteria: In order to be eligible to propose a transmission project (that the transmission developer intends to develop) for consideration for selection in a regional transmission plan for RCAP in the upcoming planning cycle, a transmission developer (including the Transmission Owner and nonincumbents) or a parent company (as defined in Section 24.1(2)(B) below), as applicable, must submit a pre-qualification application by August 1st of the then-current planning cycle. To demonstrate that the transmission developer will be able to satisfy the minimum financial capability and technical expertise requirements, the pre-qualification application must provide the following:

1. A non-refundable administrative fee of \$25,000 to off-set the cost to review, process, and evaluate the transmission developer's pre-qualification application;

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2. Demonstration that at least one of the following criteria is satisfied:
 - A. The transmission developer must have and maintain a Credit Rating (defined below) of BBB- or better from Standard & Poor's Financial Services LLC, a part of McGraw Hill Financial ("S&P"), a Credit Rating of Baa3 or better from Moody's Investors Service, Inc. ("Moody's") and/or a Credit Rating of BBB- or better from Fitch Ratings, Inc. ("Fitch", collectively with S&P and Moody's and/or their successors, the "Rating Agencies") and not have or obtain less than any such Credit Rating by S&P, Moody's or Fitch. The senior unsecured debt (or similar) rating for the relevant entity from the Rating Agencies will be considered the "Credit Rating". In the event of multiple Credit Ratings from one Rating Agency or Credit Ratings from more than one Rating Agency, the lowest of those Credit Ratings will be used by the Transmission Owner for its evaluation. However, if such a senior unsecured debt (or similar) rating is unavailable, the Transmission Owner will consider Rating Agencies' issuer (or similar) ratings as the Credit Rating.
 - B. If a transmission developer does not have a Credit Rating from S&P, Moody's or Fitch, it shall be considered "Unrated", and an Unrated transmission developer's parent company or the entity that plans to create a new subsidiary that will be the transmission developer (both hereinafter "parent company") must have and maintain a Credit Rating of BBB- or better from S&P, Baa3 or better from Moody's and/or BBB- or better from Fitch, not have or obtain less than any such Credit Rating by S&P, Moody's or Fitch, and the parent company must commit in writing to provide an acceptable guaranty to the Transmission Owner meeting the requirements of Section 32 for the transmission developer if a proposed transmission project is selected in a regional transmission plan for RCAP. If there is more than one parent company, the parent company(ies) committing to provide the guaranty must meet the requirements set forth herein.
 - C. For an Unrated transmission developer, unless its parent company satisfies the requirements under B. above, such transmission developer must have and maintain a Rating Equivalent (defined below) of BBB- or better. Upon an Unrated transmission developer's request, a credit rating will be determined for such Unrated transmission developer comparable to a Rating Agency credit rating ("Rating Equivalent") based upon the process outlined

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below:

- (i) Each Unrated transmission developer will be required to pay a non-refundable annual fee of \$15,000.00 for its credit to be evaluated/reevaluated on an annual basis.
- (ii) Upon request by the Transmission Owner, an Unrated transmission developer must submit to the Transmission Owner for the determination of a Rating Equivalent, and not less than annually thereafter, the following information with respect to the transmission developer, as applicable:
 - A. financial statements (audited if available) for each completed fiscal quarter of the then current fiscal year including the most recent fiscal quarter, as well as the most recent three (3) fiscal years;
 - i. For Unrated transmission developers with publicly-traded stock, this information must include:
 - 1. Annual reports on Form 10-K (or successor form) for the three (3) fiscal years most recently ended, and quarterly reports on Form 10-Q (or successor form) for each completed quarter of the then current fiscal year, together with any amendments thereto, and
 - 2. Form 8-K (or successor form) reports disclosing material changes, if any, that have been filed since the most recent Form 10-K (or successor form), if applicable;
 - ii. For Unrated transmission developers that are privately held, this information must include:
 - 1. Financial Statements, including balance sheets, income statements, statement of cash flows, and statement of stockholder's equity,
 - 2. Report of Independent Accountants,
 - 3. Management's Discussion and Analysis, and
 - 4. Notes to financial statements;
 - B. its Standard Industrial Classification and North

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- C. American Industry Classification System codes;
 - D. at least one (1) bank and three (3) acceptable trade references;
 - E. information as to any material litigation, commitments or contingencies as well as any prior bankruptcy declarations or material defaults or defalcations by, against or involving the transmission developer or its predecessors, subsidiaries or affiliates, if any;
 - F. information as to the ability to recover investment in and return on its projects;
 - G. information as to the financial protections afforded to unsecured creditors contained in its contracts and other legal documents related to its formation and governance;
 - H. information as to the number and composition of its members or customers;
 - I. its exposure to price and market risk;
 - J. information as to the scope and nature of its business; and
 - J. any additional information, materials and documentation which such Unrated transmission developer deems relevant evidencing such Unrated transmission developer's financial capability to develop, construct, operate and maintain transmission developer's projects for the life of the projects.
- (iii) The Transmission Owner will notify an Unrated transmission developer after the determination of its Rating Equivalent. Upon request, the Transmission Owner will provide the Unrated transmission developer with information regarding the procedures, products and/or tools used to determine such Rating Equivalent (*e.g.*, Moody's RiskCalc™ or other product or tool, if used).
- (iv) An Unrated transmission developer desiring an explanation of its Rating Equivalent must request such an explanation in writing within five (5) business days of receiving its Rating Equivalent. The Transmission Owner will respond within fifteen (15) business days of receipt of such request with a summary of the analysis supporting the Rating Equivalent decision.

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3. Evidence that the transmission developer has the capability to develop, construct, operate, and maintain significant U.S. electric transmission projects. The transmission developer should provide, at a minimum, the following information about the transmission developer. If the transmission developer is relying on the experience or technical expertise of its parent company or affiliate(s) to meet the requirements of this subsection 3, the following information should be provided about the transmission developer's parent company and its affiliates, as applicable:
 - A. Information regarding the transmission developer's or other relevant experience regarding transmission projects in-service, under construction, and/or abandoned or otherwise not completed including locations, operating voltages, mileages, development schedules, and approximate installed costs; whether delays in project completion were encountered; and how these facilities are owned, operated and maintained.
 - B. Evidence demonstrating the ability to address and timely remedy failure of transmission facilities;
 - C. Violations of NERC and/or Regional Entity reliability standard(s) and/or violations of regulatory requirement(s) that have been made public pertaining to the development, construction, ownership, operation, and/or maintenance of electric transmission infrastructure facilities (provided that violations of CIP standards are not required to be identified), and if so, an explanation of such violations; and
 - D. A description of the experience of the transmission developer in acquiring rights of way.
 4. Evidence of how long the transmission developer and its parent company, if relevant, have been in existence.
- 24.2 Review of Pre-Qualification Applications:** No later than November 1st of the then-current planning cycle, the Transmission Owner will notify transmission developers that submitted pre-qualification applications or updated information by August 1st, whether they have pre-qualified as eligible to propose a transmission project for consideration for selection in a regional transmission plan for RCAP in the upcoming planning cycle. A list of transmission developers that have pre-qualified for the upcoming planning cycle will be posted on the Regional Planning Website.
- 24.3 Opportunity for Cure for Pre-Qualification Applications:** If a transmission developer does not meet the pre-qualification criteria or provides an incomplete application, then following notification by the Transmission Owner, the transmission developer will have 15 calendar days to resubmit the necessary

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supporting documentation to remedy the identified deficiency. The Transmission Owner will notify the transmission developer, whether they are, or will continue to be, pre-qualified within 30 calendar days of the resubmittal, provided that the Transmission Owner shall not be required to provide such a response prior to November 1st of the then-current planning cycle.

24.4 Pre-Qualification Renewal: If a transmission developer is pre-qualified as eligible to propose a transmission project for consideration for selection in a regional transmission plan for RCAP in the then-current planning cycle, such transmission developer may not be required to re-submit information to pre-qualify with respect to the upcoming planning cycle. In the event any information on which the entity's pre-qualification is based has changed, such entity must submit all updated information by the August 1st deadline. In addition, all transmission developers must submit a full pre-qualification application once every 3 years.

24.5 Enrollment Requirement to Pre-Qualify as Eligible to Propose a Transmission Project for Potential Selection in a Regional Transmission Plan for RCAP: If a transmission developer or its parent company or owner or any affiliate, member or subsidiary has load in the SERTP region, the transmission developer must have enrolled in the SERTP in accordance with Section 23.2 to be eligible to pre-qualify to propose a transmission project for potential selection in a regional transmission plan for RCAP.

25. Transmission Projects Potentially Eligible for Selection in a Regional Transmission Plan for RCAP

25.1 In order for a transmission project proposed by a transmission developer, whether incumbent or nonincumbent, to be considered for evaluation and potential selection in a regional transmission plan for RCAP, the project must be regional in nature in that it must be a transmission project effectuating significant bulk electric transfers across the SERTP region and addressing significant electrical needs in that it:

1. operates at a voltage of 300 kV or greater;
2. is a transmission line located in the SERTP region; and
3. spans at least 50 miles.

25.2 In addition to satisfying the requirements of Section 25.1, the proposed regional transmission project must not contravene state or local laws with regard to rights of way or construction of transmission facilities. The proposed transmission project also cannot be an upgrade to an existing facility. A transmission upgrade includes any expansion, partial replacement, or modification, for any purpose, made to existing transmission facilities, including, but not limited to:

- transmission line reconductors;

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- the addition, modification, and/or replacement of transmission line structures and equipment;
- increasing the nominal operating voltage of a transmission line;
- the addition, replacement, and/or reconfiguration of facilities within an existing substation site;
- the interconnection/addition of new terminal equipment onto existing transmission lines.

For purposes of clarification, a transmission project proposed for potential selection in a regional transmission plan for RCAP may rely on the implementation of one or more transmission upgrades (as defined above) by the Impacted Utilities in order to reliably implement the proposed transmission project.

- 25.3** In order for the proposed transmission project to be a more efficient or cost effective alternative to the transmission projects identified by the transmission providers through their planning processes, it should be materially different than projects already under consideration in the expansion planning process. A project will be deemed materially different, as compared to another transmission alternative(s) under consideration, if the proposal consists of significant geographical or electrical differences in the alternative's proposed interconnection point(s) or transmission line routing. Should the proposed transmission project be deemed not materially different than projects already under consideration in the transmission expansion planning process, the Transmission Owner will provide a sufficiently detailed explanation on the Regional Planning website for Stakeholders to understand why such a determination was made.

26. Submission of Proposals for Potential Selection in a Regional Transmission Plan for RCAP

Any entity may propose a transmission project for consideration by the Transmission

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Owner for potential selection in a regional transmission plan for RCAP.¹² An entity that wants to propose a transmission project for potential selection in a regional transmission plan for RCAP but does not intend to develop the transmission project may propose such transmission project in accordance with Section 26.6.

26.1 Materials to be Submitted: In order for a transmission project to be considered for RCAP, a pre-qualified transmission developer proposing the transmission project (including an incumbent or nonincumbent transmission developer) must provide to the Transmission Owner the following information:

1. Sufficient information for the Transmission Owner to determine that the potential transmission project satisfies the regional eligibility requirements of Section 25;
2. A description of the proposed transmission project that details the intended scope (including the various stages of the project development such as engineering, ROW acquisition, construction, recommended in-service date, etc.);
3. A capital cost estimate of the proposed transmission project. If the cost estimate differs greatly from generally accepted estimates of projects of comparable scope, the transmission developer may be asked to support such differences with supplemental information;
4. Data and/or files necessary to appropriately model the proposed transmission project;
5. Documentation of the specific transmission need(s) that the proposed transmission project is intended to address. This documentation should include a description of the transmission need(s), timing of the transmission need(s), and may include the technical analysis performed to support that the proposed transmission project addresses the specified transmission need(s);
6. A description of why the proposed transmission project is expected to be more efficient or cost effective than other transmission projects included in the then-current regional transmission plan. If available, and to facilitate the evaluation of the proposal and to mitigate the potential for disputes, the entity proposing the project for potential selection in a regional transmission plan for RCAP may submit documentation of detailed technical analyses performed that supports the position that the

¹² The regional cost allocation process provided hereunder in accordance with Sections 26-32 does not limit

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the ability of the Transmission Owner and other entities to negotiate alternative cost sharing arrangements voluntarily and separately from this regional cost allocation method.

proposed transmission project addresses the specified transmission needs more efficiently or cost-effectively. Such optional documentation could include the following:

- Transmission projects in the latest transmission expansion plan or regional transmission plan that would be displaced by the proposed project,
 - Any additional projects that may be required in order to implement the proposed project, or
 - Any reduction/increase in real-power transmission system losses;
7. The transmission developer must provide a reasonable explanation of, as it pertains to its proposed project, its planned approach to satisfy applicable regulatory requirements and its planned approach to obtain requisite authorizations necessary to acquire rights of way and to construct, operate, and maintain the proposed facility in the relevant jurisdictions;
- The transmission developer should not expect to use the Transmission Owner's right of eminent domain for ROW acquisition;
8. How the transmission developer intends to comply with all applicable standards and obtain the appropriate NERC certifications,
- If it or a parent, owner, affiliate, or member who will be performing work in connection with the potential transmission project is registered with NERC or other industry organizations pertaining to electric reliability and/or the development, construction, ownership, or operation, and/or maintenance of electric infrastructure facilities, a list of those registrations;
9. The experience of the transmission developer specific to developing, constructing, maintaining, and operating the type of transmission facilities contained in the transmission project proposed for potential selection in a regional transmission plan for RCAP,
- Including verifiable past achievements of containing costs and adhering to construction schedules for transmission projects of similar size and scope as the proposed transmission project, and
 - Including a description of emergency response and restoration of damaged equipment capability;
10. The planned or proposed project implementation management teams and the types of resources, including relevant capability and experience, contemplated for use in the development and construction of the proposed

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project;

11. A written commitment to comply with all applicable standards, including Good Utility Practices, governing the engineering, design, construction, operation, and maintenance of transmission projects in the SERTP region; and
 12. Evidence of the ability of the transmission developer, its affiliate, partner or parent company to secure a financial commitment from an approved financial institution(s) agreeing to finance the construction, operation, and maintenance of the transmission project if selected in a regional transmission plan for RCAP.
- 26.2 Administrative Fee:** An administrative fee of \$25,000 to off-set the costs to review, process and evaluate each transmission project proposal. A refund of \$15,000 will be provided to the transmission developer if:
1. The proposal is determined to not satisfy the qualification criteria in Section 26.1; or
 2. The transmission developer withdraws its proposal by providing written notification of its intention to do so to the Transmission Owner prior to the First RPSG Meeting and Interactive Training Session for that transmission planning cycle.
- 26.3 Deadline for Transmission Developer Submittals:** In order for its transmission project to be considered for RCAP in the current transmission planning cycle, a transmission developer must provide the requisite information and payment identified in Sections 26.1 through 26.2 to the Transmission Owner in accordance with the submittal instructions provided on the Regional Planning Website no later than 60 calendar days after the SERTP Annual Transmission Planning Summit and Input Assumptions Meeting for the previous transmission planning cycle.
- 26.4 Initial Review of Submittal and Opportunity for Cure:** The Transmission Owner will notify transmission developers who propose a transmission project for potential selection in a regional transmission plan for RCAP whose submittals do not meet the requirements specified in Section 26.1 through 26.2, or who provide an incomplete submittal, within 45 calendar days of the submittal deadline to allow the transmission developer an opportunity to remedy any identified deficiency(ies). Transmission developers, so notified, will have 15 calendar days to resubmit the necessary supporting documentation to remedy the identified deficiency. The Transmission Owner will notify the transmission developer, whether they have adequately remedied the deficiency within 30 calendar days of

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the resubmittal. Should the deficiency(ies) remain unremedied, then the transmission project will not be considered for RCAP.

26.5 Change in the Qualification Information or Circumstances

26.5.1 The transmission developer proposing a transmission project for potential selection in a regional transmission plan for RCAP has an obligation to update and report in writing to the Transmission Owner any change to its or its parent company's information that was provided as the basis for its satisfying the requirements of Sections 24 through 32, except that the transmission developer is not expected to update its technical analysis performed for purposes of Section 26.1(6) to reflect updated transmission planning data as the transmission planning cycle(s) progresses.

26.5.2 The transmission developer must inform the Transmission Owner of the occurrence of any of the developments described in (1) or (2) below should the following apply (and within the prescribed time period): (i) within five (5) business days of the occurrence if the transmission developer has a pre-qualification application pending as of the date of the occurrence; (ii) upon the submission of a renewal request for pre-qualification should the development have occurred since the transmission developer was pre-qualified; (iii) prior to, or as part of, proposing a transmission project for potential selection in a regional transmission plan for RCAP pursuant to Section 26.1 should the development have occurred since the transmission developer was pre-qualified; and (iv) within five (5) business days of the occurrence if the transmission developer has a transmission project either selected or under consideration for selection in a regional transmission plan for RCAP. These notification requirements are applicable upon the occurrence of any of the following:

1. the existence of any material new or ongoing investigations against the transmission developer by the Commission, the Securities and Exchange Commission, or any other governing, regulatory, or standards body that has been or was required to be made public; if its parent company has been relied upon to meet the requirements of Section 24.1(2) or Section 32, such information must be provided for the parent company and, in any event, with respect to any affiliate that is a transmitting utility; and
2. any event or occurrence which could constitute a material adverse change in the transmission developer's (and, if the parent company has been relied upon to meet the requirements of Section 24.1(2) or Section 32, the parent company's) financial condition ("Material Adverse Change") such as:

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- A. A downgrade or suspension of any debt or issuer rating by any Rating Agency,
- B. Being placed on a credit watch with negative implications (or similar) by any Rating Agency,
- C. A bankruptcy filing or material default or defalcation,
- D. Insolvency,
- E. A quarterly or annual loss or a decline in earnings of twenty-five percent (25%) or more compared to the comparable year-ago period,
- F. Restatement of any prior financial statements, or
- G. Any government investigation or the filing of a lawsuit that reasonably would be expected to adversely impact any current or future financial results by twenty-five percent (25%) or more.

26.5.3 If at any time the Transmission Owner concludes that a transmission developer or a potential transmission project for possible selection in a regional transmission plan for RCAP no longer satisfies such requirements specified in Sections 24 through 26, then the Transmission Owner will so notify the transmission developer or entity who will have fifteen (15) calendar days to cure. If the transmission developer does not meet the fifteen (15) day deadline to cure, or if the Transmission Owner determines that the transmission developer continues to no longer satisfy the requirements specified in Sections 24 through 26 despite the transmission developer's efforts to cure, then the Transmission Owner may, without limiting its other rights and remedies, immediately remove the transmission developer's potential transmission project(s) from consideration for potential selection in a regional transmission plan for RCAP and, if previously selected, from being selected in a regional transmission plan for RCAP, as applicable.

26.6 Projects Proposed for RCAP Where the Entity Making the Proposal Does Not Intend to be the Developer of the Project: Any Stakeholder may propose a potentially more cost effective or efficient transmission project for consideration in the transmission planning process in accordance with Section 13.5.3, and nothing herein limits the ability of a Stakeholder and other entities to negotiate alternative transmission development arrangements voluntarily and separately from the processes provided in this Attachment K. Should an entity propose a transmission project for potential selection in a regional transmission plan for

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RCAP but not intend to develop the project, then the following applies. Such an entity must submit the information required by Sections 26.1(1), 26.1(5), and 26.1(6) for a regional transmission project eligible for potential selection in a regional transmission plan for RCAP within the sixty (60) day window established in 16.3. Provided that the proposal complies with those requirements, the Transmission Owner will make information describing the proposal available on the Regional Planning Website. The entity proposing the transmission project should coordinate with a transmission developer (either incumbent or nonincumbent) to have the developer submit the remaining information and materials required by Section 26. A pre-qualified transmission developer, should it decide to proceed, must submit the materials required by Section 26 within the sixty (60) day window established in Section 26.3 in order for the proposed transmission project to be considered for selection in a regional transmission plan for RCAP. If such a transmission project has not been so submitted within the sixty (60) day window established in Section 26.3, then the Transmission Owner may treat the project as a Stakeholder-proposed transmission project alternative pursuant to Section 13.5.3. Furthermore, should the Transmission Owner identify in the regional transmission planning process a regional transmission project that is selected in the regional transmission plan for RCAP that does not have a transmission developer that intends or is able to develop the project, the Transmission Owner will identify such project on the Regional Planning Website. A prequalified transmission developer that desires to develop the project, whether incumbent or non-incumbent, may then propose the transmission project pursuant to Sections 25 and 26, as the intended transmission developer for the project's ongoing consideration in a regional transmission plan for RCAP.

27. Evaluation and Potential Selection of Proposals for Selection in a Regional Transmission Plan for RCAP

27.1 Potential Transmission Projects Seeking RCAP Will be Evaluated in the Normal Course of the Transmission Planning Process: During the course of the then-current transmission expansion planning cycle (and thereby in conjunction with other system enhancements under consideration in the transmission planning process), the Transmission Owner will evaluate current transmission needs and assess alternatives to address current needs including the potential transmission projects proposed for possible selection in a regional transmission plan for RCAP by transmission developers consistent with the regional evaluation process described in Section 21. Such evaluation will be in accordance with, and subject to (among other things), state law pertaining to transmission ownership, siting, and construction. Utilizing coordinated models and assumptions, the Transmission Owner will perform analyses, including power flow, dynamic, and short circuit analyses, as necessary and, applying its planning guidelines and criteria to evaluate submittals, determine whether, throughout the ten (10) year planning horizon:

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1. The proposed transmission project addresses an underlying transmission need(s);
2. The proposed transmission project addresses transmission needs that are currently being addressed with projects in the transmission planning process and if so, which projects could be displaced (consistent with the reevaluation of the projects included in a regional transmission plan as described in Section 29) by the proposed transmission project, including:
 - o transmission projects in the Transmission Owner's ten year transmission expansion plan,
 - o transmission projects in the regional transmission plan, including those currently under consideration and/or selected for RCAP;
3. The proposed transmission project addresses a transmission need(s) for which no transmission project is currently included in the latest ten (10) year expansion plans and/or regional transmission plan. If so, the Transmission Owner will identify an alternative transmission project(s) which would be required to fully and appropriately address the same transmission need(s) (e.g., otherwise considered to be the more efficient or cost effective transmission alternative). The Transmission Owner will identify and evaluate such an alternative transmission project(s) consistent with the processes described in Sections 1-10 and 21;
4. Any additional projects that would be required to implement the proposed transmission project;
5. The proposed transmission project reduces and/or increases real power transmission losses on the transmission system within the SERTP region.

Previous analysis may be used, either in part or in whole, if applicable to the evaluation of the proposed regional transmission project. Stakeholders may provide input into the evaluation of RCAP proposals throughout the SERTP process consistent with Section 13.5.3.

27.2 Transmission Benefit-to-Cost Analysis Based Upon Planning Level Cost Estimates

27.2.1 Based upon the evaluation outlined in Section 27.1, the Transmission Owner will assess whether the transmission developer's transmission project proposed for potential selection in a regional transmission plan for RCAP is considered at that point in time to yield meaningful, net regional benefits. Specifically, the proposed transmission project should yield a regional transmission benefit-to-cost ratio of at least

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1.25 and no individual Impacted Utility should incur increased, unmitigated transmission costs.¹³

¹³ An entity would incur increased, unmitigated transmission costs should it incur more costs than displaced benefits and not be compensated/made whole for those additional costs. For purposes of this Attachment K, the terms "Impacted Utilities" shall mean: i) the Beneficiaries identified in the evaluation of the proposed transmission project and ii) any entity identified in this Section 27.2.1 to potentially have increased costs on its transmission system located in the SERTP region in order to implement the proposal.

1. The benefit used in this calculation for purposes of assessing the transmission developer's proposed transmission project will be quantified by the Beneficiaries' total cost savings in the SERTP region associated with:
 - A. All transmission projects in the ten (10) year transmission expansion plan which would be displaced, as identified pursuant to Section 27.1;
 - B. All regional transmission projects included in the regional transmission plan which would be displaced, as identified pursuant to Section 27.1 and to the extent no overlap exists with those transmission projects identified as displaceable in the Transmission Owner's ten (10) year transmission expansion plan. This includes transmission projects currently selected in the regional transmission plan for RCAP; and
 - C. All alternative transmission project(s), as determined pursuant to Section 27.1 that would be required in lieu of the proposed regional transmission project, if the proposed regional transmission project addresses a transmission need for which no transmission project is included in the latest ten (10) year expansion plan and/or regional transmission plan.
2. The cost used in this calculation will be quantified by the transmission cost within the SERTP region associated with:
 - A. The project proposed for selection in a regional transmission plan for RCAP; and
 - B. Any additional projects within the SERTP region on Impacted utility transmission systems required to implement the proposal as identified pursuant to Section 27.1.

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- C. For interregional transmission projects proposed for purposes of cost allocation between the SERTP and a neighboring region(s), the cost used in this calculation will be quantified by the transmission cost of the project multiplied by the allocation of the transmission project's costs (expressed as a fraction) to the SERTP region, as specified in the applicable interregional cost allocation procedures, plus the transmission costs of any additional projects within the SERTP region on Impacted Utility transmission systems required to implement the proposal as identified pursuant to Section 27.1.
3. If the initial BTC calculation results in a ratio equal to or greater than 1.0, then the Transmission Owner will calculate the estimated change in real power transmission losses on the transmission system(s) of Impacted Utilities located in the SERTP. In that circumstance, an updated BTC ratio will be calculated consistent with Section 27.2. in which:
- A. The cost savings associated with a calculated reduction of real power energy losses on the transmission system(s) will be added to the benefit; and
- B. The cost increase associated with a calculated increase of real power energy losses on the transmission system(s) will be added to the cost.
- 27.2.2** The Transmission Owner will develop planning level cost estimates for use in determining the regional benefit-to-cost ratio. Detailed engineering estimates may be used if available. If the Transmission Owner uses a cost estimate different than a detailed cost estimate(s) provided by the transmission developer for use in performing the regional benefit-to-cost ratio, the Transmission Owner will provide a detailed explanation of such difference to the transmission developer.
- 27.2.3** The cost savings and/or increase associated with real power losses on the transmission system(s) within the SERTP region with the implementation of the proposed regional transmission project will be estimated for each Impacted Utility throughout the ten (10) year transmission planning horizon as follows:
- The Transmission Owner will utilize power flow models to determine the change in real power losses on the transmission system at estimated average load levels.
 - If the estimated change in real power transmission losses is less than 1 MW on a given transmission

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system of an Impacted Utility, no cost savings and/or cost increase for change in real power transmission losses on such system will be assigned to the proposal.

- The Transmission Owner will estimate the energy savings associated with the change in real power losses utilizing historical or forecasted data that is publicly available (e.g., FERC Form 714).

27.2.4 Within 30 days of the Transmission Owner completing the foregoing regional benefit-to-cost analysis, the Transmission Owner will notify the transmission developer of the results of that analysis. For potential transmission projects found to satisfy the foregoing benefit-to-cost analysis, the Impacted Utilities will then consult with the transmission developer of that project to establish a schedule for the following activities specified below, with the schedule to be developed within 90 days of the notification: 1) the transmission developer providing detailed financial terms for its proposed project and 2) the proposed transmission project to be reviewed by the jurisdictional and/or governance authorities of the Impacted Utilities pursuant to Section 27.4 for potential selection in a regional transmission plan for RCAP.¹⁴

27.3 The Transmission Developer to Provide More Detailed Financial Terms and the Performance of a Detailed Transmission Benefit-to-Cost Analysis:

27.3.1 By the date specified in the schedule established in Section 27.2.4, the transmission developer shall identify the detailed financial terms for its proposed project, establishing in detail: (1) the total cost to be allocated to the Beneficiaries if the proposal were to be selected in a regional transmission plan for RCAP, and (2) the components that comprise that cost, such as the costs of:

- Engineering, procurement, and construction consistent with Good Utility Practice and standards and specifications acceptable to the Transmission Owner,
- Financing costs, required rates of return, and any and all incentive-based (including performance based) rate treatments,
- Ongoing operations and maintenance of the proposed transmission project,
- Provisions for restoration, spare equipment and materials, and emergency repairs, and
- Any applicable local, state, or federal taxes.

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27.3.2 To determine whether the proposed project is considered at that time to remain a more efficient or cost effective alternative, the Transmission Owner will then perform a more detailed 1.25 transmission benefit-to-cost analysis consistent with that performed pursuant to Section 27.2.1. This more detailed transmission benefit-to-cost analysis will be based upon the

¹⁴ The schedule established in accordance with Section 27.2.4 will reflect considerations such as the timing of those transmission needs the regional project may address as well as the lead-times of the regional project, transmission projects that must be implemented in support of the regional project, and projects that may be displaced by the regional project. This schedule may be revised by the Transmission Owner and the Impacted Utilities, in consultation with the transmission developer, as appropriate to address, for example, changes in circumstances and/or underlying assumptions.

detailed financial terms¹⁵ provided by the transmission developer, as may be modified by agreement of the transmission developer and Beneficiary(ies), and any additional, updated, and/or more detailed transmission planning, cost or benefit information/component(s) as provided by the Impacted Utilities that are applicable to/available for the proposed transmission project, the projects that would be displaced, any additional projects required to implement the proposal and real power transmission loss impacts.¹⁶ Once the Transmission Owner has determined the outcome of the aforementioned regional benefit-to-cost analysis, the Transmission Owner will notify the transmission developer within 30 days of the outcome.

27.3.3 To provide for an equitable comparison, the costs of the transmission projects that would be displaced and/or required to be implemented in such a detailed benefit-to-cost analysis will include comparable cost components as provided in the proposed project's detailed financial terms (and vice-versa), as applicable. The cost components of the transmission projects that would be displaced will be provided by the Transmission Owner and/or other Impacted Utilities who would own the displaced transmission project. The cost components of the proposed transmission project and of the transmission projects that would be displaced will be reviewed and scrutinized in a comparable manner in performing the detailed benefit to cost analysis.

27.4 Jurisdictional and/or Governance Authority Review: Should the proposed transmission project be found to satisfy the more detailed benefit-to-cost analysis specified in Section 27.3, the state jurisdictional and/or governance authorities of the Impacted Utilities will be provided an opportunity to review the transmission

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project proposal and otherwise consult, collaborate, inform, and/or provide recommendations to the Transmission Owner. The recommendations will inform the Transmission Owner's selection decision for purposes of Section 27.5, and such a recommendation and/or selection of a project for inclusion in a regional transmission plan for RCAP shall not prejudice the state jurisdictional and/or governance authority's (authorities') exercise of any and all rights granted to them pursuant to state or Federal law with regard to any project evaluated and/or selected for RCAP that falls within such authority's (authorities') jurisdiction(s).

¹⁵ The detailed financial terms are to be provided by the date specified in the schedule to be developed by the Impacted Utilities and the transmission developer in accordance with Section 27.2.4.

¹⁶ The performance of this updated, detailed benefit-to-cost analysis might identify different Beneficiaries and/or Impacted Utilities than that identified in the initial benefit-to-cost analysis performed in accordance with Section 27.2.1.

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27.5 Selection of a Proposed Transmission Project for RCAP:

27.5.1 The Transmission Owner will select a transmission project (proposed for RCAP) for inclusion in the regional transmission plan for RCAP for the then-current planning cycle if the Transmission Owner determines that the project is a more efficient or cost effective transmission project as compared to other alternatives to reliably address transmission need(s).¹⁷ Factors considered in this determination include:

- Whether the project meets or exceeds the detailed benefit-to-cost analysis performed pursuant to Section 27.3. Such detailed benefit-to-cost analysis may be reassessed, as appropriate, based upon the then-current Beneficiaries and to otherwise reflect additional, updated, and/or more detailed transmission planning, cost or benefit information/component(s) that are applicable to/available for the proposed transmission project, the projects that would be displaced, any additional projects required to implement the proposal and real power transmission loss impacts;
- Any recommendation provided by state jurisdictional and/or governance authorities in accordance with Section 27.4 including whether the transmission developer is considered reasonably able to construct the transmission project in the proposed jurisdiction(s);
- Whether, based on the timing for the identified Transmission Need(s) and the stages of project development provided by the transmission developer in accordance with Section 26.1 and as otherwise may be updated, the transmission developer is considered to be reasonably able to construct and tie the proposed transmission project into the transmission system by the required in-service date;
- Whether it is reasonably expected that the Impacted Utilities will be able to construct and tie-in any additional facilities on their systems located within the SERTP region that are necessary to reliably implement the proposed transmission project; and
- Any updated qualification information regarding the transmission developer's finances or technical expertise, as detailed in Section 24.

¹⁷ Being selected for RCAP in the then-current iteration of a regional transmission plan only provides how the costs of the transmission project may be allocated in Commission-approved rates should the project be built. Being selected in a regional transmission plan for RCAP provides no rights with regard to siting, construction, or

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ownership. The transmission developer must obtain all requisite approvals to site and build its transmission project. A transmission project may be removed from being selected in a regional transmission plan for RCAP in accordance with the provisions of Sections 26.4, 29, 30, 31 and 32.

The Transmission Owner will post on the Regional Planning Website its determination regarding whether a proposed project will be selected for inclusion in the regional transmission plan for RCAP for that transmission planning cycle. The Transmission Owner will document its determination in sufficient detail for Stakeholders to understand why a particular project was selected or not selected for RCAP and will make this supporting documentation available to the transmission developer or Stakeholders, subject to any applicable confidentiality requirements. For projects selected in the regional transmission plan for purposes of RCAP, the documentation will also include sufficient information regarding the application of the regional cost allocation method to determine the benefits, and identify the Beneficiaries of the proposed regional transmission project.

27.5.2 If a regional transmission project is selected in the regional transmission plan for purposes of RCAP, the Transmission Owner will perform analyses to determine whether, throughout the ten (10) year planning horizon, the proposed transmission project could potentially result in reliability impacts to the transmission system(s) of an adjacent neighboring transmission planning region(s). If a potential reliability impact is identified, the Transmission Owner will coordinate with the neighboring planning region on any further evaluation. The costs associated with any required upgrades identified in neighboring planning regions will not be included for RCAP within the SERTP.

28. Cost Allocation to the Beneficiaries: If a regional transmission project is selected in a regional transmission plan for RCAP in accordance with Section 27.5 and then constructed and placed into service, the Beneficiaries will be allocated the regional transmission project's costs based upon their cost savings calculated in accordance with Sections 27.3 and 27.4 associated with:

1. The displacement of one or more of the transmission projects previously included in their ten (10) year transmission expansion plan.
2. The displacement of one or more regional transmission projects previously included in the regional transmission plan. More specifically, if a regional transmission project addresses the same transmission need(s) as a transmission project selected in a regional transmission plan for RCAP and displaces the original RCAP project as a more efficient or cost effective alternative, this cost allocation component will be based upon the costs of the original RCAP project that were to be allocated to the Beneficiaries in accordance with the application of

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- the regional cost allocation method to the transmission project being displaced.
3. Any alternative transmission project(s) that would be required in lieu of the regional transmission project, if the proposed regional transmission project addresses a transmission need for which no transmission project is included in the latest ten (10) year expansion plan and/or regional transmission plan.
 4. The reduction of real power transmission losses on their transmission system.

29. On-Going Evaluations of the Regional Transmission Plan:

29.1 In order to ensure that the Transmission Owner can efficiently and cost effectively meet its respective reliability, duty to serve, and cost of service obligations, and to ensure that the proposed transmission project remains the more efficient or cost effective alternative, the Transmission Owner will continue to reevaluate the regional transmission plan throughout the then-current planning cycle and in subsequent cycles. This continued reevaluation will assess in subsequent expansion planning processes that reflect ongoing changes in actual and forecasted conditions, the then-current transmission needs and determine whether transmission projects included in the regional transmission plan (i) continue to be needed and (ii) are more efficient or cost effective as compared to alternatives.

- These on-going assessments will include reassessing transmission projects that have been selected in the regional transmission plan for RCAP and any projects that are being considered for potential selection in a regional transmission plan for RCAP.

29.2 Even though a transmission project may have been selected in a regional transmission plan for RCAP in an earlier regional transmission plan, if it is determined that the transmission project is no longer needed and/or it is no longer more efficient or cost effective than alternatives, then the Transmission Owner may notify the transmission developer and remove the proposed project from being selected in a regional transmission plan for RCAP.

29.3 The cost allocation of a regional transmission project selected in a regional transmission plan for RCAP that remains selected in the regional transmission plan for RCAP may be modified in subsequent planning cycles based upon:

1. The then-current determination of benefits (calculated consistent with Section 27.3),
2. Cost allocation modifications as mutually agreed by the Beneficiaries, or
3. Cost modifications, as found acceptable by both the transmission developer and the Beneficiary(ies).

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All prudently incurred costs of the regional transmission project will be allocated if the project remains selected in the regional plan for RCAP.

- 29.4** The reevaluation of the regional transmission plan will include the reevaluation of a particular transmission project included in the regional transmission plan until it is no longer reasonably feasible to replace the proposed transmission project as a result of the proposed transmission project being in a material stage of construction and/or if it is no longer considered reasonably feasible for an alternative transmission project to be placed in service in time to address the underlying transmission need(s) the proposed project is intended to address.

30. Delay or Abandonment

- 30.1** The transmission developer shall promptly notify the Transmission Owner should any material changes or delays be encountered in the development of a potential transmission project selected in a regional transmission plan for RCAP. As part of the Transmission Owner's on-going transmission planning efforts, the Transmission Owner will assess whether alternative transmission solutions may be required in addition to, or in place of, a potential transmission project selected in a regional transmission plan for RCAP due to the delay in its development or abandonment of the project. The identification and evaluation of potential transmission project alternative solutions may include transmission project alternatives identified by Transmission Owner to include in the ten year transmission expansion plan. Furthermore, nothing precludes the Transmission Owner from proposing such alternatives for potential selection in a regional transmission plan for RCAP pursuant to Section 26.

- 30.2** Based upon the alternative transmission projects identified in such on-going transmission planning efforts, the Transmission Owner will evaluate the transmission project alternatives consistent with the regional planning process. The Transmission Owner will remove a delayed project from being selected in a regional transmission plan for RCAP if the project no longer:

1. Adequately addresses underlying transmission needs by the required transmission need dates; and/or
2. Remains more efficient or cost effective based upon a reevaluation of the detailed benefit-to-cost calculation. The BTC calculation will factor in any additional transmission solutions required to implement the proposal (*e.g.*, temporary fixes) and will also compare the project to identified transmission project alternatives.

31. Milestones of Required Steps Necessary to Maintain Status as Being Selected for RCAP

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- 31.1** Once a regional transmission project is selected in a regional transmission plan for RCAP, the transmission developer must submit a development schedule to the Transmission Owner and the Impacted Utilities that establishes the milestones by which the necessary steps to develop and construct the transmission project must occur. These milestones include (to the extent not already accomplished) obtaining all necessary ROWs and requisite environmental, state, and other governmental approvals. A development schedule will also need to be established for any additional projects by Impacted Utilities that are determined necessary to integrate the transmission projects selected in a regional transmission plan for RCAP. The schedule and milestones must be satisfactory to the Transmission Owner and the Impacted Utilities.
- 31.2** In addition, the Beneficiaries will also determine and establish the deadline(s) by which the transmission developer must provide security/collateral for the proposed project that has been selected in a regional transmission plan for RCAP to the Beneficiaries or otherwise satisfy requisite creditworthiness requirements. The security/collateral/creditworthiness requirements shall be as described or referenced in Section 32.
- 31.3** If such critical steps are not met by the specified milestones and then afterwards maintained, then the Transmission Owner may remove the project from being selected in a regional transmission plan for RCAP.
- 32. Credit and Security Requirements to Protect the Beneficiaries Against Delay or Abandonment of a Transmission Project Selected in a Regional Transmission Plan for RCAP**
- 32.1 Demonstration of Financial Strength:** In order for a project to be selected and remain selected in a regional transmission plan for RCAP, the transmission developer must satisfy the following:
- 32.1.1** Consistent with Sections 24.1 and 26.5.3, the transmission developer for such project or its parent company providing the Beneficiaries with a parent guaranty (“Parent Guarantor”) must have and maintain a Credit Rating of BBB- (or equivalent) or better from one or more of the Rating Agencies and not have or obtain less than any such Credit Rating by any of the Rating Agencies, or the transmission developer must be Unrated and have and maintain a Rating Equivalent of BBB- or better.
- 32.1.2** In addition to the requirements of Section 32.1.1, the transmission developer must satisfy one of the following by and at all times after the deadline established pursuant to Section 31.2:
1. The transmission developer must (i) have and maintain a Credit Rating of BBB+ (or equivalent) or better from one or more of the

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Rating Agencies and not have or obtain less than any such Credit Rating by any of the Rating Agencies or (ii) be Unrated and have and maintain a Rating Equivalent of BBB+ or better; or

2. The transmission developer must provide to and maintain with the Beneficiaries Eligible Developer Collateral (as defined in Section 32.4 below) in an amount equal to twenty-five percent (25%) of the total costs of the transmission developer's projects selected in a regional transmission plan for RCAP.

32.2 Limitation of Exposure

32.2.1 Notwithstanding the foregoing, the Beneficiaries may limit their exposure with respect to transmission projects selected in a regional transmission plan being developed by a transmission developer satisfying the requirements of item 1 of Section 32.1.2 above if the aggregate costs of such projects are at any time in excess of the lesser of (a) 10% of the transmission developer's Tangible Net Worth if the transmission developer has a Tangible Net Worth of less than one billion dollars or (b) two hundred fifty million dollars (the "Cap"). In such event, the transmission developer must provide to and maintain with the Beneficiaries Eligible Developer Collateral in a dollar amount not less than the amount by which the aggregate costs of such projects exceed the Cap. Each transmission developer will provide and update the Beneficiaries with such information as is necessary to establish and confirm the transmission developer's Tangible Net Worth. For purposes hereof, "Tangible Net Worth" shall be equal to the relevant entity's total equity minus its intangible assets and also minus its goodwill.

32.2.2 Notwithstanding the foregoing, the Beneficiaries may limit their exposure with respect to transmission projects selected in a regional transmission plan being developed by a transmission developer or its affiliates who are satisfying the requirements of item 2 of Section 32.1.2 or 32.2.1 above by providing and maintaining a Developer Parent Guaranty (as defined in Section 32.4 below) if the aggregate costs of such projects are at any time in excess of the lesser of (a) 10% of the Parent Guarantor's Tangible Net Worth if such Parent Guarantor has a Tangible Net Worth of less than one billion dollars or (b) two hundred fifty million dollars (the "Guarantor Cap"). In such event, the transmission developer must provide to and maintain with the Beneficiaries an acceptable Irrevocable Letter of Credit in a dollar amount not less than the amount by which the aggregate costs of such projects exceed the Guarantor Cap. Each transmission developer will provide and update the Beneficiaries with such information as is necessary to establish and confirm the Parent Guarantor's Tangible Net

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Worth.

32.3 Credit Evaluation/Updates

32.3.1 On at least an annual basis, a transmission developer with a transmission project selected in a regional transmission plan for RCAP will provide the Beneficiaries with an updated, completed application and the updated information described in Section 24.1.

32.3.2 On at least an annual basis, or more often if there is a Material Adverse Change in the financial condition and/or a relevant change in the Tangible Net Worth of the transmission developer or its Parent Guarantor or if there are issues or changes regarding a transmission project, the Beneficiaries may review the Credit Rating and review and update the Rating Equivalent, Cap, Guarantor Cap and Eligible Developer Collateral requirements for said transmission developer. In the event said transmission developer is required to provide additional Eligible Developer Collateral as a result of the Beneficiaries' review/update, the Beneficiaries will notify the transmission developer and such additional Eligible Developer Collateral must be provided within five (5) business days of such notice, all in amount and form approved by the Beneficiaries.

32.4 Eligible Developer Collateral: Acceptable forms of eligible collateral meeting the requirements referenced below and the Beneficiaries' approval (the "Eligible Developer Collateral") may be either in the form of an irrevocable letter of credit ("Irrevocable Letter of Credit") or parent guaranty issued by a Parent Guarantor who has and maintains a Credit Rating of BBB+ (or equivalent) or better from one or more of the Rating Agencies and does not have or obtain less than any such Credit Rating by any of the Rating Agencies ("Developer Parent Guaranty"). Acceptable forms of Eligible Developer Collateral and related requirements and practices will be posted and updated on the Regional Planning Website and/or provided to the relevant transmission developer directly.

32.4.1 Each Beneficiary shall require an Irrevocable Letter of Credit to be issued to it in a dollar amount equal to the percentage of the costs of a transmission developer's transmission projects allocated or proposed to be allocated to it ("Percentage") multiplied by the aggregate dollar amount of all Irrevocable Letters of Credit constituting or to constitute Eligible Developer Collateral for such transmission projects.

32.4.2 Each Beneficiary shall require a Developer Parent Guaranty to be issued to it in a dollar amount equal to its Percentage multiplied by the aggregate dollar amount of all Developer Parent Guaranties constituting or to constitute Eligible Developer Collateral for such transmission projects.

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32.4.2.1 A transmission developer supplying a Developer Parent Guaranty must provide and continue to provide the same information regarding the Parent Guarantor as is required of a transmission developer, including rating information, financial statements and related information, references, litigation information and other disclosures, as applicable.

32.4.2.2 All costs associated with obtaining and maintaining Irrevocable Letters of Credit and/or Developer Parent Guaranties and meeting the requirements of this Section 32 are the responsibility of the transmission developer.

32.4.2.3 The Beneficiaries reserve the right to deny, reject, or terminate acceptance and acceptability of any Irrevocable Letter of Credit or any Developer Parent Guaranty as Eligible Developer Collateral at any time for reasonable cause, including the occurrence of a Material Adverse Change or other change in circumstances.

32.5 Cure Periods/Default: If a transmission developer fails to comply with the requirements of this Section 32 and such failure is not cured within ten (10) business days after its initial occurrence, the Beneficiaries may declare such transmission developer to be in default hereunder and/or the Beneficiaries may, without limiting their other rights and remedies, revise the Cap, Guarantor Cap and Eligible Developer Collateral requirements; further, if such failure is not cured within an additional ten (10) business days, the Beneficiaries may, without limiting their other rights and remedies, immediately remove any or all of the transmission developer's projects from consideration for potential selection in the regional transmission plan for RCAP and, if previously selected, from being selected in a regional transmission plan for RCAP, as applicable.

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Appendix 1

CONFIDENTIALITY AGREEMENT FOR TREATMENT OF CRITICAL ENERGY INFRASTRUCTURE INFORMATION AND CONFIDENTIAL TRANSMISSION PLANNING INFORMATION

THIS STANDARD CONFIDENTIALITY AGREEMENT FOR TREATMENT OF CRITICAL ENERGY INFRASTRUCTURE INFORMATION (“CEII”) AND CONFIDENTIAL TRANSMISSION PLANNING INFORMATION (“Agreement”) is made and entered into this _____ day of _____, 20__ by and between _____ (“Stakeholder”), and Louisville Gas and Electric Company, a public utility corporation organized and existing under the laws of the Commonwealth of Kentucky (“LG&E”), and Kentucky Utilities Company, a public utility corporation organized and existing under the laws of the Commonwealth of Kentucky (“KU”). Collectively, LG&E and KU may be referred to as the “Transmission Owner.” Stakeholder and Transmission Owner each may be referred to as a “Party” or collectively as the “Parties.”

Recitals

WHEREAS, Transmission Owner operates a Transmission System; and

WHEREAS, Stakeholder has been identified as having a legitimate interest in the Transmission Owner’s transmission planning processes, whether by virtue of being a Transmission Customer, Interconnection Customer, Eligible Customer, having a transmission interconnection with the Transmission System, or being part of the Kentucky Public Service Commission;

WHEREAS, the Federal Energy Regulatory Commission (“FERC” or “the Commission”) requires that transmission planning is carried out in an open and transparent manner, and that the Transmission Owner develop confidentiality procedures to ensure that information flows freely among the Parties;

WHEREAS, Transmission Owner and Stakeholder understand that certain Transmission Planning Information that has been designated as commercially sensitive Confidential Information, as defined in the Tariff, or Critical Energy Infrastructure Information, as defined in 18 CFR § 388.113(c)(1), and its disclosure should be governed by a confidentiality agreement; and

WHEREAS, Stakeholder and Transmission Owner have agreed to enter into this Agreement for the purpose of protecting the disclosure of Confidential Transmission Planning Information.

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NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

Article 1: Purpose

This Agreement shall govern access to Confidential Transmission Planning Information and Critical Energy Infrastructure Information conveyed to the Stakeholder by the Transmission Owner or the Independent Transmission Organization (“ITO”) in relation to transmission planning for the Transmission System.

Unless otherwise agreed, the obligations of confidentiality and non-use set forth in this Agreement do not apply to such Transmission Planning Information that:

- (A) Was, at the time of receipt, already known to the Stakeholder, free of any obligation to keep it confidential, as evidenced by written records prepared prior to delivery by the Transmission Owner or ITO;
- (B) Is or becomes publicly known through no wrongful act of the Stakeholder;
- (C) Is rightfully received from a third person having no direct or indirect secrecy or confidentiality obligation to the Transmission Owner with respect to such information;
- (D) Is independently developed by an employee, agent, or contractor of the Stakeholder; or
- (E) Is required to be made public by the Stakeholder pursuant to Article 12 of this Agreement.

Article 2: Definitions

Unless otherwise defined in Article 2 of this Agreement, capitalized terms shall have the meanings specified in the Transmission Owner’s OATT.

2.1 Transmission Planning Information. The term “Transmission Planning Information” means the information used by the Transmission Owner or ITO in the process of transmission planning. Transmission Planning Information includes Confidential Transmission Planning Information, as well as information that may be publicly available.

2.2 Confidential Transmission Planning Information. The term “Confidential Transmission Planning Information” means the annual Transmission Expansion Plan, data used by the Transmission Owner or ITO in the process of transmission planning, the status of transmission expansion projects, or any other information provided to the Stakeholder with regard to transmission planning on the Transmission Owner’s Transmission System that is designated as “Confidential.”

2.3 Critical Energy Infrastructure Information. The term “Critical Energy Infrastructure Information” means only the annual Transmission Expansion Plan, data used by

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the Transmission Owner or ITO in the process of transmission planning, the status of transmission expansion projects, or any other information provided to the Stakeholder with regard to transmission planning on the Transmission Owner's Transmission System that is designated as "Critical Energy Infrastructure Information."

2.4 Notes. The term "Notes" means memoranda, handwritten notes, or any other form of information (including electronic form) that copies or discloses Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information. Notes are subject to the same restrictions provided for in this Agreement for Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information.

Article 3: Term and Termination

3.1 Term. The term of this agreement shall commence immediately upon the signature of an officer of the Stakeholder and shall remain in effect for a period of five (5) years unless terminated sooner, with or without cause, by either Party in writing. The confidentiality and non-disclosure obligations of this Agreement shall survive this Agreement for a period of three (3) years after termination.

3.2 Termination. Stakeholder may terminate this Agreement at any time upon written notice of the intent to terminate, at which time Stakeholder shall be prohibited from further receipt of Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information.

3.2.1 Termination does not excuse the Stakeholder or any of its employees, experts, agents or representatives receiving such information from maintaining the confidentiality of any Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information received prior to termination and preventing disclosure of that Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information, under the terms of this Agreement, for the term of this Agreement specified in Article 3.1.

3.2.2 Stakeholder and/or its employees, experts, agents or representatives shall destroy or return all Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information to the Transmission Owner immediately upon termination of this Agreement.

Article 4: Use of Confidential Transmission Planning Information Infrastructure Information and/or Critical Energy Infrastructure Information

All persons who may be entitled to review, or who are afforded access to Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information and by reason of this Agreement shall only use the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information for the Stakeholder's internal purposes,

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including its participation in the Transmission Owner's transmission planning process, and not for the benefit or business purposes of any third party and in accordance with the purposes and intent of this Agreement.

Where references to Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information is required in studies, memorandum, reports, or other documents, internal or external, such references shall be by citation to the data as a whole, without reference to specific third party information and shall not disclose the substantive Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information contained therein.

Nothing herein shall require or obligate the Transmission Owner to release or provide access to potential CEII, critical assets or critical cyber assets-related information in a manner inconsistent with applicable law, regulation, mandatory reliability standards or prudent utility practice, as determined in the discretion of the Transmission Owner, reasonably applied.

Article 5: Nondisclosure

Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information shall not be disclosed to any person who is not identified in the List of Authorized Recipients, which is attached hereto as Exhibit "A" and incorporated herein.

Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information, including any Notes or studies produced on behalf of the Stakeholder by its employees, experts, agents or representatives, shall be treated as confidential by each Party, and shall not be disclosed in any manner to any person except another employee, expert, agent or representative who is authorized to receive the information in accordance with this Agreement.

Article 6: Compliance and Protection of Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information

Stakeholder represents and warrants that it has practices and procedures adequate to protect against the unauthorized release of the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information received. Stakeholder must educate its employees, experts, agents, or representatives in the provisions of this Agreement and provide to the Transmission Owner upon request any information necessary to determine compliance with the terms of this Agreement.

Article 7: Persons Entitled to Review

7.1 Qualifications. Access to Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information shall be limited to those employees, experts, agents or representatives necessary to participate in the Transmission Owner's transmission planning

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process, including those who perform an analysis of the Transmission Owner's transmission planning.

In the event that any employee, expert, agent or representative to whom the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information has been disclosed ceases to be affiliated with the Stakeholder, or is employed or retained for a position that would disqualify that individual pursuant to this Article, the Stakeholder shall terminate that individual's access to Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information and either destroy all Notes prepared by that employee, expert, agent or representative or return those Notes to the Transmission Owner. The employee, expert, agent or representative shall fulfill their obligations under this Agreement for the remainder of the term of the Agreement as defined in Article 3.

7.2 Designation of Employees, Experts, Agents or Representatives. Concurrent with the execution of this Agreement, Stakeholder shall designate the employees, experts, agents or representatives to receive the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information by providing the completed List of Authorized Recipients, attached hereto as Exhibit A. Stakeholder shall provide to the Transmission Owner and the ITO the name, position/title, business address, phone number, email address, and primary responsibilities for each designated employee, expert, agent or representative. Stakeholder may submit requests for approval of additional employees, experts, agents or representatives to receive Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information to the Transmission Owner and ITO as required. Exhibit A shall be updated (including, and especially reflecting, the deletions of names of individuals no longer employed by the company, or that no longer require or qualify to have access to the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information) and resubmitted to the Transmission Owner promptly to reflect the current and accurate listing of those individuals within the company that have been designated by the Stakeholder and approved by the Transmission Owner.

7.3 Approval. Transmission Owner must approve the disclosure of Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information to each designated employee, expert, agent or representative of the Stakeholder, such approval not to be unreasonably withheld. Stakeholder shall not disclose Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information to any additional employees, experts, agents or representatives of Stakeholder, unless and until Transmission Owner approves the disclosure and the designated employee, expert, agent or representative is identified on the List of Authorized Recipients.

7.4 Internal Disclosure. An employee, expert, agent or representative may disclose Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information to another employee, expert, agent or representative as long as the disclosing employee, expert, agent or representative and the receiving employee, expert, agent or representative are both identified on the List of Authorized Recipients.

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Article 8: Treatment of Confidential Material

Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information shall be clearly marked and protected from unauthorized public disclosure and disclosure to unauthorized employees, experts, agents or representatives of the Stakeholder.

Article 9: Copies

No copies or transcriptions of the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information shall be made by the Stakeholder except as necessary to make the information available to authorized individuals.

Article 10: Return of Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information

10.1 General. Upon request of Transmission Owner, all original documents and copies of the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information shall be: 1) returned to Transmission Owner, or 2) destroyed by the holder of such documents.

10.2 Return of Notes. Any Notes maintained by a recipient of Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information which embody or reflect any of the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information provided under this Agreement shall, upon request of Transmission Owner, be either returned to Transmission Owner or, at the option of the recipient, destroyed.

Article 11: Accuracy of Information

Stakeholder acknowledges that neither Transmission Owner, nor any of Transmission Owner's agents, employees, or other representatives (including but not limited to the ITO or the Reliability Coordinator), are making any representation or warranty as to the accuracy or completeness of any information furnished to Stakeholder. Neither Transmission Owner nor any of its officers, directors, employees, agents or controlling persons (including, without limitation, parent and subsidiary companies) shall have any liability to Stakeholder, or to any of Stakeholder's agents or other representatives, or any other person, relating to or arising from the use of information provided to Stakeholder by Transmission Owner.

Article 12: Compelled Disclosure.

In the event that Stakeholder becomes legally compelled (by deposition, interrogatory, request for documents, subpoena, civil investigative demand or similar process, or applicable law or regulation) to disclose any Confidential Transmission Planning Information and/or Critical

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Energy Infrastructure Information, the Stakeholder shall give the Transmission Owner prompt written notice of such requirement prior to releasing such information so that the Transmission Owner may seek a protective order or other appropriate remedy and/or waive compliance with the terms of this Agreement. The Stakeholder shall cooperate with the Transmission Owner to obtain a protective order. In the event that such protective order or other remedy is not obtained, or that the Transmission Owner waives compliance with the terms hereof, the Stakeholder agrees to provide only that limited portion of the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information that it is advised by written opinion of counsel is legally required and to exercise best efforts to obtain assurance that confidential treatment will be accorded such information. Upon request of the Transmission Owner, the Stakeholder shall provide such opinion of counsel to the Transmission Owner. Disclosure of Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information by the Transmission Owner to regulatory bodies having jurisdiction over the Transmission Owner will not terminate the confidentiality of the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information, provided that the Transmission Owner submits the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information under an appropriate protective order or agreement.

Article 13: Remedies

Each Party acknowledges that any disclosure or misappropriation of Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information by the Stakeholder in violation of this Agreement could cause the Transmission Owner irreparable harm, the amount of which may be extremely difficult to estimate, thus making any remedy at law or in damages inadequate. Therefore, the Stakeholder agrees that the Transmission Owner shall have the right to apply to any court of competent jurisdiction for a restraining order or an injunction restraining or enjoining any breach or threatened breach of this Agreement and for any other equitable relief that the Transmission Owner deems appropriate. This right shall be in addition to any other remedy available to the Parties in law or equity. Stakeholder shall be liable for and shall pay Transmission Owner for any court costs and reasonable attorney's fees incurred in obtaining this and any other remedy under this Agreement.

Article 14: Indemnification

Stakeholder shall indemnify Transmission Owner for any liability to third-parties resulting from the unauthorized disclosure of the Confidential Transmission Planning Information and/or Critical Energy Infrastructure Information subject to this Agreement by Stakeholder or Stakeholder's employees, experts, agents or representatives to any individual that is not authorized under this Agreement to receive the information. Stakeholder's indemnification of Transmission Owner includes compensation to Transmission Owner for all of Transmission Owner's attorney's fees.

Article 15: Contact Information

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Stakeholder shall send its executed Confidentiality Agreement, including Exhibit A and any amended Exhibit A, and all correspondence related to this Confidentiality Agreement to:

LG&E/KU
Attn: _____
220 West Main Street
Louisville, KY

The Transmission Owner may, upon notice to Stakeholder, update its contact information at any time during this Agreement.

Article 16: Assignment

This Agreement may only be assigned by a Party with the written consent of the non-assigning Party, which consent shall be at the sole discretion of the non-assigning Party.

Article 17: Amendments

No amendment, modification, and/or discharge of this Agreement, other than that identified in Article 15, shall be valid or binding on the Parties unless made in writing and signed on behalf of each of the Parties by their respective duly authorized officers or representatives.

Article 18: Miscellaneous Provisions

- 18.1 Nothing contained in this Agreement shall require either Party, or the Parties collectively, to commence, continue, or conclude discussions or negotiations or require the execution of any documents or agreements, which action or inaction shall be at the sole discretion of each Party, respectively.
- 18.2 No Party shall issue any press release or make any public statement of any kind that discussions or negotiations are taking place concerning or related to this Agreement without the prior written consent of the other Party, which consent shall be at the sole discretion of said other Party.
- 18.3 This Agreement constitutes the entire understanding and agreement between the Parties hereto with respect to the subject matter hereof and supersedes all previous communications, representations, and understandings, both oral and written, between the Parties with respect to the subject matter of this Agreement.
- 18.4 Nothing herein shall constitute, or be interpreted as creating or constituting any partnership, joint venture or agency relationship between the Parties.

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- 18.5 The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the laws of the Commonwealth of Kentucky.

- 18.6 If any provision in this Agreement is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this Agreement.

- 18.7 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party. Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Any waiver of this Agreement shall, if requested, be provided in writing.

- 18.8 The descriptive headings of the various Articles of this Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Agreement.

ACCEPTED AND AGREED TO BY:

Stakeholder By:

Transmission Owner By:

Date: _____
Name: _____
Title: _____

Date: _____
Name: _____
Title: _____

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EXHIBIT A

List of Authorized Recipients

Stakeholder (_____), its employees, experts, agents,
representatives, subject to the Confidentiality Agreement, as of this _____ day of
_____, 20__:

Print Name: _____
Title: _____
Business Address: _____
Email Address: _____
Phone Number: _____
Primary Responsibilities: _____

Print Name: _____
Title: _____
Business Address: _____
Email Address: _____
Phone Number: _____
Primary Responsibilities: _____

Print Name: _____
Title: _____
Business Address: _____
Email Address: _____
Phone Number: _____
Primary Responsibilities: _____

Print Name: _____
Title: _____
Business Address: _____
Email Address: _____
Phone Number: _____
Primary Responsibilities: _____

Print Name: _____
Title: _____
Business Address: _____
Email Address: _____
Phone Number: _____
Primary Responsibilities: _____

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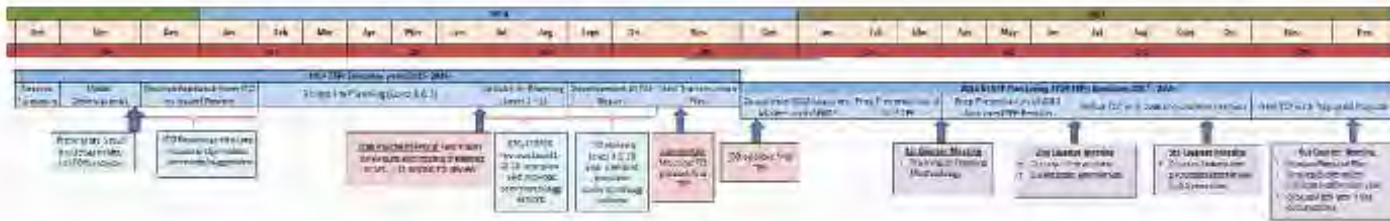
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(Attach Additional Pages If Necessary)

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Appendix 3

Transmission System Planning Guidelines

As of June 24, 2009, the current version of the Transmission System Planning Guidelines,
is available at:

<http://www.oatioasis.com/LGEE/index.html>

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Appendix 5 – Local Economic Planning Study Agreement

Name of Project:
Reservation (if any):
Date Request sent to Transmission Owner:

Entity making request:		
Responsible party marking request:		
Phone:	Fax:	Email:
Nature of Request:		
Service Type:	Firm:	
POR:	POD:	
SOURCE:	SINK:	
Transaction Period:		

Pursuant to Attachment K of the LG&E/KU Open Access Transmission Tariff, any stakeholder may request that the Transmission Owner perform or cause to be performed (by the Transmission Owner or a third party) a local economic planning study. This Agreement shall be signed and returned to the Transmission Owner within **15 days** in order for the local economic planning study request to remain valid.

1. The performance of a local economic planning study is for evaluation purposes only. The Transmission Owner is under no obligation to build any network additions or upgrades identified by a local economic planning study.
2. The local economic planning study will analyze the request based on the existing state of the system, as comprised by the base case and the Transmission Expansion Plan (as approved by the ITO) for the year in which the study request is made. The Transmission Owner shall perform the local economic planning study requested herein to the extent it has the data necessary to do so. The Transmission Owner may solicit the requesting stakeholder(s) or the Transmission Owner’s Load Serving Entity for additional information and data necessary to perform the requested local economic planning study, but only to the extent that such data is publicly available.
3. The local economic planning study shall be completed within ___ days of return of this signed Agreement. In the event the local economic planning study is not completed within ___ days, the requesting stakeholder will be notified of the estimated completion date and provided an explanation of the delay.
4. The requesting entity shall pay the Transmission Owner a fee of \$_____ (_____ dollars), which must be paid before the local economic planning study can commence.

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I agree to the terms and conditions of this Local Economic Planning Study Agreement and authorize the Transmission Owner to proceed with the Local Economic Planning Study.

(Signature and Title) (Date)

Accepted by the Transmission Owner:

(Signature and Title) (Date)

This Local Economic Planning Study Agreement should be returned executed via fax for time-stamp to Transmission Owner at [_____]. An executed hard copy should also be mailed to:

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Appendix 6 to Attachment K

Interregional Transmission Coordination Between the SERTP and FRCC Regions

The Transmission Owner, through its regional transmission planning process, coordinates with the Florida Reliability Coordinating Council region (“FRCC”) to address transmission planning coordination issues related to interregional transmission facilities. The interregional transmission coordination procedures include a detailed description of the process for coordination between the public utility transmission providers in the SERTP and FRCC (i) with respect to an interregional transmission facility that is proposed to be located in both transmission planning regions and (ii) to identify possible interregional transmission facilities that could address transmission needs more efficiently or cost-effectively than transmission facilities included in the respective regional transmission plans. The interregional transmission coordination procedures are hereby provided in this Appendix 6 to Attachment K with additional materials provided on the Regional Planning website.

The Transmission Owner ensures that the following requirements are included in the interregional transmission coordination procedures:

- (1) A commitment to coordinate and share the results of the SERTP and FRCC regional transmission plans to identify possible interregional transmission projects that could address transmission needs more efficiently or cost-effectively than separate regional transmission facilities, as well as a procedure for doing so;
- (2) A formal procedure to identify and jointly evaluate transmission facilities that are proposed to be located in both transmission planning regions;

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- (3) A duty to exchange, at least annually, planning data and information; and
- (4) A commitment to maintain a website or e-mail list for the communication of information related to the coordinated planning process.

The Transmission Owner has worked with transmission providers located in the FRCC to develop a mutually agreeable method for allocating between the two transmission planning regions the costs of new interregional transmission facilities that are located within both transmission planning regions. Such cost allocation method satisfies the six interregional cost allocation principles set forth in Order No. 1000 and is included in this Appendix 6.

For purposes of this Appendix 6, the SERTP regional transmission planning process is the process described in Attachment K of this Tariff; the FRCC regional transmission planning process is the process described in the relevant Attachment Ks (or analog tariff sections) of the public utility transmission providers in the FRCC. References to the respective regional transmission planning processes in this Appendix 6 are intended to identify the activities described in those tariff provisions. Unless noted otherwise, Section references in this Appendix 6 refer to Sections within this Appendix 6.

INTERREGIONAL TRANSMISSION PLANNING PRINCIPLES

Representatives of the SERTP and the FRCC will meet no less than once per year to facilitate the interregional coordination procedures described below (as applicable). Representatives of the SERTP and the FRCC may meet more frequently during the evaluation of project(s) proposed for purposes of interregional cost allocation between the SERTP and the FRCC.

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1. Coordination

1.1 Review of Respective Regional Plans: Biennially, the Transmission Owner and the FRCC shall review each other's current regional plan(s) and engage in the data exchange and joint evaluation described in Sections 2 and 3.

1.2 Review of Proposed Interregional Projects: The Transmission Owner and the FRCC will coordinate with regard to the evaluation of interregional transmission projects identified by the Transmission Owner and the FRCC as well as interregional transmission projects proposed for Interregional Cost Allocation Purposes ("Interregional CAP"), pursuant to Sections 3 and 4, below. Initial coordination activities regarding new interregional proposals will typically begin during the third calendar quarter. The Transmission Owner and the FRCC will typically exchange status updates for new interregional transmission project proposals or proposals currently under consideration every six (6) months, or as needed. These status updates will generally include, if applicable: (i) an update of the region's evaluation of the proposal; (ii) the latest calculation of Regional Benefits (as defined in Section 4.2); (iii) the anticipated timeline for future assessments; and (iv) reevaluations related to the proposal.

1.3 Coordination of Assumptions Used in Joint Evaluation: The Transmission Owner and the FRCC will coordinate assumptions used in joint evaluations, as necessary, which includes items such as:

- Expected timelines/milestones associated with the joint evaluation;
- Study assumptions; and

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- Regional benefit calculations.

2. Data Exchange

- 2.1** At least annually, the Transmission Owner and the FRCC shall exchange power-flow models and associated data used in the regional transmission planning processes to develop their respective then-current regional transmission plan(s). This exchange will typically occur by the beginning of each region's transmission planning cycle. Additional transmission-based models and data may be exchanged between the Transmission Owner and the FRCC as necessary and if requested. For purposes of the interregional coordination activities outlined in this Appendix 6, only data and models used in the development of the Transmission Owner's and FRCC's then-current regional transmission plans and used in their respective regional transmission planning processes will be exchanged. This data will be posted on the pertinent regional transmission planning process' website, consistent with the posting requirements of the respective regional transmission planning processes, and is considered CEII. The Transmission Owner shall notify the FRCC of such posting.
- 2.2** The SERTP regional transmission plans will be posted on the Regional Planning website pursuant to the Transmission Owner's regional transmission planning process. The Transmission Owner will also notify the FRCC of such posting so the FRCC may retrieve these transmission plans. The FRCC will exchange its then-current regional plan(s) in a similar manner according to its regional transmission planning process.

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3. Joint Evaluation

3.1 Identification of Interregional Projects: The Transmission Owner and the FRCC shall exchange planning models and data and current regional transmission plans as described in Section 2. The Transmission Owner and the FRCC will review one another's then-current regional plan(s) in accordance with the coordination procedures described in Section 1 and their respective regional transmission planning processes. If through this review, the Transmission Owner or the FRCC identify a potential interregional project that could be more efficient or cost effective than projects included in the respective regional plans, the Transmission Owner and the FRCC will jointly evaluate the potential project pursuant to Section 3.4.

3.2 Identification of Interregional Projects by Stakeholders: Stakeholders may also propose projects that may be more efficient or cost-effective than projects included in the SERTP's and the FRCC's regional transmission plans pursuant to the procedures in each region's regional transmission planning processes. The Transmission Owner and the FRCC will evaluate interregional projects proposed by stakeholders pursuant to Section 3.4.

3.3 Identification of Interregional Projects by Developers: Interregional transmission projects proposed for potential Interregional CAP must be submitted in both the SERTP and FRCC regional transmission planning processes. The

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project submittal must satisfy the requirements of Section 4.1. The submittal must identify the potential transmission project as interregional in scope and identify the SERTP and FRCC as regions in which the project is proposed to interconnect. The Transmission Owner will verify whether the submittal for the potential interregional transmission project satisfies all applicable requirements. Upon finding that the proposed interregional transmission project satisfies all such applicable requirements, the Transmission Owner will notify the FRCC. Once the potential project has been proposed through the regional transmission planning processes in both regions, and upon both regions so notifying one another that the project is eligible for consideration pursuant to their respective regional transmission planning processes, the Transmission Owner and the FRCC will jointly evaluate the proposed interregional projects pursuant to Sections 3 and 4.

3.4 Evaluation of Interregional Projects: The Transmission Owner and the FRCC shall act through their respective regional transmission planning processes to evaluate potential interregional transmission projects and to determine whether the inclusion of any potential interregional transmission projects in each region's regional transmission plan would be more efficient or cost-effective than projects included in their respective then-current regional transmission plans. Such analysis shall be consistent with accepted planning practices of the respective regions and the transmission study methodologies utilized to produce each region's respective regional transmission plan(s). The Transmission Owner will evaluate potential interregional transmission projects consistent with Section 3

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and Section 21 of Attachment K. To the extent possible and as needed, assumptions and models will be coordinated between the Transmission Owner and the FRCC as described in Section 1. Data shall be exchanged to facilitate this evaluation using the procedures described in Section 2.

3.5 Initial Evaluation of Interregional Projects Proposed for Interregional Cost Allocation Purposes: If an interregional project is proposed in the SERTP and the FRCC for Interregional CAP, the initial evaluation of the project will typically begin during the third calendar quarter, with analysis conducted in the same manner as analysis of interregional projects identified pursuant to Sections 3.1 and 3.2. Projects proposed for Interregional CAP shall also be subject to the requirements of Section 4.

4. Cost Allocation: If an interregional project is proposed for Interregional CAP in the SERTP and the FRCC, then the following methodology applies:

4.1 Interregional Projects Proposed for Interregional Cost Allocation Purposes:

For a transmission project to be considered for Interregional CAP within the SERTP and the FRCC, the following criteria must be met:

- A. The transmission project must be interregional in nature:
 - o Be located in both the SERTP and the FRCC regions;
 - o Interconnect to transmission facilities in both the SERTP and FRCC regions. The facilities to which the project is proposed to interconnect may be either existing transmission facilities or

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- transmission projects included in the regional transmission plan that are currently under development; and
- Meet the threshold criteria for transmission projects potentially eligible to be included in the regional transmission plans for purposes of cost allocation in both the SERTP and the FRCC, pursuant to their respective regional transmission planning processes.
- B. On a case-by-case basis, the Transmission Owner and the FRCC will consider a transmission project that does not satisfy all of the criteria specified in Section 4.1.A but: (i) meets the threshold criteria for a project proposed to be included in the regional transmission plan for purposes of cost allocation in at least one of the two regions; (ii) would be located in both regions; and (iii) would be interconnected to transmission facilities in both the SERTP and FRCC regions. The facilities to which the project is proposed to interconnect may be either existing transmission facilities or transmission projects included in the regional transmission plan that are currently under development.
- C. The transmission project must be proposed for purposes of cost allocation in both the SERTP and the FRCC.
- Except for the case-by-case exception for project threshold criteria identified in Section 4.1.B, the transmission developer and project submittal must satisfy all criteria specified in the respective regional transmission processes.

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- The proposal should be submitted in the timeframes outlined in the respective regional transmission planning processes.

4.2 Evaluation of Interregional Projects Proposed for Interregional Cost

Allocation Purposes: Interregional projects proposed for Interregional CAP in the SERTP and the FRCC shall be evaluated within the respective regions as follows:

- A. Each region, acting through its regional transmission planning process, will evaluate proposals to determine whether the proposed project(s) addresses transmission needs that are currently being addressed with projects in its regional transmission plan and, if so, which projects in the regional transmission plan could be displaced by the proposed project(s).
- B. Based upon its evaluation, each region will quantify a Regional Benefit based upon the transmission costs that each region is projected to avoid due to its transmission project(s) being displaced by the proposal.
 - For purposes of this Appendix 6, “Regional Benefit” means the total avoided costs of projects included in the then-current regional transmission plans that would be displaced if the proposed interregional transmission project was included. The Regional Benefit is not necessarily the same as the benefits used for purposes of *regional* cost allocation.

4.3. Calculation of Benefit to Cost Ratio: Each region will calculate a regional benefit to cost (“BTC”) ratio consistent with its regional process and

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compare the BTC ratio to its respective threshold to determine if the interregional project appears to be more efficient or cost effective than those projects included in its current regional transmission plan. Each region shall utilize the cost calculation(s) as defined in such region's regional transmission planning process (e.g., the FRCC will compute the cost of the portion of the interregional project that resides within the FRCC region in accordance with their regional process and the SERTP will do the same). The regions shall also coordinate such cost calculation assumptions in accordance with Section 1.3. The anticipated percentage allocation of costs of the interregional project to each region shall be based upon the ratio of the region's Regional Benefit to the sum of the Regional Benefits identified for both the SERTP and the FRCC. The Regional Benefits shall be determined pursuant to the methodology described in Section 4.2. Regional BTC assessments shall be performed in accordance with each region's regional transmission planning process, including but not limited to subsequent calculations and reevaluations.

- 4.4 Inclusion in Regional Transmission Plans:** An interregional project proposed for Interregional CAP in the SERTP and the FRCC will be included in the respective regional transmission plans for purposes of cost allocation after:
- A. Each region has performed all evaluations, as prescribed in its regional transmission planning process, necessary for a project to be included in its regional transmission plan for purposes of cost allocation;

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- This includes any regional BTC ratio calculations performed pursuant to Section 4.3; and
- B. Each region has obtained all approvals, as prescribed in its regional process, necessary for a project to be included in the regional transmission plan for purposes of cost allocation.

4.5 Allocation of Costs Between the SERTP and the FRCC: The cost of an interregional project, selected for purposes of cost allocation in the regional transmission plans of both the SERTP and the FRCC, will be allocated as follows:

- A. Each region will be allocated a portion of the interregional project's costs in proportion to such region's Regional Benefit to the sum of the Regional Benefits identified for both the SERTP and the FRCC.
 - The Regional Benefits used for this determination shall be based upon the last Regional Benefit calculation performed - pursuant to the method described in Section 4.2. - before each region included the project in its regional transmission plan for purposes of cost allocation and as approved by each region.
- B. Costs allocated to each region shall be further allocated within each region pursuant to the cost allocation methodology contained in its regional transmission planning process.
- C. Should one region be willing to bear more costs of the interregional transmission project than those costs identified pursuant to the methodology described in Section 4.5.A, the regions may voluntarily

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agree, subject to applicable regional approvals, to an alternative cost sharing arrangement.

4.6 Removal from Regional Plans: An interregional project may be removed from the SERTP's or the FRCC's regional transmission plan for purposes of cost allocation: (i) if the developer fails to meet developmental milestones; (ii) pursuant to the reevaluation procedures specified in the respective regional transmission planning processes; or (iii) if the project is removed from one of the region's regional transmission plans pursuant to the requirements of its regional transmission planning process.

A. The Transmission Owner shall notify the FRCC if an interregional project or a portion thereof is likely to be removed from its regional transmission plan.

5. Transparency

- A. The Transmission Owner shall post procedures for coordination and joint evaluation on the Regional Planning website.
- B. Access to the data utilized will be made available through the Regional Planning website subject to the appropriate clearance, as applicable (such as CEII and confidential non-CEII). The Transmission Owner shall make available on the Regional Planning website links to where stakeholders can register (if applicable/available) for the stakeholder committee(s) or distribution list(s) of the FRCC.
- C. At the fourth quarter SERTP Summit, or as necessary due to current activity of

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proposed interregional transmission projects, the Transmission Owner will provide status updates of interregional activities including:

- Facilities to be evaluated;
- Analysis performed; and
- Determinations/results.

- D. Stakeholders will have an opportunity to provide input and feedback within the respective regional transmission planning processes of the SERTP and the FRCC related to interregional facilities identified, analysis performed, and any determination/results. Stakeholders may participate in either or both regions' regional transmission planning processes to provide their input and feedback regarding the interregional coordination between the SERTP and the FRCC.
- E. The Transmission Owner will post, on the Regional Planning Website, a list of all interregional transmission projects that are proposed for potential selection in a regional transmission plan for purposes of cost allocation in both the SERTP and the FRCC that are found not to be eligible for consideration because they do not satisfy the regional project threshold criteria of one or both of the regions. The Transmission Owner will also post an explanation of the relevant thresholds the proposed interregional project(s) failed to satisfy.

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Interregional Transmission Coordination Between the SERTP and MISO

The Transmission Owner, through its regional transmission planning process, coordinates with the Midcontinent Independent System Operator region (“MISO”) to address transmission planning coordination issues related to interregional transmission facilities. The interregional transmission coordination procedures include a detailed description of the process for coordination between public utility transmission providers in the SERTP and MISO (i) with respect to an interregional transmission facility that is proposed to be located in both transmission planning regions and (ii) to identify possible interregional transmission facilities that could address transmission needs more efficiently or cost-effectively than transmission facilities included in the respective regional transmission plans. The interregional transmission coordination procedures are hereby provided in this Appendix 7 to Attachment K with additional materials provided on the Regional Planning website.

The Transmission Owner ensures that the following requirements are included in these interregional transmission coordination procedures:

- (1) A commitment to coordinate and share the results of the SERTP’s and MISO’s regional transmission plans to identify possible interregional transmission projects that could address transmission needs more efficiently or cost-effectively than separate regional transmission facilities, as well as a procedure for doing so;
- (2) A formal procedure to identify and jointly evaluate transmission facilities that are proposed to be located in both transmission planning regions;
- (3) A duty to exchange, at least annually, planning data and information; and

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- (4) A commitment to maintain a website or e-mail list for the communication of information related to the coordinated planning process.

The Transmission Owner has worked with MISO to develop a mutually agreeable method for allocating between the two transmission planning regions the costs of new interregional transmission facilities that are located within both transmission planning regions. Such cost allocation method satisfies the six interregional cost allocation principles set forth in Order No. 1000 and are included in this Appendix 7.

For purposes of this Appendix 7, the SERTP regional transmission planning process is the process described in Attachment K of this Tariff; MISO's regional transmission planning process is the process described in section X of Attachment FF to MISO's OATT. References to the respective regional transmission planning processes in this Appendix 7 are intended to identify the activities described in those tariff provisions. Unless noted otherwise, Section references in this Appendix 7 refer to Sections within this Appendix 7.

1. Interregional Transmission Coordination

1.1 Annual Meeting: Representatives of the SERTP and the staff of MISO will meet no less than once per year to facilitate the interregional coordination procedures described below (as applicable). Representatives of the SERTP and MISO staff may meet more frequently during the evaluation of interregional transmission project(s) proposed for purposes of interregional cost allocation between the SERTP and MISO transmission planning regions.

1.2 Website Posting of Information on Interregional Coordination: The Transmission Owner shall utilize the Regional Planning website for communication of information

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related to these coordinated interregional transmission planning procedures. The Transmission Owner shall coordinate with MISO with respect to the posting of materials to the regional planning website related to the interregional coordination procedures between the SERTP and MISO transmission planning regions. The Transmission Owner shall, at a minimum, provide the following on the Regional Planning website:

- i. Interregional coordination and cost allocation procedures between the SERTP and MISO;
- ii. Links to where stakeholders can register (if applicable/available) for the stakeholder committees or distribution lists of MISO;
- iii. Documents related to joint evaluation of interregional transmission projects; and
- iv. Status report on interregional transmission projects selected for purposes of interregional cost allocation between the SERTP and MISO.

2. Model and Data Exchange

At least annually, the Transmission Owner and MISO shall exchange their then-current regional transmission plans including power-flow models and associated data used in the regional transmission planning processes to develop such transmission plan(s). This exchange will occur when such data is available in each of the regional transmission planning processes, typically during the first calendar quarter of each year. Additional transmission-based models and data may be exchanged between the Transmission Owner and MISO as necessary and if requested. For purposes of their interregional coordination activities, the Transmission Owner and MISO will exchange only data and models used in the development of their then-current regional transmission process and plans. This data will be posted on the

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pertinent regional transmission planning process' websites, consistent with the posting requirements of the respective regional transmission planning processes, and subject to the applicable treatment of confidential data and Critical Energy Infrastructure Information (CEII). The Transmission Owner shall notify MISO of such posting.

3. Identification and Joint Evaluation of Proposed Interregional Transmission Projects

3.1 Identification of Interregional Transmission Projects: At least biennially, the Transmission Owner and MISO shall meet to review the respective regional transmission plans. Such plans include each region's transmission needs as prescribed by each region's planning process. This review shall occur on a mutually agreeable timetable, taking into account each region's regional transmission planning process timeline. If through this review, the Transmission Owner and MISO identify a potential interregional transmission project that may be more efficient or cost-effective than regional transmission projects, the Transmission Owner and MISO shall jointly evaluate the potential interregional transmission project pursuant to Section 3.4.

3.2 Identification of Interregional Transmission Projects by Stakeholders: Stakeholders and transmission developers (pursuant to Section 4.1) may also propose interregional transmission projects that may be more efficient or cost-effective than regional transmission projects pursuant to the procedures in each region's regional transmission planning processes.

3.3 Identification of Interregional Transmission Projects by Developers: Interregional transmission projects proposed for interregional cost allocation

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purposes (“Interregional CAP”) must be submitted in both the SERTP and MISO regional transmission planning processes. The project submittal must satisfy the requirements of Section 4.1 except for the benefit-to-cost ratio requirements of

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Section 4.1.A(ii).¹ The submittal must identify the potential transmission project as interregional in scope and identify the SERTP and MISO as regions in which the project is proposed to interconnect. The Transmission Owner will verify whether the submittal for the potential interregional transmission project satisfies all applicable requirements. Upon finding that the proposed interregional transmission project satisfies all such applicable requirements, the Transmission Owner will notify MISO. Once the potential project has been proposed through the regional transmission planning processes in both regions, and upon both regions so notifying one another that the project is eligible for consideration pursuant to their respective regional transmission planning processes, the Transmission Owner and MISO will jointly evaluate the proposed interregional projects pursuant to Sections 3 and 4.

3.4 Evaluation of Interregional Transmission Projects: The Transmission Owner and MISO shall act through their respective regional transmission planning processes in the joint evaluation of potential interregional transmission projects identified pursuant to Sections 3.1 and 3.2 to determine whether the inclusion of any potential interregional transmission projects in each region's regional transmission plan would be more efficient or cost-effective than regional projects. Such analysis shall be consistent with accepted transmission planning practices of the respective regions and the methods utilized to produce each region's

¹ A transmission developer is not responsible for determining the benefit-to-cost ratio referenced in

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Section 4.1.A(ii) in a project submittal. However, an interregional transmission project proposed for Interregional CAP must ultimately satisfy the benefit-to-cost ratio requirements in accordance with the provisions of Sections 4.1A(ii) and 4.3.

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respective regional transmission plan(s). The Transmission Owner will evaluate potential interregional transmission projects consistent with Section 6 and Section 11 of Attachment K.

3.5 Review of Proposed Interregional Transmission Projects: Initial coordination activities regarding potential interregional transmission projects will typically begin during the third quarter of each calendar year. The Transmission Owner and MISO will exchange status updates regarding interregional transmission projects that are newly proposed or that are currently under consideration as needed. These status updates will generally include, if applicable: (i) an update of the region's evaluation of the proposal(s); (ii) the latest calculation of benefits (as identified pursuant to Section 4.2); and (iii) the anticipated timeline for future assessments.

3.6 Coordination of Assumptions Used in Joint Evaluation: The Transmission Owner and MISO will coordinate assumptions and data used in joint evaluations, as necessary, including items such as:

- (i) Expected timelines and milestones associated with the joint evaluation;
- (ii) Study assumptions;
- (iii) Models; and
- (iv) Benefit calculations (as identified pursuant to Section 4.2).

4. Interregional Cost Allocation: If an interregional transmission project is proposed for Interregional CAP in the SERTP and MISO transmission planning regions, then the following cost allocation and benefits calculations, as identified pursuant to Section 4.2,

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shall apply to the project:

4.1 Interregional Transmission Projects Proposed for Interregional Cost Allocation Purposes:

- A. For a transmission project to be eligible for Interregional CAP within the SERTP and MISO, the project must:
 - i. Interconnect to transmission facilities in both the SERTP and MISO regions. The facilities to which the project is proposed to interconnect may be either existing facilities or transmission projects included in the regional transmission plan that are currently under development;
 - ii. Have a combined benefit-to-cost ratio of 1.25 or higher to the SERTP and MISO regions, as calculated in Section 4.3; and
 - iii. Meet the threshold and qualification criteria for transmission projects potentially eligible to be included in the respective regional transmission plans for purposes of cost allocation in MISO and the SERTP, pursuant to their respective regional transmission planning processes.
- B. On a case-by-case basis, the Transmission Owner and MISO may consider an interregional transmission project that does not satisfy all of the criteria specified in this Section 4.1 but that: (i) meets the threshold criteria for a project proposed to be included in the regional transmission plan for purposes of cost allocation in only one of the two regions; and (ii) would be interconnected to transmission facilities in both the SERTP and MISO regions. The facilities to which the project is proposed to interconnect may

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be either existing facilities or transmission projects included in the regional transmission plan that are currently under development.

- C. The transmission project must be proposed for purposes of cost allocation in both the SERTP and MISO. The project submittal must satisfy all criteria specified in the respective regional transmission processes, including the respective timeframes for submittals proposed for cost allocation purposes. If a project is proposed by a transmission developer, the transmission developer must also satisfy the qualification criteria specified by each region.

4.2 Calculation of Benefits for Interregional Transmission Projects Proposed for Interregional Cost Allocation Purposes: The benefits used to establish the allocation of costs of a transmission project proposed for Interregional CAP between the SERTP and MISO shall be determined as follows:

- A. Each transmission planning region, acting through its regional transmission planning process, will evaluate proposals to determine whether the proposed project(s) addresses transmission needs that are currently being addressed with projects in its regional transmission plan and, if so, which projects in the regional transmission plan could be displaced by the proposed project(s).
- B. Based upon its evaluation, each region will quantify its benefits based upon the transmission costs that each region is projected to avoid due to its transmission projects being displaced by the proposed interregional

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transmission project as follows:

- (i) for the SERTP, the total avoided costs of projects included in the then-current regional transmission plan that would be displaced if the proposed interregional transmission project was included; and
- (ii) for MISO, the total avoided costs of projects included in the then-current regional transmission plan that would be displaced if the proposed interregional transmission project was included.

The benefits calculated pursuant to this Section 4.2 are not necessarily the same as the benefits used for purposes of *regional* cost allocation.

4.3. Calculation of Benefit-to-Cost Ratio for an Interregional Transmission Project Proposed for Interregional CAP:

Prior to any regional benefit-to-cost ratio calculation pursuant to either regional transmission planning process, the combined interregional benefit-to-cost ratio, referenced in Section 4.1.A, shall be calculated for an interregional transmission project proposed for Interregional CAP. Such calculation shall be performed by dividing the sum of the present value of the avoided project cost determined in accordance with Section 4.2.B.i for the SERTP region and the present value of avoided project cost determined in accordance with Section 4.2.B.ii for the MISO region by the present value of the proposed interregional transmission project's total project cost. The present values used in the cost calculation shall be based on a common date, comparable cost components, and the latest cost estimates used in

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the evaluation of the interregional transmission project. The combined interregional benefit-to-cost ratio will be assessed in addition to, not in the place of, the SERTP's and MISO's respective regional benefit-to-cost ratio assessment(s) (if applicable) as specified in the respective regional processes.

4.4 Inclusion in Regional Transmission Plans: An interregional transmission project proposed for Interregional CAP in the transmission planning regions of the SERTP and MISO will be included in the respective regional transmission plans for purposes of cost allocation after:

- A. Each region has performed all evaluations, as prescribed in its regional transmission planning process, necessary for a project to be included in its regional transmission plan for purposes of cost allocation including any regional benefit-to-cost ratio calculations. Each region shall utilize the benefit calculation(s) as defined in such region's regional transmission planning process (for purposes of clarity, these benefits are not necessarily the same as the benefits determined pursuant to Section 4.2). Each region shall utilize the cost calculation(s) as defined in such region's regional transmission planning process. The anticipated percentage allocation of costs of the interregional transmission project to each region shall be based upon the ratio of the region's benefits to the sum of the benefits, both as determined pursuant to Section 4.2, identified for both the SERTP and MISO.
- B. Each region has obtained all approvals, as prescribed in its regional

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process, necessary for a project to be included in the regional transmission plan for purposes of regional cost allocation.

4.5 Allocation of Costs Between the SERTP and MISO Regions: The cost of an interregional transmission project, selected for purposes of cost allocation in the regional transmission plans of both the SERTP and MISO, will be allocated as follows:

- A. Each region will be allocated a portion of the interregional transmission project's costs in proportion to such region's benefit as calculated pursuant to Section 4.2 to the sum of the benefits identified for both the SERTP and MISO calculated pursuant to Section 4.2.
 - o The benefits used for this determination shall be based upon the benefit calculation most recently performed - pursuant to the method described in Section 4.2 - before each region included the project in its regional transmission plan for purposes of cost allocation and as approved by each region.
- B. Costs allocated to each region shall be further allocated within each region pursuant to the cost allocation methodology contained in its regional transmission planning process.

4.6 Milestones of Required Steps Necessary to Maintain Status as Being Selected for Interregional Cost Allocation Purposes: Once selected in the respective regional transmission plans for purposes of cost allocation, the SERTP Sponsors that will be allocated costs of the transmission project, MISO, and the

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transmission developer(s) must mutually agree upon an acceptable development schedule including milestones by which the necessary steps to develop and construct the interregional transmission project must occur. These milestones may include (to the extent not already accomplished) obtaining all necessary rights of way and requisite environmental, state, and other governmental approvals and executing a mutually-agreed upon contract(s) between the applicable SERTP Sponsors, MISO and the transmission developer. If such critical steps are not met by the specified milestones and then afterwards maintained, then the Transmission Owner and MISO may remove the transmission project from the selected category in the regional transmission plans for purposes of cost allocation.

4.7 Interregional Transmission Project Contractual Arrangements: The contracts referenced in Section 4.6 will address terms and conditions associated with the development of the proposed interregional transmission project included in the regional transmission plans for purposes of cost allocation, including but not limited to:

- (i) Engineering, procurement, construction, maintenance, and operation of the proposed transmission project, including coordination responsibilities of the parties;
- (ii) Emergency restoration and repair;
- (iii) The specific financial terms and specific total amounts to be charged by the transmission developer of the transmission project to each beneficiary,

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as agreed to by the parties;

- (iv) Creditworthiness and project security requirements;
- (v) Milestone reporting, including schedule of projected expenditures;
- (vi) Reevaluation of the transmission project; and
- (vii) Non-performance or abandonment.

4.8 Removal from Regional Transmission Plans: An interregional transmission project may be removed from the Transmission Owner's or MISO's regional transmission plan(s) for Interregional CAP: (i) if the transmission developer fails to meet developmental milestones; (ii) pursuant to the reevaluation procedures specified in the respective regional transmission planning processes; or (iii) if the project is removed from one of the region's regional transmission plans pursuant to the requirements of its regional transmission planning process.

A. The Transmission Owner shall notify MISO if an interregional transmission project or a portion thereof is likely to be, and/or is actually removed from its regional transmission plan.

5. Transparency

5.1 Stakeholders will have an opportunity to provide input and feedback within the respective regional transmission planning processes of the SERTP and MISO related to interregional transmission projects identified, analysis performed, and any determination/results. Stakeholders may participate in either or both regions' regional transmission planning processes to provide their input and feedback regarding the interregional coordination between the SERTP and MISO.

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- 5.2** At the fourth quarter SERTP Summit, or as necessary due to current activity of proposed interregional transmission projects, the Transmission Owner will provide status updates of interregional activities including:
- (i) Facilities to be evaluated;
 - (ii) Analysis performed; and
 - (iii) Determinations/results.
- 5.3** The Transmission Owner will post a list on the Regional Planning Website of interregional transmission projects proposed for purposes of cost allocation in both the SERTP and MISO regions that are not eligible for consideration because they do not satisfy the regional project threshold criteria of one or both of the regions as well as post an explanation of the thresholds the proposed interregional projects failed to satisfy.

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Interregional Transmission Coordination Between the SERTP and PJM Regions

The Transmission Owner, through its regional transmission planning process, coordinates with the PJM Interconnection, LLC (“PJM”) as the transmission provider and planner for the PJM region to address transmission planning coordination issues related to interregional transmission projects. The interregional transmission coordination procedures include a detailed description of the process for coordination between public utility transmission providers in the SERTP and PJM to identify possible interregional transmission projects that could address transmission needs more efficiently or cost-effectively than transmission projects included in the respective regional transmission plans. The interregional transmission coordination procedures are hereby provided in this Appendix 8 to Attachment K with additional materials provided on the Regional Planning website.

The Transmission Owner and PJM shall:

- (1) Coordinate and share the results of the SERTP’s and PJM’s regional transmission plans to identify possible interregional transmission projects that could address transmission needs more efficiently or cost-effectively than separate regional transmission projects;
- (2) Identify and jointly evaluate transmission projects that are proposed to be located in both transmission planning regions;
- (3) Exchange, at least annually, planning data and information; and
- (4) Maintain a website and e-mail list for the communication of information related to

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the coordinated planning process.

The Transmission Owner and PJM developed a mutually agreeable method for allocating between the two transmission planning regions the costs of new interregional transmission projects that are located within both transmission planning regions. Such cost allocation method satisfies the six interregional cost allocation principles set forth in Order No. 1000 and are included in this Appendix 8.

For purposes of this Appendix 8, the SERTP's transmission planning process is the process described in Attachment K of this Tariff; PJM's regional transmission planning process is the process described in Schedule 6 of PJM's OATT. References to the respective transmission planning processes in this Appendix 8 are intended to identify the activities described in those tariff provisions. Likewise, references to the respective regional transmission plans in this Appendix 8 are intended to identify, for PJM, the PJM Regional Transmission Expansion Plan ("RTEP"), as defined in applicable PJM documents and, for the Transmission Owner, the SERTP regional transmission plan, which includes the Transmission Owner's ten (10) year transmission expansion plan. Unless noted otherwise, Section references in this Appendix 8 refer to Sections within this Appendix 8.

Nothing in this Appendix 8 is intended to affect the terms of any bilateral planning or operating agreements between transmission owners and/or transmission service providers that exist as of the effective date of this Appendix 8 or that are executed at some future date.

INTERREGIONAL TRANSMISSION PLANNING PRINCIPLES

Representatives of the SERTP and PJM will meet no less than once per year to facilitate

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the interregional coordination procedures described below (as applicable). Representatives of the SERTP and PJM may meet more frequently during the evaluation of project(s) proposed for purposes of interregional cost allocation between the SERTP and PJM. For purposes of this Appendix 8, an “interregional transmission project” means a facility or set of facilities that would be physically located in both the SERTP and PJM regions and would interconnect to transmission facilities in both the SERTP and PJM regions. The facilities to which the project is proposed to interconnect may be either existing transmission facilities or transmission projects included in the regional transmission plan that are currently under development.

1. Coordination

1.1 Review of Respective Regional Transmission Plans: Biennially, the Transmission Owner and PJM shall review each other’s current regional transmission plan(s) and engage in the data exchange and joint evaluation described in Sections 2 and 3.

- o The review of each region’s regional transmission plan(s), which plans include the transmission needs and planned upgrades of the transmission providers in each region, shall occur on a mutually agreeable timetable, taking into account each region’s transmission planning process timeline.

1.2 Review of Proposed Interregional Transmission Projects: The Transmission Owner and PJM will also coordinate with regard to the evaluation of interregional transmission projects identified by the Transmission Owner and PJM as well as interregional transmission projects proposed for Interregional Cost Allocation Purposes (“Interregional CAP”), pursuant to Sections 3 and 5, below. Initial

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coordination activities regarding new interregional proposals will typically begin during the third calendar quarter. The Transmission Owner and PJM will exchange status updates for new interregional transmission project proposals or proposals currently under consideration as needed. These status updates will generally include, if applicable: (i) an update of the region's evaluation of the proposal; (ii) the latest calculation of Regional Benefits (as defined in Section 5.2); (iii) the anticipated timeline for future assessments; and (iv) reevaluations related to the proposal.

1.3 Coordination of Assumptions Used in Joint Evaluation: The Transmission Owner and PJM will coordinate assumptions used in joint evaluations, as necessary, which includes items such as:

- Expected timelines/milestones associated with the joint evaluation
- Study assumptions
- Regional benefit calculations.

1.4 Posting of Materials on Regional Planning Websites: The Transmission Owner and PJM will coordinate with respect to the posting of materials related to the interregional coordination procedures described in this Appendix 8 on each region's regional planning website.

2. Data Exchange

2.1 At least annually, the Transmission Owner and PJM shall exchange power-flow models and associated data used in the regional transmission planning processes to develop their respective then-current regional transmission plan(s). This

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exchange will occur when such data is available in each of the transmission planning processes, typically during the first calendar quarter. Additional transmission-based models and data may be exchanged between the Transmission Owner and PJM as necessary and if requested. For purposes of the interregional coordination activities outlined in this Appendix 8, only data and models used in the development of the Transmission Owner's and PJM's then-current regional transmission plans and used in their respective regional transmission planning processes will be exchanged. This data will be posted on the pertinent regional transmission planning process' websites, consistent with the posting requirements of the respective regional transmission planning processes, and is considered CEIL. The Transmission Owner and PJM shall notify each other of such posting.

2.2 The SERTP regional transmission plans will be posted on the Regional Planning website pursuant to the Transmission Owner's regional transmission planning process. The Transmission Owner will also notify PJM of such posting so PJM may retrieve these transmission plans. PJM will exchange its then-current regional plan(s) in a similar manner according to its regional transmission planning process.

3. Joint Evaluation

3.1 Identification of Interregional Transmission Projects: The Transmission Owner and PJM shall exchange planning models and data and current regional transmission plans as described in Section 2. The Transmission Owner and PJM will review one another's then-current regional transmission plan(s) in accordance

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with the coordination procedures described in Section 1 and their respective regional transmission planning processes. If through this review, the Transmission Owner and PJM identify a potential interregional transmission project that could be more efficient and cost effective than projects included in the respective regional plans, the Transmission Owner and PJM will jointly evaluate the potential project pursuant to Section 3.3.

3.2 Identification of Interregional Transmission Projects by Stakeholders:

Stakeholders may propose projects that may be more efficient or cost-effective than projects included in the Transmission Owner's and PJM's regional transmission plans pursuant to the procedures in each region's regional transmission planning processes. The Transmission Owner and PJM will evaluate interregional transmission projects proposed by stakeholders pursuant to Section 3.3.

3.3 Evaluation of Interregional Transmission Projects:

The Transmission Owner and PJM shall act through their respective regional transmission planning processes to evaluate potential interregional transmission projects and to determine whether the inclusion of any potential interregional transmission projects in each region's regional transmission plan would be more efficient or cost-effective than projects included in the respective then-current regional transmission plans. Such analysis shall be consistent with accepted planning practices of the respective regions and the methods utilized to produce each region's respective regional transmission plan(s). To the extent possible and as

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needed, assumptions and models will be coordinated between the Transmission Owner and PJM, as described in Section 1. Data shall be exchanged to facilitate this evaluation using the procedures described in Section 2.

3.4 Evaluation of Interregional Transmission Projects Proposed for Interregional Cost Allocation Purposes:

3.4.1 If an interregional transmission project is proposed in the SERTP and PJM for Interregional CAP, the initial evaluation of the project will typically begin during the third calendar quarter, with analysis conducted in the same manner as analysis of interregional projects identified pursuant to Sections 3.1 and 3.2. Further evaluation shall also be performed pursuant to this Section 3.4. Projects proposed for Interregional CAP shall also be subject to the requirements of Section 5.

3.4.2 Each region, acting through its regional transmission planning process, will evaluate proposals to determine whether the interregional transmission project(s) proposed for Interregional CAP addresses transmission needs that are currently being addressed with projects in its regional transmission plan(s) and, if so, which projects in the regional transmission plan(s) could be displaced by the proposed project(s).

3.4.3 Based upon its evaluation, each region will quantify a Regional Benefit based upon the transmission costs that each region is projected to avoid due to its transmission projects being displaced by the proposed project. For purposes of this Appendix 8, “Regional Benefit” means: (i) for the

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Transmission Owner, the total avoided costs of projects included in the then-current regional transmission plan that would be displaced if the proposed interregional transmission project was included and (ii) for PJM, the total avoided costs of projects included in the then-current regional transmission plan that would be displaced if the proposed interregional transmission project was included. The Regional Benefit is not necessarily the same as the benefits used for purposes of *regional* cost allocation.

3.5 Inclusion of Interregional Projects Proposed for Interregional CAP in Regional Transmission Plans: An interregional transmission project proposed for Interregional CAP in the SERTP and PJM will be included in the respective regional plans for purposes of cost allocation only after it has been selected by both the SERTP and PJM regional processes to be included in their respective regional plans for purposes of cost allocation.

3.5.1 To be selected in both the SERTP and PJM regional plans for purposes of cost allocation means that each region has performed all evaluations, as prescribed in its regional transmission planning processes, necessary for a project to be included in its regional transmission plans for purposes of cost allocation.

- For the SERTP: All requisite approvals are obtained, as prescribed in the SERTP regional transmission planning process, necessary for a project to be included in the SERTP regional

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transmission plan for purposes of cost allocation. This includes any requisite regional benefit to cost (“BTC”) ratio calculations performed pursuant to the respective regional transmission planning processes. For purposes of the SERTP, the anticipated allocation of costs of the interregional transmission project for use in the regional BTC ratio calculation shall be based upon the ratio of the SERTP’s Regional Benefit to the sum of the Regional Benefits identified for both the SERTP and PJM; and

- For PJM: All requisite approvals are obtained, as prescribed in the respective regional transmission planning processes, necessary for a project to be included in the regional transmission plans for purposes of cost allocation.

3.6 Removal from Regional Plans: An interregional transmission project may be removed from the SERTP’s or PJM’s regional plan for purposes of cost allocation: (i) if the developer fails to meet developmental milestones; (ii) pursuant to the reevaluation procedures specified in the respective regional transmission planning processes; or (iii) if the project is removed from one of the region’s regional transmission plan(s) pursuant to the requirements of its regional transmission planning process.

3.6.1 The Transmission Owner or PJM, as the case may be, shall notify the other if an interregional project or a portion thereof is likely to be removed from its regional transmission plan.

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4. Transparency

- 4.1** The Transmission Owner shall post procedures for coordination and joint evaluation on the Regional Planning website.
- 4.2** Access to the data utilized will be made available through the Regional Planning website subject to the appropriate clearance, as applicable (such as CEII and confidential non-CEII). Both planning regions will make available, on their respective regional websites, links to where stakeholders can register (if applicable/available) for the stakeholder committees or distribution lists of the other planning region.
- 4.3** At the fourth quarter SERTP Summit, or as necessary due to current activity of proposed interregional transmission projects, the SERTP will provide status updates of interregional activities including:
- Facilities to be evaluated
 - Analysis performed
 - Determinations/results.
- 4.4** Stakeholders will have an opportunity to provide input and feedback within the respective regional planning processes of SERTP and PJM related to interregional facilities identified, analysis performed, and any determination/results. Stakeholders may participate in either or both regions' regional planning processes to provide their input and feedback regarding the interregional coordination between the SERTP and PJM.

5. Cost Allocation

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- 5.1 Proposal of Interregional Transmission Projects for Interregional CAP:** For an interregional transmission project to be considered for Interregional CAP within the SERTP and PJM regions, all of the following criteria must be met:
- A. The interregional transmission project must be interregional in nature, which requires that it must:
 - o Be physically located in both the SERTP region and the PJM region;
 - o Interconnect to the transmission facilities of one or more SERTP transmission owner(s) and the transmission facilities of one or more PJM transmission owner(s); and
 - o Meet the threshold criteria for transmission projects potentially eligible to be included in the regional transmission plans for purposes of cost allocation in both the SERTP and PJM regions, pursuant to their respective regional transmission planning processes.
 - B. The interregional transmission project must be proposed for purposes of cost allocation in both the SERTP and PJM regions.
 - o The transmission developer and project submittal must satisfy all criteria specified in the respective regional transmission processes; and
 - o The proposal should be submitted in the timeframes outlined in the respective regional transmission planning processes.
 - C. The interregional transmission project must be selected in the regional transmission plans of both the SERTP and PJM regions.

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- The costs of the interregional transmission project eligible for interregional cost allocation shall only be allocated to a region if that region has selected the interregional transmission project in its regional transmission plan for purposes of cost allocation; and
- No cost shall be allocated to a region that has not selected the interregional transmission project in its regional transmission plan for purposes of cost allocation.

5.2 Allocation of Costs for Interregional Transmission Projects Between the SERTP and PJM Regions: The cost of an interregional transmission project selected for purposes of cost allocation in the regional transmission plans of both the SERTP and PJM regions shall be allocated for Interregional CAP to those regions as provided below:

- A. The share of the costs of an interregional transmission project allocated to a region will be determined by the ratio of the present value(s) of the estimated costs of such region's displaced regional transmission project(s) to the total of the present values of the estimated costs of the displaced regional transmission projects in all regions that have selected the interregional transmission project in their regional transmission plans for purposes of cost allocation. The present values used in the cost allocation shall be based on a common date, comparable cost components, and the latest cost estimates used in the determination to include the interregional transmission project in the respective regional plans for purposes of cost

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allocation. The applicable discount rate(s) used for the SERTP region may be determined on a case-by-case basis, and the SERTP region may have multiple discount rates should there be multiple SERTP transmission owners whose projects would be displaced by the proposed interregional transmission project. The applicable discount rate for the PJM region shall be the discount rate included in the assumptions that are reviewed with the PJM Board of Managers each year for use in the economic planning process.

- B. When all or a portion of an interregional transmission project is to be located within a region in which there is no displaced regional transmission project, such region may, at its sole discretion, select the interregional transmission project for inclusion in its regional transmission plan; provided, however, that no portion of the costs of the interregional transmission project shall be allocated to such region pursuant to Section 5.2.A.
- C. Nothing in this Section 5 shall govern the further allocation of costs allocated to a region pursuant to this Section 5.2 within such region.
- D. The following example illustrates the cost allocation provisions in Section 5.2.A:
 - o Regions A and B, through the joint evaluation process prescribed in Section 3.4 of this Appendix 8 have included Transmission Project Z in their respective regional plans for purposes of cost allocation.

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Transmission Project Z was determined to address both regions' needs more efficiently and cost effectively than Transmission Project X in Region A and Transmission Project Y in Region B.

- The estimated cost of Transmission Projects X and Y are Cost (X) and Cost (Y) respectively. As described in Section 5.2.A, these costs shall be based upon common cost components.
- The number of years from the common present value date to the year associated with the cost estimates of Transmission Projects X and Y are N(X) and N(Y) respectively.
- Recognizing that the regions may have different discount rates and that the SERTP might use multiple discount rates, the discount rate used for purposes of this example for Transmission Projects X and Y is: D.
- Based on the foregoing assumptions and the allocation of costs based upon displaced regional transmission projects as prescribed in Section 5.2.A, the following illustrative formulas would be used:
 - Present Value of Cost (X) = PV Cost (X) = Cost (X) / (1+D)^{N(X)}
 - Present Value of Cost (Y) = PV Cost (Y) = Cost (Y) / (1+D)^{N(Y)}
 - Cost Allocation to Region A = PV Cost (X) / [PV Cost (X) + PV Cost (Y)]
 - Cost Allocation to Region B = PV Cost (Y) / [PV Cost (X) + PV Cost (Y)]

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- Applying the above formulas, if:
 - $\text{Cost (X)} = \$60 \text{ Million}$ and $N(X) = 8.25 \text{ years}$
 - $\text{Cost (Y)} = \$40 \text{ Million}$ and $N(Y) = 4.50 \text{ years}$
 - $D = 7.5\%$ per year
- Then:
 - $\text{PV Cost (X)} = 60 / (1 + 0.075)^{8.25} = 33.0 \text{ Million}$
 - $\text{PV Cost (Y)} = 40 / (1 + 0.075)^{4.50} = 28.9 \text{ Million}$
 - $\text{Cost Allocation to Region A} = 33.0 / (33.0 + 28.9) = 53.3\%$ of the cost of Transmission Project Z
 - $\text{Cost Allocation to Region B} = 28.9 / (33.0 + 28.9) = 46.7\%$ of the cost of Transmission Project Z

5.3 Merchant Transmission and Transmission Owner Projects: Nothing in this Section 5 shall preclude the development of interregional transmission projects that are funded by merchant transmission developers or by individual transmission owners.

5.4 Exclusivity with Respect to Interregional Transmission Projects Selected for Interregional CAP: The following provisions shall apply regarding other cost allocation arrangements:

- A. Except as provided in Section 5.4.B, the provisions in this Section 5 are the exclusive means by which any costs of an interregional transmission project selected for Interregional CAP between the SERTP and PJM regions may be allocated between or among those regions.

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- B. A transmission owner(s) or transmission developer(s) may propose to fund or allocate, on a voluntary basis, the cost of an interregional transmission project selected for Interregional CAP using an allocation other than the allocation that results from the methodology set forth in Section 5.2, provided that, should the allocation of cost of such interregional transmission project be subject to the Federal Energy Regulatory Commission's ("FERC") jurisdiction, such allocation proposal is accepted for filing by FERC in accordance with the filing rights with respect to cost allocation set forth in Section 5.5 of this Appendix 8 and provided further that no allocation shall be made to any region that has not agreed to that allocation.

5.5 Section 205 Filing Rights with Respect to Interregional Transmission Projects Selected for Interregional CAP: Solely with respect to interregional transmission projects evaluated under this Appendix 8 and selected by the SERTP and PJM regional transmission planning processes for purposes of Interregional CAP, the following provisions shall apply:

- A. Except as provided in Sections 5.4 and 5.5.B of this Appendix 8, nothing in this Section 5 will convey, expand, limit or otherwise alter any rights of the transmission owners, transmission developers or other market participants to submit filings under Section 205 of the Federal Power Act ("FPA") regarding cost allocation or any other matter.
- B. The cost allocation provisions in this Section 5 shall not be modified under

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Section 205 of the FPA without the mutual consent of the holders of the FPA Section 205 rights with respect to interregional cost allocation in the SERTP and PJM regions. However, if the requirements adopted by Order No. 1000 *et seq.* and related orders are abrogated, vacated, and/or reversed, such that the mandate for public utility transmission providers to have interregional cost allocation methodologies in the nature of this Section 5 no longer applies, then the transmission providers in the SERTP region and the PJM Transmission Owners, acting in accordance with Section 5.5.C on this Appendix 8, may unilaterally take actions consistent with the disposition of such mandate.

5.6 Consequences to Other Regions from Interregional Transmission Projects:

Except as provided in this Section 5, or in other documents, agreements or tariffs on file with FERC, neither the SERTP region nor the PJM region shall be responsible for compensating another planning region for required upgrades or for any other consequences in another planning region associated with interregional transmission projects identified pursuant to this Appendix 8.

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Interregional Transmission Coordination Between the SERTP and SCRTP Regions

The Transmission Owner, through its regional transmission planning process coordinates with the public utility transmission providers in the South Carolina Regional Transmission Planning Process region (“SCRTP”) to address transmission planning coordination issues related to interregional transmission facilities. The interregional transmission coordination procedures include a detailed description of the process for coordination between the public utility transmission providers in the SERTP and the SCRTP (i) with respect to an interregional transmission facility that is proposed to be located in both transmission planning regions and (ii) to identify possible interregional transmission facilities that could address transmission needs more efficiently or cost effectively than transmission facilities included in the respective regional or local transmission plans. The interregional transmission coordination procedures are hereby provided in this Appendix 9 to Attachment K with additional materials provided on the Regional Planning website.

The Transmission Owner ensures that the following requirements are included in the interregional transmission coordination procedures:

- (1) A commitment to coordinate and share the results of the SERTP and the SCRTP regional transmission plans to identify possible interregional transmission projects that could address transmission needs more efficiently or cost-effectively than separate transmission facilities, as well as a procedure for doing so;
- (2) A formal procedure to identify and jointly evaluate transmission facilities that are

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proposed to be located in both transmission planning regions;

- (3) A duty to exchange, at least annually, planning data and information; and
- (4) A commitment to maintain a website or e-mail list for the communication of information related to the coordinated planning process.

The Transmission Owner has worked with the transmission providers located in the SCRTP to develop a mutually agreeable cost allocation method for new interregional transmission facilities that are located within both transmission planning regions. Such cost allocation methodology, which satisfies the six interregional cost allocation principles set forth in Order No. 1000, is included in this Appendix 9.

For purposes of this Appendix 9, the SERTP regional transmission planning process is the process described in Attachment K of this Tariff; the SCRTP's regional transmission planning process is the process described in the relevant Attachment Ks (or analog tariff sections) of the public utility transmission providers in the SCRTP. References to the respective regional transmission planning processes in this Appendix 9 are intended to identify the activities described in those tariff provisions. Unless noted otherwise, Section references in this Appendix 9 refer to Sections within this Appendix 9.

INTERREGIONAL TRANSMISSION PLANNING PRINCIPLES

Representatives of the SERTP and the SCRTP will meet no less than once per year to facilitate the interregional coordination procedures described below (as applicable). Representatives of the SERTP and the SCRTP may meet more frequently during the evaluation of project(s) proposed for purposes of interregional cost allocation between the SERTP and the

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SCRTP.

1. Coordination

1.1 Review of Respective Regional and Local plans: Biennially, the Transmission Owner and the public utility transmission providers in the SCRTP shall review each other's current regional and local plan(s) and engage in the data exchange and joint evaluation described in Sections 2 and 3.

1.2 Review of Proposed Interregional Projects: The Transmission Owner and the public utility transmission providers in the SCRTP will coordinate with regard to the evaluation of interregional transmission projects identified by the Transmission Owner and the public utility transmission providers in the SCRTP as well as interregional transmission projects proposed for Interregional Cost Allocation Purposes ("Interregional CAP"), pursuant to Sections 3 and 4, below. Initial coordination activities regarding new interregional proposals will typically begin during the third calendar quarter. The Transmission Owner and the public utility transmission providers in the SCRTP will typically exchange status updates for new interregional transmission project proposals or proposals currently under consideration every six (6) months, or as needed. These status updates will include, if applicable: (i) an update of the region's evaluation of the proposal; (ii) the latest calculation of Regional Benefits (as defined in Section 4.2); (iii) the anticipated timeline for future assessments; and (iv) reevaluations related to the proposal.

1.3 Coordination of Assumptions Used in Joint Evaluation: The Transmission

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Owner and the public utility transmission providers in the SCRTP will coordinate assumptions used in joint evaluations, as necessary, which include items such as:

- Expected timelines/milestones associated with the joint evaluation
- Study assumptions
- Regional benefit calculations.

2. Data Exchange

2.1 At least annually, the Transmission Owner and the public utility transmission providers in the SCRTP shall exchange power-flow models and associated data used in the regional transmission planning processes to develop their respective then-current regional and local transmission plan(s). This exchange will typically occur by the beginning of each region's transmission planning cycle. Additional transmission-based models and data may be exchanged between the Transmission Owner and the public utility transmission providers in the SCRTP as necessary and if requested. For purposes of the interregional coordination activities outlined in this Appendix 9, data and models used in the development of the SERTP and the SCRTP then-current regional and local transmission plans and used in their respective regional transmission planning processes will be exchanged. This data will be posted on the pertinent regional transmission planning process' website, consistent with the posting requirements of the respective regional transmission planning processes, and may be treated as CEII as appropriate. The Transmission Owner shall notify the public utility transmission providers in the SCRTP of such posting.

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2.2 The SERTP regional and local transmission plans will be posted on the Regional Planning website pursuant to the Transmission Owner's regional transmission planning process. The Transmission Owner will also notify the public utility transmission providers in the SCRTP of such posting. The SCRTP will exchange its then-current regional and local plan(s) in a similar manner according to its regional transmission planning process.

3. Joint Evaluation

3.1 Identification of Interregional Projects: The Transmission Owner and the public utility transmission providers in the SCRTP shall exchange planning models and data and current regional and local transmission plans as described in Section 2. The Transmission Owner and the public utility transmission providers in the SCRTP will review one another's then-current regional and local plan(s) in accordance with the coordination procedures described in Section 1 and their respective regional transmission planning processes. If, through this review, the Transmission Owner and the public utility transmission providers in the SCRTP identify a potential interregional project that could be more efficient or cost effective than projects included in the respective regional or local plans, the Transmission Owner and the public utility transmission providers in the SCRTP will jointly evaluate the potential project pursuant to Section 3.4.

3.2 Identification of Interregional Projects by Stakeholders: Stakeholders may propose projects that may be more efficient or cost-effective than projects included in the SERTP and the SCRTP regional or local transmission plans.

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Stakeholders may propose these projects pursuant to the procedures in each region's regional transmission planning processes. The Transmission Owner and the public utility transmission providers in the SCRTP will evaluate interregional projects proposed by stakeholders pursuant to Section 3.4

3.3 Identification of Interregional Projects by Developers: Interregional transmission projects proposed for potential Interregional CAP must be submitted in both the SERTP and SCRTP regional transmission planning processes. The project submittal must satisfy the requirements of Section 4.1. The submittal must identify the potential transmission project as interregional in scope and identify the SERTP and SCRTP as regions in which the project is proposed to interconnect. The Transmission Owner will verify whether the submittal for the potential interregional transmission project satisfies all applicable requirements. Upon finding that the proposed interregional transmission project satisfies all such applicable requirements, the Transmission Owner will notify the public utility transmission provider(s) in the SCRTP. Once the potential project has been proposed through the regional transmission planning processes in both regions, and upon both regions so notifying one another that the project is eligible for consideration pursuant to their respective regional transmission planning processes, the Transmission Owner and the public utility transmission providers in the SCRTP will jointly evaluate the proposed interregional projects pursuant to Sections 3 and 4.

3.4 Evaluation of Interregional Projects: The Transmission Owner and the public

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utility transmission providers in the SCRTP shall act through their respective regional transmission planning processes to evaluate potential interregional transmission projects and to determine whether the inclusion of any potential interregional transmission projects in each region's regional transmission plan would be more efficient or cost-effective than projects included in their respective then-current regional or local transmission plans. Such analysis shall be consistent with accepted transmission planning practices of the respective regions and the methods utilized to produce each region's respective regional and local transmission plan(s). The Transmission Owner will evaluate potential interregional transmission projects consistent with Section 3 and Section 21 of Attachment K. To the extent possible and as needed, assumptions and models will be coordinated between the Transmission Owner and the public utility transmission providers in the SCRTP as described in Section 1. Data shall be exchanged to facilitate this evaluation using the procedures described in Section 2.

- 3.5 Initial Evaluation of Interregional Projects Proposed for Interregional Cost Allocation Purposes:** If an interregional project is proposed in the SERTP and the SCRTP for Interregional CAP, the initial evaluation of the project will typically begin during the third calendar quarter, with analysis conducted in the same manner as analysis of interregional projects identified pursuant to Sections 3.1 and 3.2. Projects proposed for Interregional CAP shall also be subject to the requirements of Section 4.

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- 4. Cost Allocation:** If an interregional project is proposed for Interregional CAP in the SERTP and the SCRTP, then the following methodology applies:

4.1 Interregional Projects Proposed for Interregional Cost Allocation Purposes:

For a transmission project to be considered for Interregional CAP within the SERTP and the SCRTP, the following criteria must be met:

- A. The transmission project must be interregional in nature:
- Be located in both the SERTP and the SCRTP regions;
 - Interconnect to the transmission facilities in both the SERTP and SCRTP regions. The facilities to which the project is proposed to interconnect may be either existing transmission facilities or transmission projects included in the regional transmission plan that are currently under development of one or more SERTP Sponsors and the transmission facilities of one or more transmission providers enrolled in the SCRTP; and
 - Meet the qualification criteria for transmission projects potentially eligible to be included in the regional transmission plans for purposes of cost allocation in both the SERTP and the SCRTP, pursuant to their respective regional transmission planning processes.
- B. On a case-by-case basis, the Transmission Owner and the public utility transmission providers in the SCRTP will consider a transmission project that does not satisfy all of the criteria specified in Section 4.1.A but: (i) meets the threshold criteria for a project proposed to be included in the

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regional transmission plan for purposes of cost allocation in only one of the two regions; (ii) would be located in both regions; and (iii) would be interconnected to transmission facilities in both the SERTP and SCRTP regions. The facilities to which the project is proposed to interconnect may be either existing transmission facilities or transmission projects included in the regional transmission plan that are currently under development.

- C. The transmission project must be proposed for purposes of cost allocation in both the SERTP and the SCRTP.
 - o The transmission developer and project submittal must satisfy all criteria specified in the respective regional transmission processes.
 - o The proposal should be submitted in the timeframes outlined in the respective regional transmission planning processes.

4.2 Evaluation of Interregional Projects Proposed for Interregional Cost

Allocation Purposes: Interregional projects proposed for Interregional CAP in the SERTP and the SCRTP shall be evaluated within the respective regions as follows:

- A. Each region, acting through its regional transmission planning process, will evaluate proposals to determine whether the proposed project(s) addresses transmission needs that are currently being addressed with projects in its regional or local transmission plan and, if so, which projects in the regional or local transmission plan could be displaced by the

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proposed project(s).

- B. Based upon its evaluation, each region will quantify a Regional Benefit based upon the transmission costs that each region is projected to avoid due to its transmission project(s) being displaced by the proposal.
 - o For purposes of this Appendix 9, “Regional Benefit” means the total avoided capital costs of projects included in the then-current regional or local transmission plans that would be displaced if the proposed interregional transmission project was included. The Regional Benefit is not necessarily the same as the benefits used for purposes of *regional* cost allocation.

4.3. Calculation of Benefit to Cost Ratio: Each region will calculate a regional benefit to cost (“BTC”) ratio consistent with its regional process and compare the BTC ratio to its respective threshold to determine if the interregional project appears to be more efficient or cost effective than those projects included in its current regional or local transmission plan. For purposes of this BTC ratio evaluation:

- A. Each region shall utilize the benefit calculation(s) as defined in such region’s regional transmission planning process (for purposes of clarity, these benefits are not necessarily the same as the Regional Benefits determined pursuant to Section 4.2).
- B. Each region shall utilize the cost calculation(s) as defined in such region’s regional transmission planning process. The anticipated percentage

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allocation of costs of the interregional project to each region shall be based upon the ratio of the region's Regional Benefit to the sum of the Regional Benefits identified for both the SERTP and the SCRTP. The Regional Benefits shall be determined pursuant to the methodology described in Section 4.2.

Regional BTC assessments shall be performed in accordance with each region's regional transmission planning process, including but not limited to subsequent calculations and reevaluations.

4.4 Inclusion in Regional Transmission Plans: An interregional project proposed for Interregional CAP in the SERTP and the SCRTP will be included in the respective regional transmission plans for purposes of cost allocation after:

- A. Each region has performed all evaluations, as prescribed in its regional transmission planning process, necessary for a project to be included in its regional transmission plan for purposes of cost allocation.
 - o This includes any regional BTC ratio calculations performed pursuant to Section 4.3; and
- B. Each region; has obtained all approvals, as prescribed in its regional process, necessary for a project to be included in the regional transmission plan for purposes of cost allocation have been obtained.

4.5 Allocation of Costs Between the SERTP and the SCRTP: The cost of an interregional project, selected for purposes of cost allocation in the regional transmission plans of both the SERTP and the SCRTP, will be allocated as

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follows:

- A. Each region will be allocated a portion of the interregional project's costs in proportion to such region's Regional Benefit to the sum of the Regional Benefits identified for both the SERTP and the SCRTP.
 - o The Regional Benefits used for this determination shall be based upon the last Regional Benefit calculation performed - pursuant to the method described in Section 4.2. - before each region included the project in its regional transmission plan for purposes of cost allocation and as approved by each region.
- B. Costs allocated to each region shall be further allocated within each region pursuant to the cost allocation methodology contained in its regional transmission planning process.

4.6 Removal from Regional Plans: An interregional project may be removed from the SERTP or the SCRTP regional plan for purposes of cost allocation: (i) if the developer fails to meet developmental milestones; (ii) pursuant to the reevaluation procedures specified in the respective regional transmission planning processes; or (iii) if the project is removed from one of the region's regional transmission plans pursuant to the requirements of its regional transmission planning process.

- A. The Transmission Owner shall notify the public utility transmission providers in the SCRTP if an interregional project or a portion thereof is likely to be removed from its regional transmission plan.

4.7 Abandonment: If an interregional project is abandoned, the impacted Transmission

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Owner(s) may seek to complete the interregional project (in accordance with all applicable laws and regulations) or to propose alternative projects (including non-transmission alternatives) that will ensure that any reliability need is satisfied in an adequate manner. If a NERC Registered Entity believes that abandonment will cause a specific NERC Reliability Standard to be violated, and the Transmission Owner(s) have not chosen to complete the project in order to prevent the violation, or cannot complete such a project in a timely fashion, the NERC Registered Entity will be expected to submit a mitigation plan to the appropriate entity to address the violation.

5. Transparency

- A. The Transmission Owner shall post procedures for coordination and joint evaluation on the Regional Planning website.
- B. Access to the data utilized will be made available through the Regional Planning website subject to the appropriate clearance, as applicable (such as CEII and confidential non-CEII). The Transmission Owner will make available, on the Regional Planning website, links for stakeholders to register (if applicable/available) for the stakeholder committees or distribution lists of the SCRTP planning region.
- C. At the fourth quarter SERTP Summit, or as necessary due to current activity of proposed interregional transmission projects, the Transmission Owner will provide status updates of interregional activities including:
 - o Facilities to be evaluated
 - o Analysis performed

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- Determinations/results.
- D. Stakeholders will have an opportunity to provide input and feedback within the respective regional transmission planning processes of the SERTP and the SCRTP related to interregional facilities identified, analysis performed, and any determination/results. Stakeholders may participate in either or both regions' regional transmission planning processes to provide their input and feedback regarding the interregional coordination between the SERTP and the SCRTP.
- E. The Transmission Owner will post, on the Regional Planning Website, a list of all interregional transmission projects that are proposed for potential selection in a regional transmission plan for purposes of cost allocation in both the SERTP and the SCRTP that are found not to be eligible for consideration because they do not satisfy the regional project threshold criteria of one or both of the regions. The Transmission Owner will also post an explanation of the relevant thresholds the proposed interregional project(s) failed to satisfy.

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Interregional Transmission Coordination Between the SERTP and SPP

The Transmission Owner, through its regional transmission planning process, coordinates with the public utility transmission providers in the Southwest Power Pool region (“SPP”) to address transmission planning coordination issues related to interregional transmission facilities. The interregional transmission coordination procedures include a detailed description of the process for coordination between public utility transmission providers in the SERTP and SPP (i) with respect to an interregional transmission facility that is proposed to be located in both transmission planning regions and (ii) to identify possible interregional transmission facilities that could address transmission needs more efficiently or cost-effectively than transmission facilities included in the respective regional transmission plans. The interregional transmission coordination procedures are hereby provided in this Appendix 10 to Attachment K with additional materials provided on the Regional Planning website.

The Transmission Owner ensures that the following requirements are included in the interregional transmission coordination procedures described in this Appendix 10:

- (1) A commitment to coordinate and share the results of the SERTP and SPP regional transmission plans to identify possible interregional transmission projects that could address transmission needs more efficiently or cost-effectively than separate regional transmission facilities, as well as a procedure for doing so;
- (2) A formal procedure to identify and jointly evaluate transmission facilities that are proposed to be located in both transmission planning regions;

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- (3) A duty to exchange, at least annually, planning data and information; and
- (4) A commitment to maintain a website or e-mail list for the communication of information related to the coordinated planning process.

The Transmission Owner has worked with SPP to develop a mutually agreeable method for allocating between the two transmission planning regions the costs of new interregional transmission facilities that are located within both transmission planning regions. Such cost allocation method satisfies the six interregional cost allocation principles set forth in Order No. 1000 and are included in this Appendix 10.

For purposes of this Appendix 10, the SERTP's regional transmission planning process is the process described in Attachment K of this Tariff; SPP's regional transmission planning process is the process described in Section VIII of Attachment O of SPP's OATT. References to the respective regional transmission planning processes in this Appendix 10 are intended to identify the activities described in those tariff provisions. Unless noted otherwise, Section references in this Appendix 10 refer to Sections within this Appendix 10.

INTERREGIONAL TRANSMISSION PLANNING

1. Coordination

- 1.1 Annual Coordination:** Representatives of the SERTP and SPP will meet no less than once per year to facilitate the interregional coordination procedures described below (as applicable). Representatives of the SERTP and SPP may meet more frequently to coordinate the evaluation of interregional transmission project(s).

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1.2 Data Exchange

1.2.1 Annual Data Exchange: At least annually, the Transmission Owner and SPP shall exchange power-flow models and associated data used in the regional transmission planning processes to develop their respective then-current regional transmission plan(s). The Transmission Owner shall designate a representative for its region and SPP shall designate a representative for the SPP region to facilitate the annual data exchange. The data exchange will occur when such data is available in each of the regional transmission planning processes, typically during the first calendar quarter. Additional transmission-based models and data used in the development of the respective regional transmission plans will be exchanged between the Transmission Owner and SPP if requested. Data exchanged between the Transmission Owner and SPP under this Section 1.2.1 shall be posted on the pertinent regional transmission planning websites consistent with the posting requirements of the respective regional transmission planning processes and is generally considered CEII.

1.2.2 Exchange of Regional Transmission Plans: The Transmission Owner's regional transmission plan(s) will be posted on the Regional Planning website pursuant to the Transmission Owner's regional transmission planning process. The Transmission Owner will also notify the SPP representative of such posting so it may retrieve the transmission plan(s).

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SPP will exchange the then-current SPP regional transmission plan(s) in a similar manner according to its regional transmission planning process.

1.2.3 Confidentiality: Any CEII and Confidential Non-CEII data exchanged pursuant to this Appendix 10 shall be subject to appropriate CEII and Confidential Non-CEII treatment.

1.3. Joint Evaluation

1.3.1 Identification of Interregional Transmission Projects: At least biennially, the Transmission Owner will review the then-current regional transmission plan of SPP and SPP will review the Transmission Owner's then-current regional transmission plan. Such plans include the transmission needs of each region as prescribed by each region's planning process. This review shall occur on a mutually agreeable schedule, taking into account each region's regional transmission planning processes timetable. If through this review, the Transmission Owner and SPP identify a potential interregional transmission project that could be more efficient or cost effective than transmission projects included in the respective regional transmission plans, the Transmission Owner and SPP will jointly evaluate the potential transmission project pursuant to Section 1.3.4.

1.3.2 Identification of Interregional Transmission Projects by Stakeholders: Stakeholders may also propose transmission projects that may be more efficient or cost-effective than transmission projects included in the

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Transmission Owner's and/or SPP's regional transmission plans pursuant to the procedures in each region's regional transmission planning processes. The Transmission Owner and SPP will evaluate interregional transmission projects proposed by stakeholders pursuant to Section 1.3.4.

1.3.3 Identification of Interregional Transmission Projects by Developers:

Interregional transmission projects proposed for purposes of potential interregional cost allocation must be submitted in both the SERTP and SPP regional transmission planning processes and satisfy the requirements of Section 2.1. The submittal must identify the potential transmission project as interregional in scope and identify that such project will interconnect between the SERTP and SPP regions. The Transmission Owner will verify whether the submittal for the potential interregional transmission project satisfies all applicable requirements. Upon finding that the proposed interregional transmission project satisfies all such applicable requirements, the Transmission Owner will notify SPP. Once the potential interregional transmission project has been proposed through the regional transmission planning processes in both regions, and upon both regions so notifying one another that the project is eligible for consideration pursuant to their respective regional transmission planning processes, the Transmission Owner and SPP will jointly evaluate the proposed interregional transmission projects pursuant to Sections 1.3.4.

1.3.4 Evaluation of Interregional Transmission Projects:

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1.3.4.1 Joint Evaluation of Interregional Transmission Projects: The Transmission Owner and SPP shall act through their respective regional transmission planning processes to evaluate potential interregional transmission projects and to determine whether the inclusion of any potential interregional transmission projects in each region's regional transmission plan would be more efficient or cost-effective than transmission projects included in the respective then-current regional transmission plans. Initial coordination activities to facilitate such analysis will typically begin during the third calendar quarter. Such analysis shall be consistent with accepted planning practices of the respective regions and the methods utilized to produce each region's respective regional transmission plan(s). The Transmission Owner will evaluate potential interregional transmission projects consistent with Section 3 and Section 21 of Attachment K. To the extent possible, and as needed, information will be coordinated between the Transmission Owner and SPP, including, but not limited to:

- Planning horizons;
- Expected timelines/milestones associated with the joint evaluation;
- Study assumptions and data;
- Models; and
- Criteria.

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The Transmission Owner and SPP will exchange status updates for new interregional transmission project proposals or proposals currently under consideration as needed. These status updates will generally include, if applicable: (i) an update of the region's evaluation of the proposal; (ii) the anticipated timeline for future assessments; and (iii) reevaluations related to the proposal.

1.3.4.2 Determination of Regional Benefit(s) for Interregional Cost Allocation Purposes: The Transmission Owner and SPP shall evaluate the proposed interregional transmission project that meets the criteria of Section 2 for interregional cost allocation within the respective regions as follows:

- A. Each region, acting through its regional transmission planning process, will evaluate proposals to determine whether the proposed interregional transmission project(s) provides Regional Benefits to its respective region. For purposes of this Appendix 10, "Regional Benefit" shall mean the calculation described in Section 1.3.4.2.B.
- B. Based upon the evaluation made pursuant to 1.3.4.2.A, each region will quantify a Regional Benefit based upon (i) for the Transmission Owner, the Transmission Owner shall calculate the total avoided costs of transmission projects included in the then-current regional transmission plan that would be displaced if the proposed interregional transmission project was included; and (ii)

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for SPP, SPP shall calculate the total avoided costs of regional transmission projects that would be displaced if the proposed interregional transmission project was included.

- C. Updated Regional Benefits calculations will be exchanged in a similar manner to the status updates described in Section 1.3.4.1.

In any regional benefit to cost (“BTC”) ratio calculation(s) performed pursuant to the respective regional transmission planning processes, the anticipated allocation of costs of the interregional transmission project to each region shall be based upon the ratio of the region’s Regional Benefit to the sum of the Regional Benefits identified for both the SERTP and SPP.

2. Cost Allocation

2.1 Interregional Transmission Projects Proposed for Interregional Cost

Allocation Purposes: For a transmission project to be considered for purposes of interregional cost allocation between the SERTP and SPP, the following criteria must be met:

- A. The transmission project must interconnect to transmission facilities in both the SERTP and SPP regions and must meet the qualification criteria for transmission projects potentially eligible to be included in the regional transmission plans for purposes of regional cost allocation in accordance with the respective regional transmission planning processes of both the SERTP and SPP. The facilities to which the project is proposed to

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interconnect may be either existing facilities or transmission projects included in the regional transmission plan that are currently under development;

- B. The transmission project must be proposed in the SERTP and SPP regional planning processes for purposes of cost allocation, as well as any other regions to which the proposed transmission project would interconnect, in accordance with the procedures of the applicable regional transmission planning processes. If the proposed transmission project is being proposed by a transmission developer, the transmission developer must also satisfy all qualification criteria specified in the respective regional transmission planning processes, as applicable.

2.2 Inclusion in Regional Transmission Plans for Purposes of Cost Allocation:

An interregional transmission project proposed for interregional cost allocation purposes in each region will be included in the respective regional transmission plans for purposes of cost allocation after each region has performed all evaluations and the transmission project has obtained all approvals, as prescribed in the respective regional transmission planning processes, necessary for it to be included in each regional transmission plan for purposes of cost allocation.

2.3 Allocation of Costs Between the SERTP and SPP:

The cost of an interregional transmission project selected for purposes of cost allocation in the regional transmission plans of both the SERTP and SPP will be allocated between the regions as follows:

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- A. Each region will be allocated a portion of the interregional transmission project's costs in proportion to such region's Regional Benefit to the sum of the Regional Benefits identified for both the SERTP and SPP.
- The Regional Benefits used for this determination shall be based upon the last Regional Benefit calculation performed - pursuant to the method described in Section 1.3.4.2 - before each region included the transmission project in its regional transmission plan for purposes of cost allocation and as approved by each region.
 - Should one region be willing to bear more costs of the interregional transmission project than the costs identified pursuant to the methodology described in this Section 2.3.A, the regions may voluntarily agree, subject to applicable regional approvals, to an alternative cost sharing arrangement.

2.4 Milestones of Required Steps Necessary to Maintain Status as Being Selected for Interregional Cost Allocation Purposes: Once selected in the respective regional transmission plans for purposes of cost allocation, the SERTP Sponsor(s) that will be allocated costs of the transmission project and SPP (*collectively* "beneficiaries") and the transmission developer must mutually agree upon an acceptable development schedule including milestones by which the necessary steps to develop and construct the transmission project must occur. These milestones may include (to the extent not already accomplished) obtaining all necessary rights-of-way and requisite environmental, state, and other

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governmental approvals and executing a mutually-agreed upon contract(s) between the transmission developer and the beneficiaries. If the specified milestones are not met, then the Transmission Owner may remove the transmission project from the selected category in the regional transmission plan for purposes of cost allocation.

2.5 Interregional Project Contractual Arrangements: The contracts referenced in Section 2.4 will address terms and conditions associated with the development of the proposed transmission project included in the regional transmission plans for purposes of cost allocation, including but not limited to:

- a) Engineering, procurement, construction, maintenance, and operation of the proposed transmission project, including coordination responsibilities of the parties;
- b) Emergency restoration and repair;
- c) The specific financial terms/specific total amounts to be charged by the transmission developer of the transmission project to each beneficiary, as agreed to by the parties;
- d) Creditworthiness/project security requirements;
- e) Milestone reporting, including schedule of projected expenditures;
- f) Reevaluation of the transmission project; and
- g) Non-performance or abandonment.

2.6 Removal from Regional Transmission Plans for Purposes of Cost Allocation:

An interregional transmission project may be removed from the Transmission

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Owner's or SPP's regional transmission plan for purposes of cost allocation (1) if the project is removed from either regions' regional transmission plans pursuant to the requirements of its regional transmission planning process or (2) if the developer fails to meet the developmental milestones established pursuant to Section 2.4.

2.6.1: The Transmission Owner and/or SPP will notify the other party if an interregional transmission project or a portion thereof is likely to be removed from its regional transmission plan.

3. Transparency

3.1 The Transmission Owner and SPP shall host their respective regional websites for communication of information related to coordinated interregional transmission planning procedures. The regions shall coordinate on the documents and information that is posted on their respective websites to ensure consistency of information. Each regional website shall contain, at a minimum, the following information:

- i. Link to this Appendix 10;
- ii. Information related to joint meetings, such as links to materials for joint meetings;
- iii. Documents relating to joint evaluations; and
- iv. Procedures for coordination and joint evaluation.

3.2 Access to the data utilized will be made available through the pertinent regional planning websites subject to the requirements in Section 1.2.3. The Transmission

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Owner will make available, on the Regional Planning website, links to where stakeholders can register (if applicable/available) for SPP stakeholder committees and distribution lists.

- 3.3** At the fourth quarter SERTP Summit, or as necessary due to current activity of proposed interregional transmission projects, the SERTP Sponsors will provide status updates of interregional activities including:
- Facilities to be evaluated;
 - Analysis performed; and
 - Determinations/results.
- 3.4** Stakeholders will have an opportunity to provide input and feedback related to interregional facilities identified, analysis performed, and any determination/results within the respective regional transmission planning processes. Stakeholders may participate in either or both regions' regional transmission planning processes to provide their input and feedback regarding the interregional coordination activities described in this Appendix 10.

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APPENDIX 11

Transmission Providers Enrolled in the SERTP

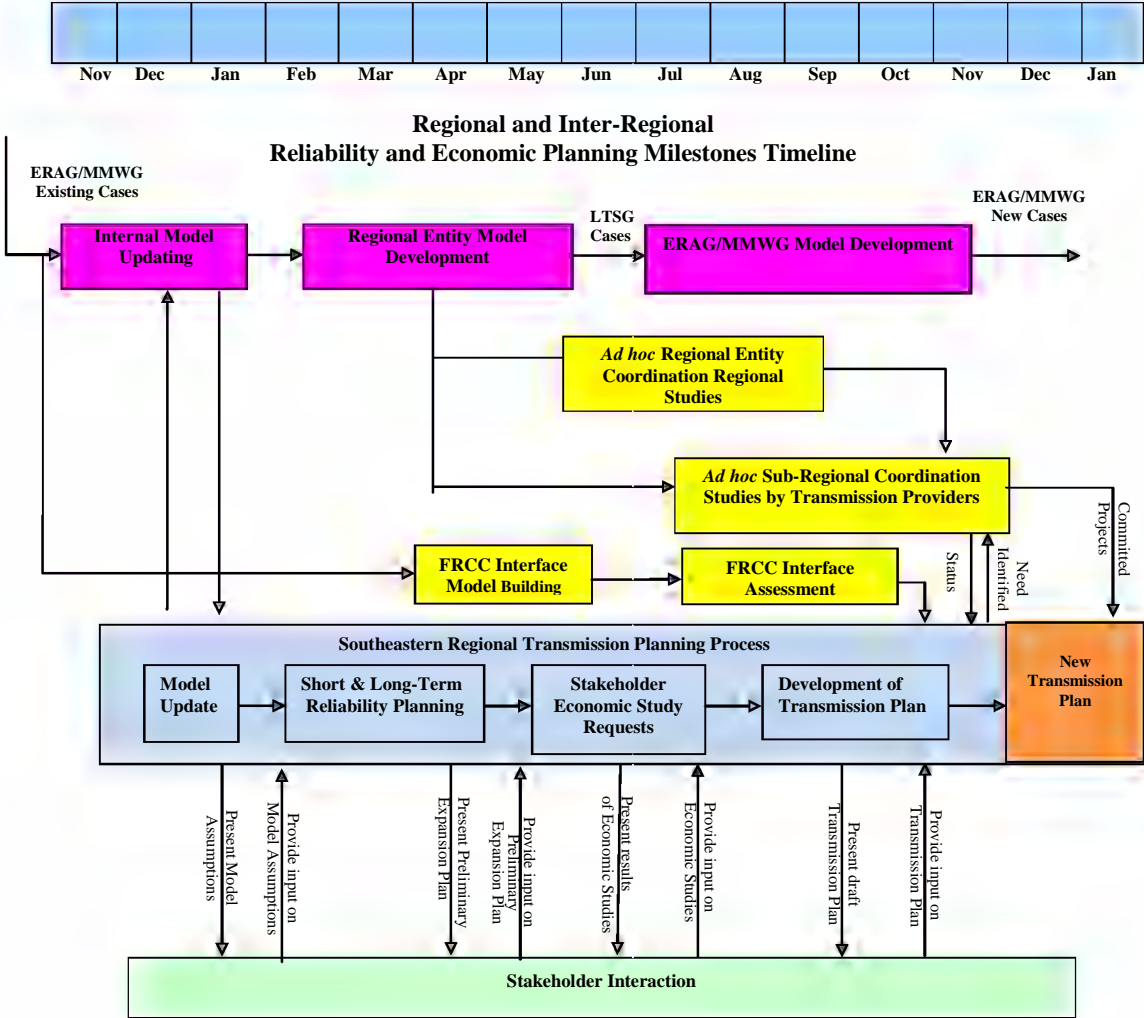
Subject to the provisions of Section 13 of this Attachment K, the following transmission providers and transmission owners are enrolled in the SERTP as of the effective date of this tariff record:

- Associated Electric Cooperative, Inc.
- Dalton Utilities
- Duke Energy Carolinas, LLC and Duke Energy Progress, Inc.
- Kentucky Utilities Company and Louisville Gas and Electric Company
- The Municipal Electric Authority of Georgia
- PowerSouth Energy Cooperative
- Southern Company Services, Inc., as agent for Alabama Power Company, Georgia Power Company, Gulf Power Company, and Mississippi Power Company
- The Tennessee Valley Authority

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ATTACHMENT L
Creditworthiness Procedures

1 **OVERVIEW**

- 1.1 For the purpose of determining the ability of the Transmission Customer to meet its obligations related to service hereunder, the Transmission Owner may require reasonable credit review procedures. This review shall be made in accordance with standard commercial practices and shall specify quantitative and qualitative criteria to determine the level of secured and unsecured credit
- 1.2 Credit review procedures and determinations will be undertaken on an objective and not unduly discriminatory basis.
- 1.3 Rules, standards, and practices related to credit determination procedures that do not significantly affect transmission service may be found on the Transmission Owner's OASIS along with other information that relates to transmission service. This Attachment L provides only a summary of credit requirements and other information.

2 **Credit Review Procedures**

2.1 **Initiating a credit review.**

- 2.1.1 For the purpose of determining the creditworthiness of a Transmission Customer, the Transmission Owner may initiate credit review procedures.
- 2.1.2 Upon receipt, or during the evaluation of a request for service, the Transmission Owner or others at the Transmission Owner's direction may conduct an initial credit evaluation utilizing reasonable methods to evaluate the Transmission Customer's ability to meet the creditworthiness criteria set forth in Section 3 of this Attachment L.
- 2.1.3 The Transmission Owner, or others at the Transmission Owner's direction, shall review the Transmission Customer's credit not less than annually, utilizing the criteria set forth in Section 3 of this Attachment L. In addition, if a Transmission Customer experiences a material change in financial status, the Transmission Owner shall review the Transmission Customer's credit utilizing the criteria set forth in Section 3 of this Attachment L. A material change in financial status includes, but is not limited to: a downgrade of long or short-term debt rating by a major bond rating agency; being placed on a credit watch with negative implications

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by a major credit rating agency; a bankruptcy filing; any action requiring filing of a Form 8-K; insolvency; a report of a significant quarterly loss or decline in earnings; the resignation of key officer(s); and the issuance of a regulatory order or the filing of a lawsuit that could materially adversely impact current or future financial results.

2.1.4 A credit review may be conducted by the Transmission Owner on a periodic basis or following a reported change in the creditworthiness of the Transmission Customer.

3 Credit Determination Criteria

3.1 Unsecured Credit Limit.

The Transmission Owner shall not extend unsecured credit to a Transmission Customer in an amount greater than the Unsecured Credit Limit, even if the Transmission Customer otherwise meets the criteria for a higher unsecured credit amount. The Unsecured Credit Limit is \$1 million less all unsecured credit extended to Transmission Customer by Louisville Gas and Electric Company, Kentucky Utilities Company, and their affiliates for all services of any nature. Notwithstanding anything to the contrary in this Attachment L, the Transmission Owner shall not extend unsecured credit to a Transmission Customer in an amount greater than \$1 million.

3.2 Criteria regarding determination of unsecured credit amounts.

A Transmission Customer that meets the following credit requirements will not be required to provide security to the Transmission Owner up to the established Unsecured Credit Limit. A Transmission Customer that does not meet the following credit requirements, or that wishes to obtain service exceeding the established Unsecured Credit Limit, must provide security consistent with Section 4 below. These requirements include the following:

- (i) The Transmission Customer is not in default of its payment obligations under Part I, Section 7.3 of the Transmission Owner's Open Access Transmission Tariff ("OATT"); and
- (ii) It meets one of the following criteria:
 - a. The Transmission Customer has been in business at least one year and has a corporate credit rating or a senior unsecured rating of at least Baa2 by Moody's Investors Service Inc. or its successor ("Moody's") or BBB by Standard and Poor's Global Ratings, acting through Standard & Poor's Financial Services LLC or its

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successor (“Standard & Poor’s”) or BBB by Fitch Ratings, Inc. or its successor (“Fitch”); or

- b. The Transmission Customer has been in business at least one year, and provides its most recent audited financial statements to the Transmission Owner which demonstrates that the Transmission Customer meets standards that are at least equivalent to the standards underlying the credit ratings of Baa2 (Moody’s) or BBB (Standard and Poor’s or Fitch). Privately held and/or non rated public entities will be reviewed in a manner consistent with producing a credit rating equivalent to the Moody’s, Fitch and/or Standard and Poor’s credit rating. In addition, the following qualitative criteria will be considered, such as evaluation of Transmission Customer’s management, industry trends and analysis, outside litigation, and other information determined to be relevant by the Transmission Owner. The Transmission Owner may determine that the Transmission Customer satisfies the requirements of this paragraph but that relevant factors justify establishment of an unsecured credit amount less than the Unsecured Credit Limit; or
- c. The Transmission Customer is a borrower from the Rural Utilities Service (“RUS”) and has a Times Interest Earned Ratio of 1.10x or better and a Debt Service Coverage Ratio of 1.10x or better in the most recent calendar year, or is maintaining the Times Interest Earned Ratio and Debt Service Coverage Ratio as established in the Transmission Customer’s RUS Mortgage; provided, however, that the Transmission Customer shall provide the Transmission Owner with such supporting detail related to the calculation of such ratios as the Transmission Owner shall reasonably request; or
- d. The Transmission Customer’s parent company (the “Guarantor”) meets the criteria set out in (i) and (ii)(a), (b) or (c) above, and the Guarantor provides a written guarantee (in a form acceptable to the Transmission Owner), that the parent company will be unconditionally responsible for all financial obligations associated with the Transmission Customer’s receipt of transmission service.

3.3 Communication of credit level determinations and collateral requirements by Transmission Owner and contest of credit level determinations and collateral requirements.

3.3.1 Communications of credit determinations and collateral requirements by Transmission Owner. The Transmission Owner will perform an

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initial credit determination when a new Transmission Customer initiates a request for service under this OATT. Within five business days of completing the initial determination, the Transmission Owner shall communicate the results of such initial determination to the Transmission Customer. The Transmission Owner shall perform any subsequent credit determinations as provided for in Sections 2.1.3 or 2.1.4, and shall inform the Transmission Customer of any resulting changes in unsecured credit levels extended to the Transmission Customer and/or changes in collateral requirements no less than ten business days prior to when such changes are to become effective; provided, however, that such changes will take effect immediately in the event of a bankruptcy filing by the Transmission Customer or its parent company.

3.3.2 Provision of written explanation of change in credit levels and collateral requirements by Transmission Owner. At least nine business days prior to the time that such changes are to become effective (or, if such changes are the result of a bankruptcy filing by the Transmission Customer or its parent company, one business day after it has been informed of changes in accordance with Section 3.3.1, above), an affected Transmission Customer may request a written explanation from the Transmission Owner for any change in unsecured credit levels or collateral requirements. Such a written explanation will be communicated by the Transmission Owner to the Transmission Customer within two business days of the request.

3.3.3 Contest of determination of credit levels or collateral requirements. At least five business days prior to the time that such changes are to become effective, (or, if such changes are the result of a bankruptcy filing by the Transmission Customer or its parent company, five business days after it has been informed of changes in accordance with Section 3.3.1, above) an affected Transmission Customer may contest any change in credit levels or collateral requirements. Such contest must be submitted in writing and contain all facts upon which the Transmission Customer relies to support its request for revised unsecured credit levels or revised collateral requirements.

4 Requirements for Non-Creditworthy Transmission Customers:

A Transmission Customer that does not meet the credit standards set out in Section 3 above, or meets those credit standards set out in Section 3 above but requires additional credit from the Transmission Owner in excess of the established Unsecured Credit Limit, shall comply with one of the following:

- (i) Not less than five days prior to the commencement of service, the Transmission

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Customer shall provide in a form acceptable to the Transmission Owner, an unconditional and irrevocable standby letter of credit issued by a financial institution rated at least A- by S&P with greater than \$10 billion in assets (or an alternative form of security approved in writing by the Transmission Owner), which letter of credit (or other approved security) that is equal to the lesser of the total charge for service or the estimated charge for 90 days of service; or

- (ii) For Firm Point-to-Point transmission service of one month or less, the Transmission Customer shall pay the total charge for service by the later of five business days prior to the commencement of service or the time when it makes the request for transmission service; or
- (iii) For Firm Point-to-Point transmission service or Network Integration Transmission Service of greater than one month, the Transmission Customer shall pay for each month's service not less than five business days prior to the beginning of the month. For Network Integration Transmission Service customers, the advance payment for each month shall be based on a reasonable estimate by the Transmission Owner of the charge for that month.
- (iv) For Non-Firm Point-to-Point transmission service, the Transmission Customer must provide an unconditional letter of credit or cash collateral in the amount of at least \$10,000; the Transmission Customer may, at its own option provide a letter of credit or a cash collateral in excess of \$10,000 if it reasonably believes it will use more than \$10,000 worth of transmission service within a billing period. If the Transmission Customer uses \$10,000 of Non-Firm Point-to-Point transmission service (or otherwise exceeds the amount of the letter of credit or cash collateral the Transmission Customer has provided) during a billing period, the Transmission Customer must provide an additional letter of credit or cash collateral in the amount of \$10,000.
- (v) A Transmission Customer supplying collateral in the form of cash that is held by Transmission Owner pursuant to Section 4 shall be entitled to interest at the Performance Assurance Interest Rate on such collateral. The "Performance Assurance Interest Rate" will be the FERC Interest Rate as set forth in 18 C.F.R. § 35.19a, or any successor regulation thereto..

All costs associated with issuance or maintenance of any letter of credit provided pursuant to this Section 4 shall be borne solely by the Transmission Customer.

5 Changes in Creditworthiness Status:

If (a) a Transmission Customer or the Guarantor, if any, meets the credit requirements of Section 3.2 at the time of an initial credit evaluation but subsequently fails to meet those

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requirements at any time after the Transmission Customer requests transmission service but before the termination of that service or (b) the Transmission Customer or the Guarantor, if any, suffers a material adverse change in creditworthiness in the opinion of the Transmission Owner, then the Transmission Customer will be required to meet the requirements of Section 4 of this Attachment L, as applicable.

6 Suspension of Service

Notwithstanding any other provisions of this Tariff, if a Transmission Customer fails to provide the entirety of required financial assurances when due under this Attachment L, the Transmission Owner may suspend Transmission Service to such Transmission Customer thirty-five (35) days after Transmission Owner's notification to such Transmission Customer as provided below. The Transmission Owner shall provide at least thirty (30) days notice to FERC before suspending Transmission Service pursuant to this provision.

The Transmission Owner shall provide notice to the Transmission Customer that it must provide any required financial assurances by the deadline specified in the notice, and that the Transmission Owner may take corrective actions, including suspension of service pursuant to this Section 6 if the Transmission Customer fails to provide the required financial assurance by the specified deadline(s). Any notices sent to the Transmission Customer and to the Commission pursuant to this Attachment L may be sent concurrently.

The suspension of service under this Section 6 shall continue only for as long as the circumstances that entitle the Transmission Owner to suspend service continue. A Transmission Customer is not obligated to pay for Transmission Service that is not provided as a result of suspension of service.

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ATTACHMENT M
STANDARD LARGE GENERATOR
INTERCONNECTION PROCEDURES (LGIP)

including

STANDARD LARGE GENERATOR

INTERCONNECTION AGREEMENT (LGIA)

(Applicable to Generating Facilities that exceed 20 MW)

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Section 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Owner’s Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Owner’s Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

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Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected.

Balancing Authority Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Balancing Authority Areas and contributing to frequency regulation of the interconnection. A Balancing Authority Area must be certified by an Applicable Reliability Council.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the ITO, Transmission Owner, or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday.

Clustering shall mean the process whereby a group of Generator Interconnection Requests is studied together, instead of serially, for the purpose of conducting the Interconnection System Impact Study.

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement or pursuant to an Interim LGIA.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Contingent Facilities shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent, and if

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delayed or not built, could cause a need for Re-Studies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of a Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Owner's Transmission System, Transmission Owner's Interconnection Facilities or the electric systems of others to which the Transmission Owner's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Owner's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or nonfirm capacity of the Transmission Owner's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

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Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Generator Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Generator Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Generator Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Owner's Transmission System.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having

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jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, ITO, Transmission Owner, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Independent Transmission Organization shall mean the entity (referred to herein as the "ITO") to which LG&E/KU have delegated the responsibility and authority to administer the Tariff.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Owner's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Owner or any of the Affiliates or subsidiaries of the Transmission Owner, that proposes to interconnect its Generating Facility with the Transmission Owner's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement or Interim LGIA, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Owner's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities.

Interconnection Facilities shall mean the Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Owner's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Interconnection Facilities Study shall mean a study conducted for the Interconnection

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Customer by the Transmission Owner as directed, and subject to review by the ITO, in order to determine a list of facilities (including Transmission Owner's Interconnection Facilities and Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Owner's Transmission System. The scope of the study is defined in Section 8 of the Standard Large Generator Interconnection Procedures.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 4 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

Interconnection Feasibility Study shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Transmission Owner's Transmission System, the scope of which is described in Section 6 of the Standard Large Generator Interconnection Procedures.

Interconnection Feasibility Study Agreement shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.

Interconnection Service shall mean the service approved by the ITO and provided by the Transmission Owner associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Owner's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Owner's Tariff.

Interconnection Study shall mean any of the following studies: the Interconnection Feasibility Study, the Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures.

Interconnection System Impact Study shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Transmission Owner's Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on the Adverse System Impacts identified in the Interconnection Feasibility Study, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Standard Large Generator Interconnection Procedures.

Interconnection System Impact Study Agreement shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection System Impact Study.

Interim Generator Interconnection Request shall mean an Interconnection Customer's

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request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, for Interim Interconnection Service.

Interim Interconnection Service shall mean Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Owner's Transmission System and be eligible to deliver the Generating Facility's electric output on a temporary basis while the Interconnection Customer's Generator Interconnection Request is being processed through the LGIP.

Interim Interconnection System Impact Study ("Interim SIS") shall mean the study conducted in response to a request by an Interconnection Customer for Interim Interconnection Service.

Interim Interconnection System Impact Study Agreement shall mean the form of agreement contained in Appendix 7 of the Standard Large Generator Interconnection Procedures for conducting the Interim Interconnection System Impact Study.

Interim LGIA shall mean the agreement that governs the provision of Interim Interconnection Service.

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Owner to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Generator Interconnection Request with a later queue priority date.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

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NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Owner's Transmission System (1) in a manner comparable to that in which the Transmission Owner integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Owner's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Owner's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Owner's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

Optional Interconnection Study shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

Optional Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.

Party or Parties shall mean ITO, Transmission Owner, Interconnection Customer or any combination of the above.

Permissible Technological Advancement shall mean a new, upgraded, updated or modified technology that an Interconnection Customer intends to utilize in the operation of generation facilities such as an updated type of turbine, inverter, plant supervisory controls or other advancements, provided that no such advancement may result in a Material Modification.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Owner's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the

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Transmission Owner's Transmission System.

Provisional Interconnection Service shall mean Interconnection Service approved by the ITO and provided by Transmission Owner associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Owner's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes.

Queue Position shall mean the order of a valid Generator Interconnection Request, relative to all other pending valid Generator Interconnection Requests, that is established based upon the date and time of receipt of the valid Generator Interconnection Request by the ITO.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Reliability Coordinator shall mean the party charged with providing reliability coordination service for the Transmission Owner's system in accordance with Attachment P hereto.

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer, Transmission Owner, and ITO conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean documentation reasonably demonstrating: (1) ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Generating Facility; (2) an option to purchase or acquire a leasehold site for such purpose; or (3) an exclusivity or other business relationship between Interconnection Customer and the entity having the right to sell, lease or grant Interconnection Customer the right to possess or occupy a site for such purpose.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Owner and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and

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identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Owner and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Owner must provide the Interconnection Customer a written technical explanation outlining why the Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Generator Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Owner's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Generator Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Owner's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized, the total amount of Interconnection Service at the Point of Interconnection would remain the same.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Owner's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Owner's Transmission System or on other delivery systems or other generating systems to which the Transmission Owner's Transmission System is directly connected.

Tariff shall mean the Transmission Owner's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean LG&E/KU, the public utility operating companies.

Transmission Owner's Interconnection Facilities shall mean all facilities and equipment owned, controlled, or operated by the Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement or Interim LGIA, including any modifications, additions or upgrades to such facilities and equipment. Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Transmission System shall mean the facilities owned and operated by the Transmission Owner that are used to provide transmission service under Part II and Part III of the Transmission Owner's Tariff.

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Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Section 2. Scope and Application

2.1 Application of Standard Large Generator Interconnection Procedures.

Sections 2 through 13 apply to processing an Generator Interconnection Request pertaining to a Large Generating Facility.

2.2 Comparability

ITO shall receive, process and analyze all Generator Interconnection Requests in a timely manner as set forth in this LGIP. ITO will use the same Reasonable Efforts in processing and analyzing Generator Interconnection Requests from all Interconnection Customers, whether the Generating Facilities are owned by Transmission Owner, its subsidiaries or Affiliates or others.

2.3 Base Case Data

ITO shall maintain and the Transmission Owner shall post base power flow, short circuit and stability databases, including all underlying assumptions, and contingency list, and on either Transmission Owner's OASIS site or a password-protected website, subject to confidentiality provisions in LGIP Section 14.1. In addition, ITO shall maintain and the Transmission Owner shall post network models and underlying assumptions on either the Transmission Owner's OASIS site or a password-protected website. Such network models and underlying assumptions should reasonably represent those used during the most recent interconnection study and be representative of current system conditions. If Transmission Owner posts this information on a password-protected website, a link to the information must be provided on Transmission Owner's OASIS site. Transmission Owner is permitted to require that Interconnection Customers, OASIS site users and password-protected website users sign a confidentiality agreement before the release of commercially sensitive information or Critical Energy Infrastructure Information in the Base Case data. Such databases and lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the applicable authority.

2.4 No Applicability to Transmission Service.

Nothing in this LGIP shall constitute a request for transmission service or confer upon an Interconnection Customer any right to receive transmission service.

Section 3. Interconnection Requests

3.1 General

An Interconnection Customer shall submit to ITO a Generator Interconnection Request in the form of Appendix 1 to this LGIP and a refundable deposit of \$10,000. ITO shall apply the deposit toward the cost of an Interconnection Feasibility Study. Interconnection Customer shall submit a separate Generator Interconnection Request for each site and may submit multiple

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Generator Interconnection Requests for a single site. Interconnection Customer must submit a deposit with each Generator Interconnection Request even when more than one request is submitted for a single site. A Generator Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Generator Interconnection Requests.

At Interconnection Customer's option, ITO, Transmission Owner and Interconnection Customer will identify alternative Point(s) of Interconnection and configurations at the Scoping Meeting to evaluate in this process and attempt to eliminate alternatives in a reasonable fashion given resources and information available. Interconnection Customer will select the definitive Point(s) of Interconnection to be studied no later than the execution of the Interconnection Feasibility Study Agreement.

Transmission Owner shall have a process in place to be implemented by the ITO to consider requests for Interconnection Service below the Generating Facility Capacity. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of Interconnection Facilities and Network Upgrades, and associated costs, but may be subject to other studies at the full Generating Facility Capacity to ensure safety and reliability of the system, with the study costs borne by the Interconnection Customer. If after the additional studies are complete, ITO determines that additional Network Upgrades are necessary, then ITO must: (1) specify which additional Network Upgrade costs are based on which studies; and (2) provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade costs required for safety and reliability also will be borne by the Interconnection Customer. Interconnection Customers may be subject to additional control technologies as well as testing and validation of those technologies consistent with Article 6 of the LGIA. The necessary control technologies and protection systems shall be established in Appendix C of the executed, or requested to be filed unexecuted, LGIA.

3.2 Identification of Types of Interconnection Services.

At the time the Generator Interconnection Request is submitted, Interconnection Customer must request either Energy Resource Interconnection Service or Network Resource Interconnection Service, as described; provided, however, any Interconnection Customer requesting Network Resource Interconnection Service may also request that it be concurrently studied for Energy Resource Interconnection Service, up to the point when an Interconnection Facility Study Agreement is executed. Interconnection Customer may then elect to proceed with Network Resource Interconnection Service or to proceed under a lower level of interconnection service to the extent that only certain upgrades will be completed.

3.2.1 Energy Resource Interconnection Service

3.2.1.1 The Product.

Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. Energy Resource Interconnection Service does not in and of itself convey

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any right to deliver electricity to any specific customer or Point of Delivery.

3.2.1.2 The Study.

The study consists of short circuit/fault duty, steady state (thermal and voltage) and stability analyses. The short circuit/fault duty analysis would identify direct Interconnection Facilities required and the Network Upgrades necessary to address short circuit issues associated with the Interconnection Facilities. The stability and steady state studies would identify necessary upgrades to allow full output of the proposed Large Generating Facility and would also identify the maximum allowed output, at the time the study is performed, of the interconnecting Large Generating Facility without requiring additional Network Upgrades.

3.2.2 Network Resource Interconnection Service

3.2.2.1 The Product.

ITO must conduct the necessary studies in coordination with the Transmission Owner and the Transmission Owner must construct the Network Upgrades needed to integrate the Large Generating Facility (1) in a manner comparable to that in which Transmission Owner integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service Allows Interconnection Customer's Large Generating Facility to be designated as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Owner's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur.

3.2.2.2 The Study.

The Interconnection Study for Network Resource Interconnection Service shall assure that Interconnection Customer's Large Generating Facility meets the requirements for Network Resource Interconnection Service and as a general matter, that such Large Generating Facility's interconnection is also studied with the Transmission System at peak load, under a variety of severely stressed conditions, to determine whether, with the Large Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on Transmission Owner's Transmission System, consistent with Transmission Owner's reliability criteria and procedures. This approach assumes that some portion of existing Network Resources is displaced by the output of Interconnection Customer's Large Generating Facility. Network Resource Interconnection Service in and of itself does not convey any right to deliver electricity to any specific customer or Point of Delivery. The ITO may also study the Transmission System under non-peak load conditions. However, upon request by the Interconnection Customer, the ITO must explain in writing to the Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

3.3 Utilization of Surplus Interconnection Service.

Transmission Owner must provide a process to be implemented by the ITO that allows an Interconnection Customer to utilize or transfer Surplus Interconnection Service at an existing

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Point of Interconnection. The original Interconnection Customer or one of its affiliates shall have priority to utilize Surplus Interconnection Service. If the existing Interconnection Customer or one of its affiliates does not exercise its priority, then that service may be made available to other potential Interconnection Customers.

3.3.1 Surplus Interconnection Service Requests.

Surplus Interconnection Service requests may be made by the existing Interconnection Customer whose Generating Facility is already interconnected or one of its affiliates. Surplus Interconnection Service requests also may be made by another Interconnection Customer. Transmission Owner shall provide a process implemented by the ITO for evaluating Interconnection Requests for Surplus Interconnection Service. Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary.

3.3.2 Surplus Interconnection Service Request Process

The original Interconnection Customer may elect to offer Surplus Interconnection Service to either affiliates or non-affiliates. If the original Interconnection Customer elects to offer such service, the original Interconnection Customer must have Surplus Interconnection Service available at the Point of Interconnection for use as Surplus Interconnection Service.

The Surplus Interconnection Customer must request Surplus Interconnection Service by submitting Appendix 1 of the Large Generator Interconnection Procedures and the Surplus Interconnection Service Request Form, as is posted on LG&E/KU's OASIS, to the ITO. This form requires, among other things, an affidavit from the original Interconnection Customer authorizing the use of the Surplus Interconnection Service through the Interconnection Customer's Interconnection Facilities. Surplus Interconnection Service requests will be documented in a separate Surplus Interconnection Service queue and posted on LG&E/KU's OASIS for transparency.

If a Generating Facility interconnected prior to the issuance of Order No. 2003 and does not have an existing Large Generator Interconnection Agreement, Surplus Interconnection Service cannot be offered from that Generating Facility's existing Point of Interconnection.

3.3.3 Surplus Interconnection Service Request Scoping Meeting

Within thirty (30) Calendar Days after receipt of a valid Surplus Interconnection Service Request

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Form, ITO shall facilitate the Scoping Meeting between the ITO, Transmission Owner, Surplus Interconnection Service Customer, and original Interconnection Customer unless otherwise mutually agreed upon by the Parties. The purpose of the Scoping Meeting shall be to discuss the information provided in the Surplus Interconnection Service Request Form.

3.3.4 Surplus Interconnection Service System Impact Study and Agreement

Within five (5) Business Days after the Scoping Meeting, the ITO will issue the System Impact Study Agreement to the Customer. Within thirty (30) Calendar Days after the issuance of the System Impact Study Agreement, the Surplus Interconnection Customer shall return the executed System Impact Study Agreement to the ITO, in addition to a \$25,000 deposit. The ITO shall use Reasonable Efforts to complete the System Impact Study and provide the Surplus Interconnection Customer the System Impact Study Report within ninety (90) Calendar Days after the receipt of the executed System Impact Study Agreement and deposit. As part of its interconnection System Impact Study, the ITO will evaluate the original Interconnection System Impact Study to determine suitability for use in evaluation of the request for Surplus Interconnection Service.

If the System Impact Study identifies any necessary Network Upgrades to the Transmission Owner's Transmission System, the Surplus Interconnection Service request will be denied.

Within ten (10) Business Days of receiving the System Impact Study Report, the Surplus Interconnection Customer must inform the ITO and Transmission Owner, in writing, of their desire to move forward with a Surplus Interconnection Service Agreement.

3.3.5 Surplus Interconnection Service Agreement

Within thirty (30) Calendar Days after receiving written confirmation of the Surplus Interconnection Customer's desire to move forward with the Surplus Interconnection Service Agreement, the ITO will tender a draft Surplus Interconnection Service Agreement to the Surplus Interconnection Customer and the original Interconnection Customer. The Surplus Interconnection Agreement must reflect the: (i) term of operation; (ii) Interconnection Service limit; (iii) mode of operation for energy production; and (iv) roles and responsibilities of the parties for maintaining the operation of the Generating Facility within the parameters of the Surplus Interconnection Service Agreement. Transmission Owner and the Surplus Interconnection Customer shall negotiate concerning any disputed provisions of the appendices to the draft Surplus Interconnection Service Agreement for not more than sixty (60) Calendar Days after tender of the draft Surplus Interconnection Service Agreement, unless agreed upon by both Parties. The Transmission Owner shall file the Surplus Interconnection Service Agreement with FERC. If the Surplus Interconnection Service Customer disputes an issue in the Surplus Interconnection Service Agreement, the Transmission Owner must file the unexecuted Surplus Interconnection Service Agreement with the Commission, if requested to do so by the Surplus Interconnection Customer.

3.3.6 Termination of Surplus Interconnection Service Agreement

Surplus Interconnection Service is dependent on the original Interconnection Customer's original

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Interconnection Service. If the original Interconnection Customer's Interconnection Service terminates, then the Surplus Interconnection Service Customer's Surplus Interconnection Service shall terminate. Surplus Interconnection Service shall not be offered if the original Interconnection Customer's Generating Facility is scheduled to retire and permanently cease commercial operation before the Surplus Interconnection Service Customer's generating facility begins commercial operations. Existing Surplus Interconnection Service may continue for up to one year after the original Interconnection Customer's Interconnection Service terminates if: (1) the Surplus Interconnection Service Customer makes a written request to the Transmission Owner to extend the Surplus Interconnection Service; (2) the Surplus Interconnection Service Customer's generation facility had been studied by the ITO for sole operation at the Point of Interconnection at the time of the interconnection of the Surplus Interconnection Service Customer; and (3) the original Interconnection Customer (whose Interconnection Service is now terminating) agrees in writing that the Surplus Interconnection Service Customer may continue to operate at, or up to, the current Surplus Interconnection Service limit. If these conditions are not met, the Surplus Interconnection Service Agreement shall be deemed terminated effective as of the date that the original Interconnection Customer's Interconnection Service terminates. The Transmission Owner will make an appropriate filing at FERC to terminate the Surplus Interconnection Service Agreement.

3.4 Valid Generator Interconnection Request.

3.4.1 Initiating a Generator Interconnection Request.

To initiate a Generator Interconnection Request, Interconnection Customer must submit all of the following: (i) a \$10,000 deposit, (ii) a completed application in the form of Appendix 1, and (iii) demonstration of Site Control or a posting of an additional deposit of \$10,000. Such deposits shall be applied toward any Interconnection Studies pursuant to the Generator Interconnection Request. If Interconnection Customer demonstrates Site Control within the cure period specified in Section 3.4.3 after submitting its Generator Interconnection Request, the additional deposit shall be refundable; otherwise, all such deposit(s), additional and initial, become nonrefundable.

The expected In-Service Date of the new Large Generating Facility or increase in capacity of the existing Generating Facility shall be no more than the process window for Transmission Owner's expansion planning period not to exceed seven years from the date the Generator Interconnection Request is received by ITO, unless Interconnection Customer demonstrates that engineering, permitting and construction of the new Large Generating Facility or increase in capacity of the existing Generating Facility will take longer than the Transmission Owner's planning period. The In-Service Date may succeed the date the Generator Interconnection Request is received by ITO by a period up to ten years or longer where Interconnection Customer, Transmission Owner, and ITO agree, such agreement not to be unreasonably withheld.

3.4.2 Acknowledgment of Generator Interconnection Request.

ITO shall acknowledge receipt of the Generator Interconnection Request within five (5) Business Days of receipt of the request and attach a copy of the received Generator Interconnection Request to the acknowledgement.

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3.4.3 Deficiencies in Interconnection Request.

A Generator Interconnection Request will not be considered to be a valid request until all items in Section 3.4.1 have been received by ITO. If an Generator Interconnection Request fails to meet the requirements set forth in Section 3.4.1, ITO shall notify Interconnection Customer within five (5) Business Days of receipt of the initial Generator Interconnection Request of the reasons for such failure and that the Generator Interconnection Request does not constitute a valid request. Interconnection Customer shall provide ITO the additional requested information needed to constitute a valid request within ten (10) Business Days after receipt of such notice. Failure by Interconnection Customer to comply with this Section 3.4.3 shall be treated in accordance with Section 3.7.

3.4.4 Scoping Meeting.

Within ten (10) Business Days after receipt of a valid Generator Interconnection Request, ITO shall establish a date agreeable to Interconnection Customer and Transmission Owner for the Scoping Meeting, and such date shall be no later than thirty (30) Calendar Days from receipt of the valid Generator Interconnection Request, unless otherwise mutually agreed upon by the Parties. The purpose of the Scoping Meeting shall be to discuss alternative interconnection options, to exchange information including any transmission data that would reasonably be expected to impact such interconnection options, to analyze such information and to determine the potential feasible Points of Interconnection. ITO, Transmission Owner and Interconnection Customer will bring to the meeting such technical data, including, but not limited to: (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues as may be reasonably required to accomplish the purpose of the meeting. ITO, Transmission Owner and Interconnection Customer will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer shall designate its Point of Interconnection, pursuant to Section 6.1, and one or more available alternative Point(s) of Interconnection. The duration of the meeting shall be sufficient to accomplish its purpose.

3.5 OASIS Posting.

3.5.1 ITO will maintain on the Transmission Owner's OASIS a list of all Generator Interconnection Requests. The list will identify, for each Generator Interconnection Request: (i) the maximum summer and winter megawatt electrical output; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected In-Service Date; (v) the status of the Generator Interconnection Request, including Queue Position; (vi) the type of Interconnection Service being requested; and (vii) the availability of any studies related to the Generator Interconnection Request; (viii) the date of the Generator Interconnection Request; (ix) the type of Generating Facility to be constructed (combined cycle, base load or combustion turbine and fuel type); and (x) for Generator Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed. Except in the case of an Affiliate of the Transmission Owner,

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the list will not disclose the identity of Interconnection Customer until Interconnection Customer executes an LGIA or requests that Transmission Owner file an unexecuted LGIA with FERC. Before holding a Scoping Meeting with an Affiliate of the Transmission Owner, ITO shall post on the Transmission Owner's OASIS an advance notice of its intent to do so. ITO shall post to the Transmission Owner's OASIS site any deviations from the study timelines set forth herein. Interconnection Study reports and Optional Interconnection Study reports shall be posted to Transmission Owner's OASIS site subsequent to the meeting between Interconnection Customer, ITO, and Transmission Owner to discuss the applicable study results. ITO shall also post any known deviations in the Large Generating Facility's In-Service Date.

3.5.2 Requirement to Post Interconnection Study Metrics. The ITO will maintain on the Transmission Owner's OASIS or website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If the ITO posts this information on the Transmission Owner's website, a link to the information must be provided on Transmission Owner's OASIS site. For each calendar quarter, the ITO must calculate and post the information detailed in sections 3.5.2.1 through 3.5.2.4.

3.5.2.1 Interconnection Feasibility Studies processing time.

(A) Number of Interconnection Requests that had Interconnection Feasibility Studies completed within Transmission Owner's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Feasibility Studies completed within Transmission Owner's coordinated region during the reporting quarter that were completed more than forty-five (45) Calendar Days after receipt by ITO of the Interconnection Customer's executed Interconnection Feasibility Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Feasibility Studies where such Interconnection Requests had executed Interconnection Feasibility Study Agreements received by ITO more than forty-five (45) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Interconnection Feasibility Studies completed within Transmission Owner's coordinated region during the reporting quarter, from the date when ITO received the executed Interconnection Feasibility Study Agreement to the date when ITO provided the completed Interconnection Feasibility Study to the Interconnection Customer,

(E) Percentage of Interconnection Feasibility Studies exceeding forty-five (45) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.2.1(B) plus 3.5.2.1(C) divided by the sum of 3.5.2.1(A) plus 3.5.2.1(C)).

3.5.2.2 Interconnection System Impact Studies Processing Time.

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(A) Number of Interconnection Requests that had Interconnection System Impact Studies completed within Transmission Owner's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection System Impact Studies completed within Transmission Owner's coordinated region during the reporting quarter that were completed more than ninety (90) Calendar Days after receipt by ITO of the Interconnection Customer's executed Interconnection System Impact Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete System Impact Studies where such Interconnection Requests had executed Interconnection System Impact Study Agreements received by ITO more than ninety (90) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Interconnection System Impact Studies completed within Transmission Owner's coordinated region during the reporting quarter, from the date when ITO received the executed Interconnection System Impact Study Agreement to the date when ITO provided the completed Interconnection System Impact Study to the Interconnection Customer,

(E) Percentage of Interconnection System Impact Studies exceeding ninety (90) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.2.2(B) plus 3.5.2.2(C) divided by the sum of 3.5.2.2(A) plus 3.5.2.2(C)).

3.5.2.3 Interconnection Facilities Studies Processing Time.

(A) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Owner's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Owner's coordinated region during the reporting quarter that were completed more than ninety (90) Calendar Days after receipt by ITO of the Interconnection Customer's executed Interconnection Facilities Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Service requests with ongoing incomplete Interconnection Facilities Studies where such Interconnection Requests had executed Interconnection Facilities Studies Agreement received by ITO more than ninety (90) Calendar Days before the reporting quarter end,

(D) Mean time (in days), for Interconnection Facilities Studies completed within Transmission Owner's coordinated region during the reporting quarter, calculated from the date when Transmission Owner received the executed Interconnection Facilities Study Agreement to the date when Transmission Owner provided the completed

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Interconnection Facilities Study to the Interconnection Customer,

(E) Percentage of delayed Interconnection Facilities Studies this reporting quarter, calculated as the sum of 3.5.2.3(B) plus 3.5.2.3(C) divided by the sum of 3.5.2.3(A) plus 3.5.2.3(C)).

3.5.2.4 Interconnection Service Requests Withdrawn from Interconnection Queue.

(A) Number of Interconnection Requests withdrawn from Transmission Owner's interconnection queue during the reporting quarter,

(B) Number of Interconnection Requests withdrawn from Transmission Owner's interconnection queue during the reporting quarter before completion of any interconnection studies or execution of any interconnection study agreements,

(C) Number of Interconnection Requests withdrawn from Transmission Owner's interconnection queue during the reporting quarter before completion of an Interconnection System Impact Study,

(D) Number of Interconnection Requests withdrawn from Transmission Owner's interconnection queue during the reporting quarter before completion of an Interconnection Facilities Study,

(E) Number of Interconnection Requests withdrawn from Transmission Owner's interconnection queue after execution of a generator interconnection agreement or Interconnection Customer requests the filing of an unexecuted, new interconnection agreement,

(F) Mean time (in days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when ITO received the request to withdraw from the queue.

3.5.3 The ITO is required to post on the Transmission Owner's OASIS or website the measures in paragraph 3.5.2.1(A) through paragraph 3.5.2.4(F) for each calendar quarter within 30 days of the end of the calendar quarter. The ITO will keep the quarterly measures posted on OASIS or its website for three calendar years with the first required report to be in the first quarter of 2020. If ITO retains this information on Transmission Owner's website, a link to the information must be provided on Transmission Owner's OASIS site.

3.5.4 In the event that any of the values calculated in paragraphs 3.5.2.1(E), 3.5.2.2(E) or 3.5.2.3(E) exceeds 25 percent for two consecutive calendar quarters, Transmission Owner will have to comply with the measures below for the next four consecutive calendar quarters and must continue reporting this information until the Transmission Owner reports four consecutive

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calendar quarters without the values calculated in 3.5.2.1(E), 3.5.2.2(E) or 3.5.2.3(E) exceeding 25 percent for two consecutive calendar quarters:

- (i) The Transmission Owner must submit a report to the Commission describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline (i.e., 45, 90 or 180 days) for completion (excluding any allowance for Reasonable Efforts). The Transmission Owner, with the ITO's assistance, must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The report must be filed at the Commission within 45 days of the end of the calendar quarter.
- (ii) The ITO shall aggregate the total number of employee-hours and third party consultant hours expended towards interconnection studies within its coordinated region that quarter and post on Transmission Owner's OASIS or website. If ITO posts this information on Transmission Owner's website, a link to the information must be provided on the Transmission Owner's OASIS site. This information is to be posted within 30 days of the end of the calendar quarter.

3.6 Coordination with Affected Systems.

ITO will coordinate the conduct of any studies required to determine the impact of the Generator Interconnection Request on Affected Systems with Affected System Operators and, if possible, include those results (if available) in its applicable Interconnection Study within the time frame specified in this LGIP. ITO will include such Affected System Operators in all meetings held with Interconnection Customer as required by this LGIP. Interconnection Customer will cooperate with ITO in all matters related to the conduct of studies and the determination of modifications to Affected Systems. Affected System Operators shall cooperate with the ITO in all matters related to the conduct of studies and the determination of modifications to Affected Systems.

3.7 Withdrawal.

Interconnection Customer may withdraw its Generator Interconnection Request at any time by written notice of such withdrawal to ITO and Transmission Owner. In addition, if Interconnection Customer fails to adhere to all requirements of this LGIP, except as provided in Section 14.5 (Disputes), ITO shall deem the Interconnection Request to be withdrawn and shall provide written notice to Interconnection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. Upon receipt of such written notice, Interconnection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cure the deficiency or to notify ITO of its intent to pursue Dispute Resolution.

Withdrawal shall result in the loss of Interconnection Customer's Queue Position. If an Interconnection Customer disputes the withdrawal and loss of its Queue Position, then during Dispute Resolution, Interconnection Customer's Generator Interconnection Request is eliminated from the queue until such time that the outcome of Dispute Resolution would restore its Queue Position. An Interconnection Customer that withdraws or is deemed to have withdrawn its

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Generator Interconnection Request shall pay to ITO all costs that ITO prudently incurs with respect to that Generator Interconnection Request prior to ITO's receipt of notice described above. Interconnection Customer must pay all monies due to ITO before it is allowed to obtain any Interconnection Study data or results. To the extent that Transmission Owner incurs costs as a result of Interconnection Customer's Interconnection Request, the ITO shall reimburse Transmission Owner from monies received from Interconnection Customer.

ITO shall (i) update the Transmission Owner's OASIS Queue Position posting and (ii) refund to Interconnection Customer any portion of Interconnection Customer's deposit or study payments that exceeds the costs that ITO has incurred, including interest calculated in accordance with 18 CFR § 35.19a(a)(2). In the event of such withdrawal, ITO, subject to the confidentiality provisions of Section 14.1, shall provide, at Interconnection Customer's request, all information that ITO or Transmission Owner developed for any completed study conducted up to the date of withdrawal of the Generator Interconnection Request.

3.8 Identification of Contingent Facilities. Transmission Owner shall post in this section a method for identifying the Contingent Facilities to be provided to Interconnection Customer at the conclusion of the System Impact Study and included in Interconnection Customer's Large Generator Interconnection Agreement. The method shall be sufficiently transparent to determine why a specific Contingent Facility was identified and how it relates to the Interconnection Request. Transmission Owner shall also provide, upon request of the Interconnection Customer, the estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time of each identified Contingent Facility when this information is readily available and not commercially sensitive.

This Contingent Facilities process describes the method for identifying whether any interconnection facility or network upgrade associated with a prior-queued Generator Interconnection Request is required to be constructed for a later-queued Generator Interconnection Request. If, through the process described below, it is determined that an interconnection facility or network upgrade associated with a prior-queued Generator Interconnection Request is also required for the Generator Interconnection Request under study, then that interconnection facility and/or network upgrade will be identified as a Contingent Facility in the later-queued Generator Interconnection Request's System Impact Study report and included in the later-queued Generator Interconnection Requestor's Large Generator Interconnection Agreement. Upon request, the Transmission Owner will provide the estimated cost and in-service completion date of Contingent Facilities, where that information is readily available.

Steady State:

To identify whether any steady-state related Contingent Facilities exist for a later-queued Generator Interconnection Request, a Distribution Factor (DF) will be calculated for the constraint driving each steady-state related interconnection facility or network upgrade related to

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each prior-queued Generator Interconnection Request.

The ITO will calculate the DF for a constraint by evaluating different scenarios in which each prior-queued Generator Interconnection Request and its associated steady-state related interconnection facilities and network upgrades (as identified in the SIS of the prior-queued Generator Interconnection Request) are removed from the model(s). If no steady-state related interconnection facility or network upgrades are associated with a prior-queued Generator Interconnection Request, that prior-queued Generator Interconnection Request will not be included in any steady state Contingent Facility evaluations.

A DF of greater than or equal to 20% for a Generator Interconnection Request with respect to a constraint resolved through the construction of an interconnection facility or network upgrade associated with prior-queued Generator Interconnection Request(s) shall result in such interconnection facility or network upgrade being identified as a Contingent Facility.

In addition, the ITO will evaluate the voltage impacts of the later-queued Generator Interconnection Request using a simulated power flow analysis. Identification of a voltage change of more than one (1) percent attributable to the later-queued Generator Interconnection Request on a monitored facility with voltage criteria violations resolved through the construction of an interconnection facility or network upgrade associated with prior-queued Generator Interconnection Request(s) shall result in such interconnection facility or network upgrade being identified as a Contingent Facility.

Stability / Short Circuit:

To identify whether any stability or short circuit related Contingent Facilities exist for a later-queued Generator Interconnection Request, the location of the Point of Interconnection will be reviewed. If the Point of Interconnection of a prior-queued Generator Interconnection Request is a sufficient distance away from the Generator Interconnection Request being studied, as established in the LG&E/KU Generator Interconnection Study Criteria document posted on LG&E/KU's OASIS, then any stability or short circuit related interconnection facilities or network upgrade associated with the prior-queued Generator Interconnection Request will not be considered to be a Contingent Facility for the Generator Interconnection Request being studied.

If the Point of Interconnection of a prior-queued Generator Interconnection Request is five (5) buses (short circuit) or three (3) substation (stability) of the Generator Interconnection Request being studied, as identified in the LG&E/KU Generator Interconnection Study Criteria document posted on LG&E/KU's OASIS, then any stability or short circuit related interconnection facility or network upgrade associated with the prior-queued Generator Interconnection Request must be studied to determine if it is required by the later-queued Generator Interconnection Request being studied.

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For stability or short circuit constraints (as identified in the SIS of the prior-queued Generator Interconnection Request), the ITO will produce a model with the prior-queued Generator Interconnection Request(s) removed from the model along with any stability or short circuit related projects for the prior-queued Generator Interconnection Request(s). The ITO will then simulate the stability or short circuit disturbances that resulted in the constraint using the criteria posted in the LG&E/KU Generator Interconnection Study Criteria document posted on LG&E/KU's OASIS. If the constraint exists in the study of the later-queued Generator Interconnection Request (from model without prior queued project as described above), the stability or short circuit related interconnection facilities or network upgrade associated with the prior-queued Generator Interconnection Request will be identified as a Contingent Facility(s).

If no stability or short circuit related interconnection facilities or network upgrades are associated with a prior-queued Generator Interconnection Request, that prior-queued Generator Interconnection Request will not be included in any stability/short circuit Contingent Facility evaluations.

Section 4. Queue Position

4.1 General.

ITO shall assign a Queue Position based upon the date and time of receipt of the valid Generator Interconnection Request; provided that, if the sole reason an Generator Interconnection Request is not valid is the lack of required information on the application form, and Interconnection Customer provides such information in accordance with Section 3.4.3, then ITO shall assign Interconnection Customer a Queue Position based on the date the application form was originally filed. Moving a Point of Interconnection shall result in a lowering of Queue Position if it is deemed a Material Modification under Section 4.4.3.

The Queue Position of each Generator Interconnection Request will be used to determine the order of performing the Interconnection Studies and determination of cost responsibility for the facilities necessary to accommodate the Generator Interconnection Request. A higher queued Generator Interconnection Request is one that has been placed "earlier" in the queue in relation to another Generator Interconnection Request that is lower queued.

ITO may allocate the cost of the common upgrades for clustered Generator Interconnection Requests without regard to Queue Position.

4.2 Clustering.

At ITO's option, Generator Interconnection Requests may be studied serially or in clusters for the purpose of the Interconnection System Impact Study.

Clustering shall be implemented on the basis of Queue Position. If ITO elects to study Generator Interconnection Requests using Clustering, all Generator Interconnection Requests received within a period not to exceed one hundred and eighty (180) Calendar Days, hereinafter referred to as the "Queue Cluster Window" shall be studied together without regard to the nature of the

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underlying Interconnection Service, whether Energy Resource Interconnection Service or Network Resource Interconnection Service. The deadline for completing all Interconnection System Impact Studies for which an Interconnection System Impact Study Agreement has been executed during a Queue Cluster Window shall be in accordance with Section 7.4, for all Generator Interconnection Requests assigned to the same Queue Cluster Window. ITO may study a Generator Interconnection Request separately to the extent warranted by Good Utility Practice based upon the electrical remoteness of the proposed Large Generating Facility.

Clustering Interconnection System Impact Studies shall be conducted in such a manner to ensure the efficient implementation of the applicable regional transmission expansion plan in light of the Transmission System's capabilities at the time of each study.

The Queue Cluster Window shall have a fixed time interval based on fixed annual opening and closing dates. Any changes to the established Queue Cluster Window interval and opening or closing dates shall be announced with a posting on Transmission Owner's OASIS beginning at least one hundred and eighty (180) Calendar Days in advance of the change and continuing thereafter through the end date of the first Queue Cluster Window that is to be modified.

4.3 Transferability of Queue Position.

An Interconnection Customer may transfer its Queue Position to another entity only if such entity acquires the specific Generating Facility identified in the Generator Interconnection Request and the Point of Interconnection does not change.

4.4 Modifications.

Interconnection Customer shall submit to ITO, in writing, modifications to any information provided in the Generator Interconnection Request. Interconnection Customer shall retain its Queue Position if the modifications are in accordance with Sections 4.4.1, 4.4.2 or 4.4.5, or are determined not to be Material Modifications pursuant to Section 4.4.3.

Notwithstanding the above, during the course of the Interconnection Studies, the Interconnection Customer, Transmission Owner or ITO may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Generator Interconnection Request. To the extent the identified changes are acceptable to the Transmission Owner, ITO and Interconnection Customer, such acceptance not to be unreasonably withheld, ITO shall modify the Point of Interconnection and/or configuration in accordance with such changes and proceed with any re-studies necessary to do so in accordance with Section 6.4, Section 7.6 and Section 8.5 as applicable and Interconnection Customer shall retain its Queue Position.

4.4.1 Prior to the return of the executed Interconnection System Impact Study Agreement to ITO, modifications permitted under this Section shall include specifically: (a) a decrease of up to 60 percent of electrical output (MW) of the proposed project, through either (1) a decrease in plant size or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Owner and ITO-approved injection-limiting equipment; (b) modifying the technical parameters associated

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with the Large Generating Facility technology or the Large Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. For plant increases, the incremental increase in plant output will go to the end of the queue for the purposes of cost allocation and study analysis.

4.4.2 Prior to the return of the executed Interconnection Facilities Study Agreement to the ITO, the modifications permitted under this Section shall include specifically: (a) additional 15 percent decrease of electrical output of the proposed project through either (1) a decrease in plant size (MW) or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Owner- and ITO-approved injection-limiting equipment; (b) Large Generating Facility technical parameters associated with modifications to Large Generating Facility technology and transformer impedances; provided, however, the incremental costs associated with those modifications are the responsibility of the requesting Interconnection Customer; and (c) a Permissible Technological Advancement for the Large Generating Facility after the submission of the Interconnection Request. Section 4.4.6 specifies a separate technological change procedure including the requisite information and process that will be followed to assess whether the Interconnection Customer's proposed technological advancement under Section 4.4.2(c) is a Material Modification. Section 1 contains a definition of Permissible Technological Advancement.

4.4.3 Prior to making any modification other than those specifically permitted by Sections 4.4.1, 4.4.2, and 4.4.5, Interconnection Customer may first request that ITO evaluate whether such modification is a Material Modification. In response to Interconnection Customer's request, ITO shall evaluate the proposed modifications prior to making them and inform Interconnection Customer in writing of whether the modifications would constitute a Material Modification. Any change to the Point of Interconnection, except those deemed acceptable under Sections 4.4.1, 6.1, or so allowed elsewhere, shall constitute a Material Modification. Interconnection Customer may then withdraw the proposed modification or proceed with a new Generator Interconnection Request for such modification.

4.4.4 Upon receipt of Interconnection Customer's request for modification permitted under this Section 4.4, ITO shall commence and perform any necessary additional studies as soon as practicable, but in no event shall ITO commence such studies later than thirty (30) Calendar Days after receiving notice of Interconnection Customer's request. ITO shall also notify Transmission Owner of any request for modification within thirty (30) calendar days after receiving notice of Interconnection Customer's request. Any additional studies resulting from such modification shall be done at Interconnection Customer's cost.

4.4.5 Extensions of less than three (3) cumulative years in the Commercial Operation Date of the Large Generating Facility to which the Generator Interconnection Request relates are not material and should be handled through construction sequencing, to the extent practicable.

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4.4.6 Technological Change Procedure.

A Generator Interconnection Customer may propose a technological change to its Generator Interconnection Request at any point in the interconnection process prior to the execution of the Facilities Study Agreement. The Generator Interconnection Customer must submit to the Transmission Owner and ITO the information detailed on the Technological Advancement Request form posted on LG&E/KU's OASIS. The ITO will evaluate the provided information to determine if the proposed change is a Permissible Technological Advancement, or if an additional evaluation is needed to determine whether the proposed change constitutes a Material Modification.

A proposed change is a Permissible Technological Advancement if the information submitted in the Technological Advancement Request form demonstrates that the incorporation of the proposed technological change meets the performance criteria of the Table 1 P1-P7 study as described in NERC TPL-001 and the relay criteria as described in NERC PRC-024 and PRC-025 and thus is not a Material Modification.

If the Technological Advancement Request form does not demonstrate that the incorporation of the proposed technological change meets the performance criteria of the Table 1 P1-P7 study as described in NERC TPL-001 and the relay criteria as described in NERC PRC-024 and PRC-025, then the ITO will notify the Generator Interconnection Customer that further evaluation is necessary to determine whether the proposed change will result in a project that impacts the timing and costs of lower queued customers, thus resulting in a Material Modification. If the ITO requires additional information and/or other inputs to complete the evaluation, it will clearly communicate to the Generator Interconnection Customer the details of the additional information and/or inputs needed. If the Generator Interconnection Customer still desires to pursue the Technological Advancement Request, within two (2) Calendar Days of the ITO's notification that additional evaluation is required, the Generator Interconnection Customer must execute the ITO's Material Modification Study Agreement and submit a deposit of \$10,000.

Within 30 Calendar Days after receipt of the completed Technological Advancement Request form, the ITO shall complete such evaluation and notify the Generator Interconnection Customer of the results. The ITO will also notify the Generator Interconnection Customer of the costs related to the evaluation, and either refund any overage or charge for any shortage for costs that exceed the \$10,000 deposit. The Material Modification Study report will consider material impacts to the Transmission Owner's Transmission System with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability, and whether the proposed technological advancement materially impacts the timing and costs of lower-queued interconnection customers.

The study report provided to the Generator Interconnection customer will contain sufficient information to explain why the ITO determined that the proposed technological advancement is either a Material Modification or a Permissible Technological Advancement. If, based on the study results, the ITO determines that the proposed technological advancement constitutes a

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Material Modification, then the request for the proposed technological advancement will be denied. In such instance, the Generation Interconnection Customer may submit a new Interconnection request. If, based on the study results, the ITO determines that the effects of the proposed technological advancement do not constitute a Material Modification, then the technological advancement request will be accepted, and the proposed technological advancement will be considered a Permissible Technological Advancement.

Section 5. Procedures for Generator Interconnection Requests Submitted Prior to Effective Date of Standard Large Generator Interconnection Procedures

5.1 Queue Position for Pending Requests.

5.1.1 Any Interconnection Customer assigned a Queue Position prior to the effective date of this LGIP shall retain that Queue Position.

5.1.1.1 If an Interconnection Study Agreement has not been executed as of the effective date of this LGIP, then such Interconnection Study, and any subsequent Interconnection Studies, shall be processed in accordance with this LGIP.

5.1.1.2 If an Interconnection Study Agreement has been executed prior to the effective date of this LGIP, such Interconnection Study shall be completed in accordance with the terms of such agreement. With respect to any remaining studies for which an Interconnection Customer has not signed an Interconnection Study Agreement prior to the effective date of the LGIP, ITO must offer Interconnection Customer the option of either continuing under ITO's existing interconnection study process or going forward with the completion of the necessary Interconnection Studies (for which it does not have a signed Interconnection Studies Agreement) in accordance with this LGIP.

5.1.1.3 If an LGIA has been submitted to FERC for approval before the effective date of the LGIP, then the LGIA shall be grandfathered.

5.1.2 Transition Period.

To the extent necessary, ITO, Transmission Owner, and Interconnection Customers with an outstanding request (i.e., an Generator Interconnection Request for which an LGIA has not been submitted to FERC for approval as of the effective date of this LGIP) shall transition to this LGIP within a reasonable period of time not to exceed sixty (60) Calendar Days. The use of the term "outstanding request" herein shall mean any Generator Interconnection Request, on the effective date of this LGIP: (i) that has been submitted but not yet accepted by ITO; (ii) where the related interconnection agreement has not yet been submitted to FERC for approval in executed or unexecuted form, (iii) where the relevant Interconnection Study Agreements have not yet been executed, or (iv) where any of the relevant Interconnection Studies are in process but not yet completed. Any Interconnection Customer with an outstanding request as of the effective date of this LGIP may request a reasonable extension of any deadline, otherwise applicable, if necessary to avoid undue hardship or prejudice to its Generator Interconnection

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Request. A reasonable extension shall be granted by ITO to the extent consistent with the intent and process provided for under this LGIP.

5.2 New Transmission Owner.

If Transmission Owner transfers control of its Transmission System to a successor Transmission Owner during the period when an Generator Interconnection Request is pending, the ITO shall transfer to the successor Transmission Owner any amount of the deposit or payment with interest thereon that exceeds the cost incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by this LGIP shall be paid by or refunded to the Interconnection Customer, as appropriate. The original Transmission Owner and/or ITO, as appropriate, shall coordinate with the successor Transmission Owner to complete any Interconnection Study, as appropriate, that the ITO or Transmission Owner has begun but has not completed. If the ITO has tendered a draft LGIA to Interconnection Customer but Interconnection Customer has not either executed the LGIA or requested the filing of an unexecuted LGIA with FERC, unless otherwise provided, Interconnection Customer must complete negotiations with the successor Transmission Owner.

Section 6. Interconnection Feasibility Study

6.1 Interconnection Feasibility Study Agreement.

Simultaneously with the acknowledgement of a valid Generator Interconnection Request, ITO shall provide to Interconnection Customer an Interconnection Feasibility Study Agreement in the form of Appendix 2. The Interconnection Feasibility Study Agreement shall specify that Interconnection Customer is responsible for the actual cost of the Interconnection Feasibility Study. Within five (5) Business Days following the Scoping Meeting Interconnection Customer shall specify for inclusion in the attachment to the Interconnection Feasibility Study Agreement the Point(s) of Interconnection and any reasonable alternative Point(s) of Interconnection. Within five (5) Business Days following ITO's receipt of such designation, ITO shall tender to Interconnection Customer the Interconnection Feasibility Study Agreement signed by ITO, which includes a good faith estimate of the cost for completing the Interconnection Feasibility Study. Interconnection Customer shall execute and deliver to ITO the Interconnection Feasibility Study Agreement along with a \$10,000 deposit no later than thirty (30) Calendar Days after its receipt.

On or before the return of the executed Interconnection Feasibility Study Agreement to ITO, Interconnection Customer shall provide the technical data called for in Appendix 1, Attachment A.

If the Interconnection Feasibility Study uncovers any unexpected result(s) not contemplated during the Scoping Meeting, a substitute Point of Interconnection identified by Interconnection Customer, Transmission Owner, or ITO, and acceptable to the other Parties, such acceptance not to be unreasonably withheld, will be substituted for the designated Point of Interconnection specified above without loss of Queue Position, and Re-studies shall be completed pursuant to Section 6.4 as applicable. For the purpose of this Section 6.1, if ITO, Transmission Owner and

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Interconnection Customer cannot agree on the substituted Point of Interconnection, then Interconnection Customer may direct that one of the alternatives as specified in the Interconnection Feasibility Study Agreement, as specified pursuant to Section 3.4.4, shall be the substitute.

If Interconnection Customer, Transmission Owner, and ITO agree to forgo the Interconnection Feasibility Study, ITO will initiate an Interconnection System Impact Study under Section 7 of this LGIP and apply the \$10,000 deposit towards the Interconnection System Impact Study.

6.2 Scope of Interconnection Feasibility Study.

The Interconnection Feasibility Study shall preliminarily evaluate the feasibility of the proposed interconnection to the Transmission System.

The Interconnection Feasibility Study will consider the Base Case as well as all generating facilities (and with respect to (iii), any identified Network Upgrades) that, on the date the Interconnection Feasibility Study is commenced: (i) are directly interconnected to the Transmission System; (ii) are interconnected to Affected Systems and may have an impact on the Generator Interconnection Request; (iii) have a pending higher queued Generator Interconnection Request to interconnect to the Transmission System; and (iv) have no Queue Position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC. The Interconnection Feasibility Study will consist of a power flow and short circuit analysis. The Interconnection Feasibility Study will provide a list of facilities and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct. Generators interconnected to the Transmission System pursuant to Interim Interconnection Service will not be considered in the Interconnection Feasibility Study, except to the extent those units' permanent output will be considered in the studies of lower-queued customers in the normal course.

6.3 Interconnection Feasibility Study Procedures.

ITO shall utilize existing studies to the extent practicable when it performs the study. ITO shall use Reasonable Efforts to complete the Interconnection Feasibility Study no later than forty-five (45) Calendar Days after ITO receives the fully executed Interconnection Feasibility Study Agreement. At the request of Interconnection Customer or at any time ITO determines that it will not meet the required time frame for completing the Interconnection Feasibility Study, ITO shall notify Interconnection Customer as to the schedule status of the Interconnection Feasibility Study. If ITO is unable to complete the Interconnection Feasibility Study within that time period, it shall notify Interconnection Customer and Transmission Owner and provide an estimated completion date with an explanation of the reasons why additional time is required. Upon request, ITO shall provide Interconnection Customer and Transmission Owner supporting documentation, workpapers and relevant power flow, short circuit and stability databases for the Interconnection Feasibility Study, subject to confidentiality arrangements consistent with Section 14.1. Such confidentiality arrangements are subject to review and approval of the Transmission Owner prior to release of any information pursuant to this section.

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The ITO shall study the Interconnection Request at the level of service requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns.

6.3.1 Meeting with ITO.

Within ten (10) Business Days of providing an Interconnection Feasibility Study report to Interconnection Customer, ITO, Interconnection Customer and Transmission Owner shall meet to discuss the results of the Interconnection Feasibility Study.

6.4 Re-Study.

If Re-Study of the Interconnection Feasibility Study is required due to a higher queued project dropping out of the queue, or a modification of a higher queued project subject to Section 4.4, or re-designation of the Point of Interconnection pursuant to Section 6.1, ITO shall notify Interconnection Customer and Transmission Owner in writing. Such Re-Study shall take not longer than forty-five (45) Calendar Days from the date of the notice. Any cost of Re-Study shall be borne by the Interconnection Customer being re-studied.

Section 7. Interconnection System Impact Study

7.1 Interconnection System Impact Study Agreement.

Unless otherwise agreed, pursuant to the Scoping Meeting provided in Section 3.4.4, simultaneously with the delivery of the Interconnection Feasibility Study to Interconnection Customer and Transmission Owner, ITO shall provide to Interconnection Customer an Interconnection System Impact Study Agreement in the form of Appendix 3 to this LGIP. The Interconnection System Impact Study Agreement shall provide that Interconnection Customer shall compensate ITO for the actual cost of the Interconnection System Impact Study. Within three (3) Business Days following the Interconnection Feasibility Study results meeting, ITO shall provide to Interconnection Customer and Transmission Owner a nonbinding good faith estimate of the cost and timeframe for completing the Interconnection System Impact Study.

7.2 Execution of Interconnection System Impact Study Agreement.

Interconnection Customer shall execute the Interconnection System Impact Study Agreement and deliver the executed Interconnection System Impact Study Agreement to ITO no later than thirty (30) Calendar Days after its receipt along with demonstration of Site Control, and a \$50,000 deposit.

If Interconnection Customer does not provide all such technical data when it delivers the Interconnection System Impact Study Agreement, ITO shall notify Interconnection Customer of the deficiency within five (5) Business Days of the receipt of the executed Interconnection System Impact Study Agreement and Interconnection Customer shall cure the deficiency within ten (10) Business Days of receipt of the notice, provided, however, such deficiency does not include failure to deliver the executed Interconnection System Impact Study Agreement or deposit.

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If the Interconnection System Impact Study uncovers any unexpected result(s) not contemplated during the Scoping Meeting and the Interconnection Feasibility Study, a substitute Point of Interconnection identified by Interconnection Customer, ITO, or Transmission Owner, and acceptable to the other Parties, such acceptance not to be unreasonably withheld, will be substituted for the designated Point of Interconnection specified above without loss of Queue Position, and restudies shall be completed pursuant to Section 7.6 as applicable. For the purpose of this Section 7.2, if ITO, Transmission Owner, and Interconnection Customer cannot agree on the substituted Point of Interconnection, then Interconnection Customer may direct that one of the alternatives as specified in the Interconnection Feasibility Study Agreement, as specified pursuant to Section 3.4.4, shall be the substitute.

7.3 Scope of Interconnection System Impact Study.

The Interconnection System Impact Study shall evaluate the impact of the proposed interconnection on the reliability of the Transmission System. The Interconnection System Impact Study will consider the Base Case as well as all generating facilities (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued interconnection) that, on the date the Interconnection System Impact Study is commenced: (i) are directly interconnected to the Transmission System; (ii) are interconnected to Affected Systems and may have an impact on the Generator Interconnection Request; (iii) have a pending higher queued Generator Interconnection Request to interconnect to the Transmission System; and (iv) have no Queue Position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC. Generators interconnected to the Transmission System pursuant to Interim Interconnection Service will not be considered in the Interconnection System Impact Study, except to the extent those units' permanent output will be considered in the studies of lower-queued customers in the normal course.

The Interconnection System Impact Study will consist of a short circuit analysis, a stability analysis, and a power flow analysis. The Interconnection System Impact Study will state the assumptions upon which it is based; state the results of the analyses; and provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. For purposes of determining necessary Interconnection Facilities and Network Upgrades, the System Impact Study shall consider the level of Interconnection Service requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns. The Interconnection System Impact Study will provide a list of facilities that are required as a result of the Generator Interconnection Request and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct.

7.4 Interconnection System Impact Study Procedures

ITO shall coordinate the Interconnection System Impact Study with Transmission Owner and any Affected System that is affected by the Generator Interconnection Request pursuant to Section 3.6 above. ITO shall utilize existing studies to the extent practicable when it performs

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the study. ITO shall use Reasonable Efforts to complete the Interconnection System Impact Study within ninety (90) Calendar Days after the receipt of the Interconnection System Impact Study Agreement or notification to proceed, study payment, and technical data. The ITO may process Interconnection System Impact Studies, Interconnection Feasibility Studies, or Interconnection Facilities Studies for several Generator Interconnection Requests concurrently (not a cluster study) in the Generation Interconnection queue order to accelerate the Generator Interconnection queue processing. The ITO will start a new study only after all higher queued Generator Interconnection Requests' studies are already started or in progress. The ITO will perform a study for each of the Generator Interconnection Requests independently and determine their required network upgrades for the interconnection service individually. The Interconnection System Impact Studies will include all higher queued Generator Interconnection Requests even if network upgrades for any of these higher queued Generator Interconnection Requests are not known or available at the commencement of the study. If ITO uses Clustering, ITO shall use Reasonable Efforts to deliver a completed Interconnection System Impact Study within ninety (90) Calendar Days after the close of the Queue Cluster Window.

At the request of Interconnection Customer or at any time ITO determines that it will not meet the required time frame for completing the Interconnection System Impact Study, ITO shall notify Interconnection Customer as to the schedule status of the Interconnection System Impact Study. If ITO is unable to complete the Interconnection System Impact Study within the time period, it shall notify Interconnection Customer and Transmission Owner and provide an estimated completion date with an explanation of the reasons why additional time is required. Upon request, ITO shall provide Interconnection Customer or Transmission Owner all supporting documentation, workpapers and relevant pre- Generator Interconnection Request and post-Generator Interconnection Request power flow, short circuit and stability databases for the Interconnection System Impact Study, subject to confidentiality arrangements consistent with Section 14.1.

7.5 Meeting with ITO.

Within ten (10) Business Days of providing an Interconnection System Impact Study report to Interconnection Customer, ITO, Transmission Owner and Interconnection Customer shall meet to discuss the results of the Interconnection System Impact Study.

7.6 Re-Study.

If Re-Study of the Interconnection System Impact Study is required due to a higher queued project dropping out of the queue, or a modification of a higher queued project subject to Section 4.4, or re-designation of the Point of Interconnection pursuant to Section 7.2 ITO shall notify Interconnection Customer and Transmission Owner in writing. Such Re-Study shall take no longer than sixty (60) Calendar Days from the date of notice. Any cost of Re- Study shall be borne by the Interconnection Customer being re-studied.

Section 8. Interconnection Facilities Study

8.1 Interconnection Facilities Study Agreement.

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Simultaneously with the delivery of the Interconnection System Impact Study to Interconnection Customer and Transmission Owner, ITO shall provide to Interconnection Customer an Interconnection Facilities Study Agreement in the form of Appendix 4 to this LGIP. The Interconnection Facilities Study Agreement shall provide that Interconnection Customer shall compensate ITO for the actual cost of the Interconnection Facilities Study. Within three (3) Business Days following the Interconnection System Impact Study results meeting, ITO shall provide to Interconnection Customer a non-binding good faith estimate of the cost and timeframe for completing the Interconnection Facilities Study. Interconnection Customer shall execute the Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to ITO within thirty (30) Calendar Days after its receipt, together with the required technical data and the greater of \$100,000 or Interconnection Customer's portion of the estimated monthly cost of conducting the Interconnection Facilities Study.

8.1.1 ITO shall invoice Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study each month. Interconnection Customer shall pay invoiced amounts within thirty (30) Calendar Days of receipt of invoice. ITO shall continue to hold the amounts on deposit until settlement of the final invoice. ITO shall reimburse Transmission Owner for costs it incurs in performing the Interconnection Facilities Study from monies received pursuant to this section.

8.2 Scope of Interconnection Facilities Study.

The Interconnection Facilities Study shall specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Interconnection Facility to the Transmission System. The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Transmission Owner's Interconnection Facilities and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities. The Facilities Study will also identify any potential control equipment for requests for Interconnection Service that are lower than the Generating Facility Capacity.

8.3 Interconnection Facilities Study Procedures.

ITO shall coordinate the Interconnection Facilities Study with any Affected System Operator and Transmission Owner pursuant to Section 3.6 above. ITO shall provide to the Transmission Owner existing studies to the extent practicable for the Transmission Owner's use in performing the Interconnection Facilities Study. The Transmission Owner shall use Reasonable Efforts to complete the study and issue a draft Interconnection Facilities Study report to Interconnection Customer and ITO within the following number of days after receipt of an executed Interconnection Facilities Study Agreement: ninety (90) Calendar Days, with no more than a +/- 20 percent cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if Interconnection Customer requests a +/-10 percent cost estimate.

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At the request of Interconnection Customer or at any time Transmission Owner determines that it will not meet the required time frame for completing the Interconnection Facilities Study, Transmission Owner shall notify Interconnection Customer and ITO as to the schedule status of the Interconnection Facilities Study. If Transmission Owner is unable to complete the Interconnection Facilities Study and the ITO is subsequently unable to issue a draft Interconnection Facilities Study report within the time required, the ITO shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required.

Interconnection Customer or Transmission Owner may, within thirty (30) Calendar Days after receipt of the draft report, provide written comments to ITO, which ITO shall include in the final report. ITO shall issue the final Interconnection Facilities Study report to Interconnection Customer and Transmission Owner within fifteen (15) Business Days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. ITO may reasonably extend such fifteen-day period upon notice to Interconnection Customer if Interconnection Customer's comments require Transmission Owner and/or ITO to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Report. Upon request, Transmission Owner shall provide Interconnection Customer and ITO supporting documentation, workpapers, and databases or data developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section 14.1.

8.4 Meeting with ITO.

Within ten (10) Business Days of providing a draft Interconnection Facilities Study report to Interconnection Customer, ITO, Interconnection Customer and Transmission Owner shall meet to discuss the results of the Interconnection Facilities Study.

8.5 Re-Study.

If Re-Study of the Interconnection Facilities Study is required due to a higher queued project dropping out of the queue or a modification of a higher queued project pursuant to Section 4.4, ITO shall so notify Interconnection Customer and Transmission Owner in writing. Such Re-Study shall take no longer than sixty (60) Calendar Days from the date of notice. Any cost of Re-Study shall be borne by the Interconnection Customer being re-studied.

Section 9. Engineering & Procurement ('E&P') Agreement.

Prior to executing an LGIA, an Interconnection Customer may, in order to advance the implementation of its interconnection, request and Transmission Owner shall offer the Interconnection Customer, an E&P Agreement that authorizes Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. The E&P Agreement shall be between Interconnection Customer and Transmission Owner; however, the ITO shall tender the draft E&P Agreement to the Interconnection Customer for administrative purposes. Transmission Owner shall not be

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obligated to offer an E&P Agreement if Interconnection Customer is in Dispute Resolution as a result of an allegation that Interconnection Customer has failed to meet any milestones or comply with any prerequisites specified in other parts of the LGIP. The E&P Agreement is an optional procedure and it will not alter the Interconnection Customer's Queue Position or In-Service Date. The E&P Agreement shall provide for Interconnection Customer to pay the cost of all activities authorized by Interconnection Customer and to make advance payments or provide other satisfactory security for such costs.

Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its interconnection, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. If Interconnection Customer withdraws its application for interconnection or either Party terminates the E&P Agreement, to the extent the equipment ordered can be canceled under reasonable terms, Interconnection Customer shall be obligated to pay the associated cancellation costs. To the extent that the equipment cannot be reasonably canceled, Transmission Owner may elect: (i) to take title to the equipment, in which event Transmission Owner shall refund Interconnection Customer any amounts paid by Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) transfer title to and deliver such equipment to Interconnection Customer, in which event Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

Section 10. Optional Interconnection Study

10.1 Optional Interconnection Study Agreement.

On or after the date when Interconnection Customer receives Interconnection System Impact Study results, Interconnection Customer may request, and ITO shall perform a reasonable number of Optional Studies. The request shall describe the assumptions that Interconnection Customer wishes ITO to study within the scope described in Section 10.2. Within five (5) Business Days after receipt of a request for an Optional Interconnection Study, ITO shall provide to Interconnection Customer an Optional Interconnection Study Agreement in the form of Appendix 5.

The Optional Interconnection Study Agreement shall: (i) specify the technical data that Interconnection Customer must provide for each phase of the Optional Interconnection Study, (ii) specify Interconnection Customer's assumptions as to which Generator Interconnection Requests with earlier queue priority dates will be excluded from the Optional Interconnection Study case and assumptions as to the type of interconnection service for Generator Interconnection Requests remaining in the Optional Interconnection Study case, and (iii) ITO's estimate of the cost of the Optional Interconnection Study. To the extent known by ITO, such estimate shall include any costs expected to be incurred by any Affected System whose participation is necessary to complete the Optional Interconnection Study or Transmission Owner. Notwithstanding the above, ITO shall not be required as a result of an Optional Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Generator Interconnection Request.

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Interconnection Customer shall execute the Optional Interconnection Study Agreement within ten (10) Business Days of receipt and deliver the Optional Interconnection Study Agreement, the technical data and a \$10,000 deposit to ITO.

10.2 Scope of Optional Interconnection Study.

The Optional Interconnection Study will consist of a sensitivity analysis based on the assumptions specified by Interconnection Customer in the Optional Interconnection Study Agreement. The Optional Interconnection Study will also identify Transmission Owner's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the results of the Optional Interconnection Study. The Optional Interconnection Study shall be performed solely for informational purposes. ITO shall use Reasonable Efforts to coordinate the study with any Affected Systems and the Transmission Owner that may be affected by the types of Interconnection Services that are being studied. ITO shall utilize existing studies to the extent practicable in conducting the Optional Interconnection Study.

10.3 Optional Interconnection Study Procedures.

The executed Optional Interconnection Study Agreement, the prepayment, and technical and other data called for therein must be provided to ITO within ten (10) Business Days of Interconnection Customer receipt of the Optional Interconnection Study Agreement. ITO shall use Reasonable Efforts to complete the Optional Interconnection Study within a mutually agreed upon time period specified within the Optional Interconnection Study Agreement. If ITO is unable to complete the Optional Interconnection Study within such time period, it shall notify Interconnection Customer and Transmission Owner and provide an estimated completion date and an explanation of the reasons why additional time is required. Any difference between the study payment and the actual cost of the study shall be paid to ITO or refunded to Interconnection Customer, as appropriate. Upon request, in addition to furnishing copies of the draft and final versions of the Optional Studies, ITO shall provide Interconnection Customer or Transmission Owner supporting documentation and workpapers and databases or data developed in the preparation of the Optional Interconnection Study, subject to confidentiality arrangements consistent with Section 14.1.

Section 11. Standard Large Generator Interconnection Agreement (LGIA)

11.1 Tender.

Interconnection Customer and Transmission Owner shall tender comments on the draft Interconnection Facilities Study Report within thirty (30) Calendar Days of receipt of the report. Within thirty (30) Calendar Days after the comments are submitted, ITO shall tender a draft LGIA, together with draft appendices completed to the extent practicable. The draft LGIA shall be in the form of a FERC-approved standard form LGIA, which is in Appendix 6. Interconnection Customer shall execute and return the completed draft appendices within thirty (30) Calendar Days.

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11.2 Negotiation.

Notwithstanding Section 11.1, at the request of Interconnection Customer Transmission Owner shall begin negotiations with Interconnection Customer concerning the appendices to the LGIA at any time after Interconnection Customer executes the Interconnection Facilities Study Agreement. Transmission Owner and Interconnection Customer shall negotiate concerning any disputed provisions of the appendices to the draft LGIA for not more than sixty (60) Calendar Days after tender of the final Interconnection Facilities Study Report. If Interconnection Customer determines that negotiations are at an impasse, it may request termination of the negotiations at any time after tender of the draft LGIA pursuant to Section 11.1 and request submission of the unexecuted LGIA with FERC or initiate Dispute Resolution procedures pursuant to Section 14.5. If Interconnection Customer requests termination of the negotiations, but within sixty (60) Calendar Days thereafter fails to request either the filing of the unexecuted LGIA or initiate Dispute Resolution, it shall be deemed to have withdrawn its Generator Interconnection Request. Unless otherwise agreed by the Parties, if Interconnection Customer has not executed the LGIA, requested filing of an unexecuted LGIA, or initiated Dispute Resolution procedures pursuant to Section 14.5 within sixty (60) Calendar Days of tender of draft LGIA, it shall be deemed to have withdrawn its Generator Interconnection Request. ITO shall provide to Interconnection Customer a final LGIA within fifteen (15) Business Days after the completion of the negotiation process.

11.3 Execution and Filing.

Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer shall provide the Transmission Owner (A) reasonable evidence that continued Site Control or (B) posting of \$250,000, non-refundable additional security, which shall be applied toward future construction costs. At the same time, Interconnection Customer also shall provide reasonable evidence that one or more of the following milestones in the development of the Large Generating Facility, at Interconnection Customer election, has been achieved: (i) the execution of a contract for the supply or transportation of fuel to the Large Generating Facility; (ii) the execution of a contract for the supply of cooling water to the Large Generating Facility; (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Large Generating Facility; (iv) execution of a contract for the sale of electric energy or capacity from the Large Generating Facility; or (v) application for an air, water, or land use permit.

Interconnection Customer shall either: (i) execute two originals of the tendered LGIA and return them to ITO; or (ii) request in writing that Transmission Owner file with FERC an LGIA in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of the tendered LGIA (if it does not conform with a FERC-approved standard form of interconnection agreement) or the request to file an unexecuted LGIA, Transmission Owner shall file the LGIA with FERC, together with its explanation of any matters as to which Interconnection Customer and ITO and/or Transmission Owner disagree and support for the costs that Transmission Owner proposes to charge to Interconnection Customer under the LGIA. An unexecuted LGIA should contain terms and conditions deemed appropriate by ITO and the Transmission Owner for the Generator Interconnection Request. If the Parties

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agree to proceed with design, procurement, and construction of facilities and upgrades under the agreed-upon terms of the unexecuted LGIA, they may proceed pending FERC action.

11.4 Commencement of Interconnection Activities.

If Interconnection Customer executes the final LGIA, Transmission Owner and Interconnection Customer shall perform their respective obligations in accordance with the terms of the LGIA, subject to modification by FERC. Upon submission of an unexecuted LGIA, Interconnection Customer and Transmission Owner shall promptly comply with the unexecuted LGIA, subject to modification by FERC.

Section 12. Construction of Transmission Owner's Interconnection Facilities and Network Upgrades

12.1 Schedule.

Transmission Owner and Interconnection Customer shall negotiate in good faith concerning a schedule for the construction of Transmission Owner's Interconnection Facilities and the Network Upgrades. Such schedule shall be coordinated with the Transmission Owner, taking reasonable account of outage schedules, prior scheduled construction projects, and other necessary scheduling considerations.

12.2 Construction Sequencing.

12.2.1 General.

In general, the In-Service Date of an Interconnection Customers seeking interconnection to the Transmission System will determine the sequence of construction of Network Upgrades.

12.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than Interconnection Customer.

An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Owner advance to the extent necessary the completion of Network Upgrades that: (i) were assumed in the Interconnection Studies for such Interconnection Customer, (ii) are necessary to support such In-Service Date, and (iii) would otherwise not be completed, pursuant to a contractual obligation of an entity other than Interconnection Customer that is seeking interconnection to the Transmission System, in time to support such In-Service Date. Upon such request, Transmission Owner will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Owner: (i) any associated expediting costs and (ii) the cost of such Network Upgrades.

Transmission Owner will refund to Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the LGIA. Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that Transmission Owner has not

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refunded to Interconnection Customer. Payment by that entity shall be due on the date that it would have been due had there been no request for advance construction. Transmission Owner shall forward to Interconnection Customer the amount paid by the entity with a contractual obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to Interconnection Customer. Transmission Owner then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the LGIA.

12.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of the Transmission Owner.

An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Owner advance to the extent necessary the completion of Network Upgrades that: (i) are necessary to support such In-Service Date and (ii) would otherwise not be completed, pursuant to an expansion plan of Transmission Owner involving Transmission Owner's facilities, in time to support such In-Service Date. Upon such request, Transmission Owner will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Owner any associated expediting costs. Interconnection Customer shall be entitled to transmission credits, if any, for any expediting costs paid.

12.2.4 Amended Interconnection System Impact Study.

An Interconnection System Impact Study will be amended to determine the facilities necessary to support the requested In-Service Date. This amended study will include those transmission and Large Generating Facilities that are expected to be in service on or before the requested In-Service Date.

Section 13. Interim Interconnection Service.

13.1 Availability and Scope of Service. Any Interconnection Customer will be eligible to request Interim Interconnection Service if (i) it has a valid and current Generator Interconnection Request; (ii) its Generating Facility, or the portion thereof that is the subject of the pending Generator Interconnection Request, is within one-hundred eighty (180) calendar days of testing or its anticipated Commercial Operation Date. Interim Interconnection Service is interconnection service that may be provided to an Interconnection Customer on a temporary and conditional basis while its Generator Interconnection Request is being processed through the LGIP, to the extent that the Generating Facility at issue will be completed and ready to interconnect before the LGIP study process has been completed or before required facility upgrades to accommodate the unit on a permanent basis have been constructed. Interim Interconnection Service is limited to service that may be provided and supported by the Transmission System in its current configuration without the need for Network Upgrades. Only the construction of Transmission Owner Interconnection Facilities will be considered to accommodate Interim Interconnection Service. Interim Interconnection Service is subject to the conditions and limitations of Section 13.7.

13.2 Request. To request Interim Interconnection Service, an Interconnection

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Customer must submit an Interim Generator Interconnection Request to the ITO in the form of Appendix 1 to this LGIP.

13.3 Interim Interconnection System Impact Study Agreement. Simultaneously with the acknowledgement of a valid Interim Generator Interconnection Request, ITO shall provide to Interconnection Customer an Interim Interconnection System Impact Study Agreement in the form of Appendix 7 to this LGIP. Interconnection Customer shall execute and deliver to ITO the Interim Interconnection System Impact Study Agreement along with a \$50,000 deposit no later than fifteen (15) Calendar Days after its receipt.

13.4 Interim Interconnection Study.

13.4.1 Scope of Interim Interconnection System Impact Study.
The Interim Interconnection System Impact Study ("Interim SIS") will consist of a short circuit analysis, a stability analysis, and a power flow analysis. The Interim SIS will state the assumptions upon which it is based; state the results of the analyses; and provide the requirements or potential impediments to providing the requested interconnection service. The Interim SIS will evaluate the adequacy of the transmission system in its current configuration to accommodate the Interim Generator Interconnection Service at the megawatt level specified in the Interim Interconnection Request, which must be the same megawatt level as the megawatt level specified in the original Generator Interconnection Request. As such, no higher-queued customers will be modeled in the Interim SIS. The ITO shall produce the results of the Interim SIS in a report to the Interconnection Customer.

13.4.2 Interim SIS Procedures.
ITO shall utilize existing studies to the extent practicable when it performs the Interim SIS. ITO shall use Reasonable Efforts to complete the Interim SIS within ninety (90) Calendar Days after the receipt of the Interconnection System Impact Study Agreement or notification to proceed, study payment, and technical data.

At the request of Interconnection Customer or at any time ITO determines that it will not meet the required time frame for completing the Interim SIS, ITO shall notify Interconnection Customer as to the schedule status of the Interim SIS. If ITO is unable to complete the Interim SIS within the time period, it shall notify Interconnection Customer and Transmission Owner and provide an estimated completion date with an explanation of the reasons why additional time is required. Upon request, ITO shall provide Interconnection Customer or Transmission Owner all supporting documentation, workpapers and relevant pre-Interim Generator Interconnection Request and post-Interim Generator Interconnection Request power flow, short circuit and stability databases for the Interim Interconnection System Impact Study, subject to confidentiality arrangements consistent with Section 14.1.

13.4.3 Meeting with ITO.
Within ten (10) Business Days of providing Interim SIS report to Interconnection Customer, ITO, Transmission Owner and Interconnection Customer shall meet to discuss the results of the

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Interim SIS.

13.5 Interim LGIA.

13.5.1 Tender. If the Interim SIS report concludes that the requested Interim Interconnection Service can be provided, the ITO shall tender a draft Interim LGIA, together with draft appendices completed to the extent practicable, when it tenders the Interim SIS report. The draft Interim LGIA shall be in the form of Appendix 8 to this LGIP.

13.5.2 Execution and Filing. After receipt of a draft Interim LGIA, Interconnection Customer shall either: (i) execute two originals of the tendered Interim LGIA and return them to ITO; or (ii) request in writing that Transmission Owner file with FERC an Interim LGIA in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of the tendered LGIA (if it does not conform with a FERC-approved standard form of interconnection agreement) or the request to file an unexecuted Interim LGIA, the Transmission Owner shall file the Interim LGIA with FERC, together with its explanation of any matters as to which Interconnection Customer and ITO and/or Transmission Owner disagree and support for the costs that ITO proposes to charge to Interconnection Customer under the Interim LGIA. An unexecuted Interim LGIA should contain terms and conditions deemed appropriate by ITO and the Transmission Owner for the Interim Generator Interconnection Request.

13.6 Posting of Security. At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of a Transmission Owner's Interconnection Facilities, Interconnection Customer shall provide Transmission Owner, at Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1. Such security for payment shall be in an amount sufficient to cover the costs for constructing, procuring and installing the applicable portion of Transmission Owner's Interconnection Facilities and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Owner for these purposes.

13.7 Conditions of Interim Interconnection Service. Interim Interconnection Service is governed by the terms of the Interim LGIA and is subject to the following limitations.

13.7.1 Output Limits. The Interconnection Customer taking Interim Interconnection Service is limited to the output level specified in Appendix A of the Interim LGIA. That output level shall be subject to the demands of higher-queued customers pursuant to Section 13.7.2.

13.7.2 Subject to Demands of Higher-Queued Customers. Interim Interconnection Service is limited by and subject to the requirements of higher-queued Interconnection Customers. Because Interim Interconnection Service will not be modeled in

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Feasibility Studies, System Impact Studies, or Facilities Studies for Interconnection Service requests of higher-queued customers, Interim Interconnection Service may be limited, terminated or otherwise curtailed in whole or in part by the ITO to accommodate Interconnection Service granted to a higher-queued Interconnection Customer. If such a limitation, termination, or curtailment of Interconnection Service is necessary, the ITO shall provide as much notice to the Interconnection Customer taking Interim Interconnection Service as is reasonably practicable. Any reduction pursuant to this Section 13.7.3 will be based on the Queue Position priority of the Interconnection Customer's Generator Interconnection Request relative to the Queue Position priority of the higher-queued projects.

13.8 No Transmission Service. The request for Interim Interconnection Service or the execution of an Interim LGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Owner's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery. A customer taking Interim Interconnection Service may qualify and operate its unit as a Designated Network Resource to the extent permitted by this OATT.

Section 14. Miscellaneous

14.1 Confidentiality.

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of an LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by a Party, the other Party or Parties shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

14.1.1 Scope.

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the LGIA; or (6) is required, in accordance with Section 14.1.6, Order of

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Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

14.1.2 Release of Confidential Information.

No Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), employees, consultants, or to parties who may be or are considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Section 14.1 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section 14.1.

14.1.3 Rights.

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to another Party. The disclosure by each Party to another Party of Confidential Information shall not be deemed a waiver by a Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

14.1.4 No Warranties.

By providing Confidential Information, no Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, no Party obligates itself to provide any particular information or Confidential Information to any other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

14.1.5 Standard of Care.

Parties shall use at least the same standard of care to protect Confidential Information received as used to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to another Party under these procedures or its regulatory requirements.

14.1.6 Order of Disclosure.

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires a Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide other Parties with prompt notice of such request(s) or requirement(s) so that the other Parties may seek an appropriate protective order or waive compliance with the terms of the LGIA.

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Notwithstanding the absence of a protective order or waiver, a Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

14.1.7 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Section 14.1. Each Party accordingly agrees that the other Parties shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Section 14.1, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Section 14.1, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 14.1.

14.1.8 Disclosure to FERC, its Staff, or a State.

Notwithstanding anything in this Section 14.1 to the contrary, and pursuant to 18 CFR section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to the LGIP, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations.

14.1.9 Subject to the exception in Section 14.1.8, any information that a Party claims is competitively sensitive, commercial or financial information ("Confidential Information") shall not be disclosed by another Party to any person not employed or retained by such other Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this LGIP or as a transmission service provider or a Balancing Authority operator including disclosing the Confidential Information to an RTO or ISO or to a subregional,

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regional or national reliability organization or planning group or Reliability Coordinator. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

14.1.10 This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a Breach of this provision).

14.1.11 ITO shall, at Interconnection Customer's election, destroy, in a confidential manner, or return the Confidential Information provided at the time of Confidential Information is no longer needed.

14.2 Delegation of Responsibility.

ITO or Transmission Owner may use the services of subcontractors as it deems appropriate to perform their respective obligations under this LGIP. ITO and Transmission Owner shall remain primarily liable to Interconnection Customer for the performance of such subcontractors and compliance with its obligations of this LGIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and no other purpose.

14.3 Obligation for Study Costs.

ITO shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Studies. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded, except as otherwise provided herein, to Interconnection Customer or offset against the cost of any future Interconnection Studies associated with the applicable Generator Interconnection Request prior to beginning of any such future Interconnection Studies. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study. Interconnection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice therefor. ITO shall not be obligated to perform or continue to perform any studies unless Interconnection Customer has paid all undisputed amounts in compliance herewith. To the extent that Transmission Owner incurs costs as a result of an Interconnection Customer's Generator Interconnection Request, the ITO shall reimburse Transmission Owner from monies received from Interconnection Customer.

14.4 Third Parties Conducting Studies.

If (i) at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study, (ii) Interconnection Customer receives notice pursuant to Sections 6.3 or 7.4 that the ITO, or pursuant to Section 8.3 that Transmission Owner (with regard to the Interconnection Facilities Study), will not complete an

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Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) Interconnection Customer receives neither the Interconnection Study nor a notice under Sections 6.3, 7.4 or 8.3 within the applicable timeframe for such Interconnection Study, then Interconnection Customer may require the ITO or Transmission Owner to utilize a third party consultant reasonably acceptable to Interconnection Customer, ITO, and Transmission Owner to perform such Interconnection Study under the direction of ITO. At other times, ITO may also utilize a third party consultant to perform such Interconnection Study, either in response to a general request of Interconnection Customer, or on its own volition.

In all cases, use of a third party consultant shall be in accord with Article 26 of the LGIA (Subcontractors) and limited to situations where ITO after consultation with and consent of the Transmission Owner determines that doing so will help maintain or accelerate the study process for Interconnection Customer's pending Generator Interconnection Request and not interfere with ITO's or Transmission Owner's progress on Interconnection Studies for other pending Generator Interconnection Requests. In cases where Interconnection Customer requests use of a third party consultant to perform such Interconnection Study, Interconnection Customer, Transmission Owner and ITO shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. ITO or Transmission Owner, as applicable, shall convey all workpapers, data bases, study results and all other supporting documentation prepared to date with respect to the Generator Interconnection Request as soon as soon as practicable upon Interconnection Customer's request subject to the confidentiality provision in Section 14.1. In the case of (iii) Interconnection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such third party study. Such third party consultant shall be required to comply with this LGIP, Article 26 of the LGIA (Subcontractors), and the relevant Tariff procedures and protocols as would apply if ITO were to conduct the Interconnection Study and shall use the information provided to it solely for purposes of performing such services and for no other purposes. ITO and Transmission Owner shall cooperate with such third party consultant and Interconnection Customer to complete and issue the Interconnection Study in the shortest reasonable time. The third party consultant shall coordinate with the Transmission Owner to the same extent, and in the same manner, as required of the ITO under this agreement.

14.5 Disputes.

14.5.1 Submission.

In the event a Party has a dispute, or asserts a claim, that arises out of or in connection with the LGIA, the LGIP, or their performance, such Party (the "disputing Party") shall provide the other Party or Parties with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set

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forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIP.

14.5.2 External Arbitration Procedures.

Any arbitration initiated under these procedures shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. If the dispute is only between two (2) Parties to this LGIP, the two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In any case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Section 14, the terms of this Section 14 shall prevail.

14.5.3 Arbitration Decisions.

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the LGIA and LGIP and shall have no power to modify or change any provision of the LGIA and LGIP in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

14.5.4 Costs.

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or (2) one half the cost of the single arbitrator jointly chosen by the Parties.

14.5.5 Non-binding dispute resolution procedures. If a Party has submitted a Notice of Dispute pursuant to section 14.5.1, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue the section 14.5 arbitration process, a Party may request Non-binding Dispute Resolution pursuant to this section

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by providing written notice to the other Party(ies) (“Request for Non-binding Dispute Resolution”), which includes at minimum the following information:

- The identity of the person(s) authorized to represent the Party in the dispute and receive information related to the dispute process;
- The identity of the Party(ies) with whom the dispute is being raised;
- A summary of the factual information giving rise to the dispute;
- Citations to any authority governing the dispute (e.g., applicable sections of the Tariff, laws or regulations or other legal authority); and
- The desired outcome of the dispute resolution process.

Conversely, any Party may file a Request for Non-binding Dispute Resolution pursuant to this section without first seeking mutual agreement to pursue the section 14.5 arbitration process. The process in this section 14.5.5 shall serve as an alternative to, and not a replacement of, the section 14.5 arbitration process.

Pursuant to this process, a neutral decision-maker (“Decision-Maker”, whether as an individual or as a panel) shall be appointed within 30 days of receipt of the Request for Non-binding Dispute Resolution. Such Decision-Maker shall be an independent subcontractor that shall not have any current or past substantial business or financial relationships with any Party. If the Parties fail to agree upon a single Decision-Maker within ten (10) Calendar Days of the receipt of the Request for Non-binding Dispute Resolution by the other Parties, each party shall choose one Decision-Maker who shall sit on a three-member Decision-Maker panel. If the dispute is only between two (2) Parties to this LGIP, the two Decision-Makers so chosen shall within twenty (20) Calendar Days select a third Decision-Maker to chair the panel. In any case, Decision-Makers shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any Party.

Non-requesting Parties shall have the right to submit to the Decision-Maker a written response to the Request for Non-binding Dispute Resolution, but must do so before the later of five (5) Calendar Days from the appointment of a Decision-Maker or thirty (30) Calendar Days from receipt of the Request for Non-binding Dispute Resolution. The Decision-Maker may request additional information from any Party with notice to all Parties, and any Party may, but is not required to, submit additional information in response to such information requests.

Unless otherwise agreed by the Parties, the Decision-Maker or Panel shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. The Decision-Maker shall be authorized only to interpret and apply the provisions of the LGIP and LGIA and shall have no power to modify or change any provision of the LGIP and LGIA in any manner.

The result reached in this process is not binding, but unless otherwise agreed, the Parties may cite the record and decision in the non-binding dispute resolution process in future dispute

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resolution processes, including in a Section 14.5 arbitration, or in a Federal Power Act section 206 complaint.

Each Party shall be responsible for its own costs incurred during the process and the cost of the Decision-Maker shall be divided equally among each party to the dispute.

14.6 Local Furnishing Bonds.

14.6.1 Transmission Owners That Own Facilities Financed by Local Furnishing Bonds.

This provision is applicable only to a Transmission Owner that has financed facilities for the local furnishing of electric energy with tax exempt bonds, as described in Section 142(f) of the Internal Revenue Code ("local furnishing bonds"). Notwithstanding any other provision of this LGIA and LGIP, Transmission Owner shall not be required to provide Interconnection Service to Interconnection Customer pursuant to this LGIA and LGIP if the provision of such Transmission Service would jeopardize the tax exempt status of any local furnishing bond(s) used to finance Transmission Owner's facilities that would be used in providing such Interconnection Service.

14.6.2 Alternative Procedures for Requesting Interconnection Service.

If Transmission Owner determines that the provision of Interconnection Service requested by Interconnection Customer would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance its facilities that would be used in providing such Interconnection Service, it shall advise the Interconnection Customer within thirty (30) Calendar Days of receipt of the Generator Interconnection Request.

Interconnection Customer thereafter may renew its request for interconnection using the process specified in Article 5.2(ii) of the Transmission Owner's Tariff.

APPENDIX 1 TO LGIP
INTERCONNECTION REQUEST FOR A LARGE GENERATING FACILITY

1. The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility with the Transmission Owner's Transmission System pursuant to a Tariff.
2. This Generator Interconnection Request is for (check one):
 - _____ A proposed new Large Generating Facility.
 - _____ An increase in the generating capacity or a Material Modification of an existing Generating Facility.
 - _____ Provisional Interconnection Service related to an existing Interconnection Request or Interconnection Agreement. Existing Interconnection queue number associated with Provisional Interconnection Service Request is _____
 - _____ Surplus Interconnection Service related to an existing Large Generator

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Interconnection Agreement (LGIA). Existing LGIA customer (and location) offering Surplus Interconnection Service: _____

For Surplus Interconnection Service also include (1) proof that Existing LGIA Customer and Surplus Interconnection Customer have entered into a Surplus arrangement and (2) the System Impact Study performed for the Existing Generation Facility with its application or indication that such study is not available.

3. The type of interconnection service requested (check one):
 Energy Resource Interconnection Service
 Network Resource Interconnection Service
 Interim Interconnection Service

4. Check here only if Interconnection Customer requesting Network Resource Interconnection Service also seeks to have its Generating Facility studied for Energy Resource Interconnection Service

5. Interconnection Customer provides the following information:
 - a. Address or location of the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;

 - b. Maximum summer at ____ degrees C and winter at ____ degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;

 - c. General description of the equipment configuration;

 - d. Commercial Operation Date (Day, Month, and Year);

 - e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;

 - f. Approximate location of the proposed Point of Interconnection (optional); and

 - g. Interconnection Customer Data (set forth in Attachment A)

 - h. Primary frequency operating range for electric storage resources.

 - i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity).

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6. Applicable deposit amount as specified in the LGIP.
7. Evidence of Site Control as specified in the LGIP (check one)
____ Is attached to this Generator Interconnection Request
____ Will be provided at a later date in accordance with this LGIP
8. This Generator Interconnection Request shall be submitted to the representative indicated below:

[To be completed by ITO]

9. Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

10. This Generator Interconnection Request is submitted by:

Name of Interconnection Customer: _____

By (signature): _____

Name (type or print): _____

Title: _____

Date: _____

**Attachment A to Appendix 1
Interconnection Request**

LARGE GENERATING FACILITY DATA

UNIT RATINGS

kVA _____ ° F _____ Voltage _____
Power Factor _____
Speed (RPM) _____ Connection (e.g. Wye) _____
Short Circuit Ratio _____ Frequency, Hertz _____
Stator Amperes at Rated kVA _____ Field Volts _____
Max Turbine MW _____ °F _____

Primary frequency response operating range for electric storage resources:
Minimum State of Charge:
Maximum State of Charge:

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COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = _____ kW sec/Kva
 Moment-of-Inertia, WR₂ = _____ lb. ft.²

REACTANCE DATA (PER UNIT-RATED KVA)

	DIRECT AXIS	QUADRATURE AXIS
Synchronous - saturated	X _{dv} _____	X _{qv} _____
Synchronous - unsaturated	X _{di} _____	X _{qi} _____
Transient - saturated	X' _{dv} _____	X' _{qv} _____
Transient - unsaturated	X' _{di} _____	X' _{qi} _____
Subtransient - saturated	X'' _{dv} _____	X'' _{qv} _____
Subtransient - unsaturated	X'' _{di} _____	X'' _{qi} _____
Negative Sequence - saturated	X _{2v} _____	
Negative Sequence - unsaturated	X _{2i} _____	
Zero Sequence - saturated	X _{0v} _____	
Zero Sequence - unsaturated	X _{0i} _____	
Leakage Reactance	X _{lm} _____	

FIELD TIME CONSTANT DATA (SEC)

Open Circuit	T' _{do} _____	T' _{qo} _____
Three-Phase Short Circuit Transient	T' _{d3} _____	T' _q _____
Line to Line Short Circuit Transient	T' _{d2} _____	
Line to Neutral Short Circuit Transient	T' _{d1} _____	
Short Circuit Subtransient	T'' _d _____	T'' _q _____
Open Circuit Subtransient	T'' _{do} _____	T'' _{qo} _____

ARMATURE TIME CONSTANT DATA (SEC)

Three Phase Short Circuit	T _{a3} _____
Line to Line Short Circuit	T _{a2} _____
Line to Neutral Short Circuit	T _{a1} _____

NOTE: If requested information is not applicable, indicate by marking "N/A."

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**MW CAPABILITY AND PLANT CONFIGURATION
LARGE GENERATING FACILITY DATA**

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive R1 _____
Negative R2 _____
Zero R0 _____

Rotor Short Time Thermal Capacity $I_2^2t =$ _____
Field Current at Rated kVA, Armature Voltage and PF = _____ amps
Field Current at Rated kVA and Armature Voltage, 0 PF = _____ amps
Three Phase Armature Winding Capacitance = _____ microfarad
Field Winding Resistance = _____ ohms _____ °C
Armature Winding Resistance (Per Phase) = _____ ohms _____ °C

CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves.
Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

GENERATOR STEP-UP TRANSFORMER DATA RATINGS

Capacity _____ Self-cooled/
Maximum Nameplate
_____ kVA

Voltage Ratio(Generator Side/System side/Tertiary)
_____/_____/_____ kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))
_____/_____/_____

Tap Ratios

Fixed Taps Available _____

Present Tap Setting _____

IMPEDANCE (Two Winding Transformers)

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kVA Base for Impedance Data: _____

	Resistance	Reactance
Positive (Z_1 per unit)	_____	_____
Zero (Z_0 per unit)	_____	_____

IMPEDANCE (Autotransformers, Three Winding Transformers)

kVA Base for Impedance Data: _____

Positive sequence, in per unit on specified kVA base:

	Resistance	Reactance
Z_1 primary/secondary	_____	_____
Z_1 primary/tertiary	_____	_____
Z_1 secondary/tertiary	_____	_____

Zero sequence data, in per unit on specified kVA base, as specified in IEEE Standard C7.12.90-2006, section 9.5.3:

	Resistance	Reactance
Z_1 (primary/midpoint)	_____	_____
Z_2 (secondary/midpoint)	_____	_____
Z_3 (tertiary/midpoint)	_____	_____

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request:

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Elevation: _____ Single Phase _____ Three Phase

Inverter manufacturer, model name, number, and version:

List of adjustable setpoints for the protective equipment or software:

Note: A completed PTI data sheet must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

INDUCTION GENERATORS

- (* Field Volts: _____
- (* Field Amperes: _____
- (* Motoring Power (kW): _____
- (* Neutral Grounding Resistor (If Applicable): _____
- (* I_2^2t or K (Heating Time Constant): _____
- (* Rotor Resistance: _____
- (* Stator Resistance: _____
- (* Stator Reactance: _____
- (* Rotor Reactance: _____
- (* Magnetizing Reactance: _____
- (* Short Circuit Reactance: _____
- (* Exciting Current: _____
- (* Temperature Rise: _____
- (* Frame Size: _____
- (* Design Letter: _____
- (* Reactive Power Required In Vars (No Load): _____
- (* Reactive Power Required In Vars (Full Load): _____
- (* Total Rotating Inertia, H: _____ Per Unit on KVA Base

Note: Please consult ITO prior to submitting the Interconnection Request to determine if the information designated by (*) is required.

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Photovoltaic Systems

The following photovoltaic systems modeling data should be provided in PTI format. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

PVGU: Power converter/generator module
PVEU: Electrical control module
PANEL: Linearized module of a panel's output curve
IRRAD: Linearized solar irradiance profile
Diagrams for PVGU and PVEU

APPENDIX 2 TO LGIP INTERCONNECTION FEASIBILITY STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ organized and existing under the laws of the State of _____, ("Transmission Owner") and by and between _____ a _____ organized and existing under the laws of the State of _____ ("ITO"). Interconnection Customer and ITO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested ITO to perform an Interconnection Feasibility Study in coordination with Transmission Owner to assess the feasibility of interconnecting the proposed Large Generating Facility to the Transmission System of the Transmission Owner, and of any Affected Systems;

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WHEREAS, ITO performs specified functions for the Transmission Owner;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Owner's Federal Energy Regulatory Commission (FERC)-approved LGIP.
- 2.0 Interconnection Customer elects and ITO and Transmission Owner shall cause to be performed an Interconnection Feasibility Study consistent with Section 6.0 of this LGIP in accordance with the Tariff.
- 3.0 The scope of the Interconnection Feasibility Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection Feasibility Study shall be based on the technical information provided by Interconnection Customer in the Interconnection Request, as may be modified as the result of the Scoping Meeting. ITO reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Feasibility Study and as designated in accordance with Section 3.4.4 of the LGIP. If, after the designation of the Point of Interconnection pursuant to Section 3.4.4 of the LGIP, Interconnection Customer modifies its Interconnection Request pursuant to Section 4.4, the time to complete the Interconnection Feasibility Study may be extended.
- 5.0 The Interconnection Feasibility Study report shall provide the following information:
 - Preliminary identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
 - Preliminary identification of any thermal overload or voltage limit violations resulting from the interconnection; and
 - Preliminary description and non-bonding estimated cost of facilities required to interconnect the Large Generating Facility to the Transmission System and to address the identified short circuit and power flow issues.
- 6.0 Interconnection Customer shall provide a deposit of \$10,000 (USD) for the performance of the Interconnection Feasibility Study.

Upon receipt of the Interconnection Feasibility Study ITO shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Feasibility Study.

Any difference between the deposit and the actual cost of the study shall be paid by or

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refunded to Interconnection Customer, as appropriate.

7.0 MISCELLANEOUS.

7.1 OWNERSHIP OF RESULTS

Reports, summaries, plans and other documents arising out of this Agreement shall become the property of ITO and Transmission Owner. All studies, computer input and output data, planning, and material that forms the basis for determining the constraints on a project shall remain in the possession of ITO, provided that copies of all supporting documentation, work papers and pre-Interconnection Request or post-Interconnection Request power flow, short circuit and stability databases for the Interconnection Feasibility Study shall be made available upon request to Customer at Customer's expense subject to confidentiality arrangements consistent with Section 14.1 of the Large Generator Interconnection Procedures and Section 7.2 hereof and provided ITO has received Customer's payment in full for the Interconnection Feasibility Study in accordance with this Agreement.

7.2 NONDISCLOSURE OF INFORMATION

Each Party shall consider all information provided by another Party, and all supporting work papers resulting from performance of the Feasibility Study, to be proprietary unless such information is available from public sources. No Party shall publish or disclose proprietary information of another Party for any purpose without the prior written consent of that Party, provided, however, that another Party may disclose proprietary information to a federal or state regulatory body conducting an investigation, as may be required under the Transmission Owner's OATT, or as required by an applicable FERC Order. Information provided under this Agreement is provided on an "AS-IS" basis.

7.3 NOTICES

All notices hereunder shall be written and shall be delivered to the parties at the following Addresses:

If to ITO:

If to Transmission Owner:

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If to Customer:

Such notices shall be deemed to have been served when personally delivered or upon receipt as evidenced by a U.S. Postal Service receipt of mail or evidence of delivery by a private express mail service.

7.4 CHOICE OF LAW

This Agreement shall be governed by the laws of the State of Kentucky, except with regard to its choice of law provisions.

7.5 INDEMNITY

Each Party shall at all times indemnify, defend, and save any other Party harmless from, any and all damages, losses, claims, including claims and actions relating to death of any person (including employees) or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from a Party's performance of its obligations under this Agreement, except in the cases of gross negligence or intentional wrongdoing by the Party who would have been indemnified. It shall be a condition to a Party's obligation to indemnify pursuant to this Section that it be given written notice of the obligation and in the case of claims demands or suits, an opportunity to defend, and the right to approve any settlement.

7.6 FORCE MAJEURE

Interconnection Customer, TO, and ITO shall not be liable or deemed in default for any delay or failure in performance of this Agreement resulting directly or indirectly from any cause beyond the control of that respective Party. Such causes shall include but not be limited to acts of God, civil or military authority, civil disturbance, war, strikes, fires, other catastrophes, or other 'force majeure' events beyond the respective Party's reasonable control. Provided, however, that this provision shall not preclude the respective Party from canceling or terminating this Agreement or any portion thereof regardless of any 'force majeure' event occurring to ITO or Transmission Owner, if ITO's or Transmission Owner's performance hereunder will be delayed thereby for a period in excess of sixty (60) days.

7.7 SEVERABILITY

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No waiver of any breach of this Agreement shall constitute a waiver of any other breach of the same or any other provisions of this Agreement, and no waiver shall be effective unless granted in writing. In the event that any provision herein shall be illegal or unenforceable, such provision shall be severed from the Agreement. The entire Agreement shall not fail, but the balance of the Agreement shall continue in full force and effect.

7.8 ASSIGNMENT

Transmission Owner or ITO may assign all or part of its obligations under this Agreement to an entity authorized by the FERC to perform generation interconnection studies on behalf of Transmission Owner or ITO without further consent of the Customer.

7.9 AMENDMENT

This Agreement may be amended or modified only in a writing signed by all Parties.

7.10 VALIDITY AND EFFECT

This Agreement shall become effective and is conditioned upon the following two events:

- 1) Termination of any prior Interconnection System Impact Study Agreement between Customer, ITO, and Transmission Owner relating to the particular Interconnection Request which is the subject of this Agreement, and
- 2) Payment to ITO of the deposit for this study in the amount of \$10,000 USD.

7.11 EXECUTION PROCESS

This Agreement shall be executed in triplicate by the Parties hereto, in the following order: Transmission Owner, Customer, and then ITO. Following execution by Transmission Owner, Transmission Owner shall return three (3) executed copies to ITO. Following execution by Customer, Customer shall return three (3) executed copies to ITO along with the designed deposit. ITO shall provide Transmission Owner and Customer a fully executed original document.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

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APPROVED BY:

[Insert name of Transmission Owner]

By:
Name:
Title:
Date:

[Insert name of Interconnection Customer]:

By:
Name:
Title:
Date:

TRANSERV INTERNATIONAL, INC.

By:
Name:
Title:
Date:

Attachment A to Appendix 2
Interconnection Feasibility
Study Agreement

ASSUMPTIONS USED IN CONDUCTING THE
INTERCONNECTION FEASIBILITY STUDY

The Interconnection Feasibility Study will be based upon the information set forth in the Generator Interconnection Request and agreed upon in the Scoping Meeting held on _____:

Designation of Point of Interconnection and configuration to be studied.
Designation of alternative Point(s) of Interconnection and configuration.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and ITO]

APPENDIX 3 TO LGIP
INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a organized and existing under the laws of the State of _____, ("Interconnection Customer,"), _____, a _____

Effective On: May 22, 2019

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organized and existing under the laws of the State of _____ ("Transmission Owner") and _____ a _____ existing under the laws of the State of _____, ("ITO "). Interconnection Customer and ITO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission Owner's Transmission System;

WHEREAS, ITO has completed an Interconnection Feasibility Study (the "Feasibility Study") and provided the results of said study to Interconnection Customer (This recital to be omitted if ITO does not require the Interconnection Feasibility Study.) and Transmission Owner; and

WHEREAS, Interconnection Customer has requested ITO to perform an Interconnection System Impact Study to assess the impact of interconnecting the Large Generating Facility to the Transmission System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Federal Electric Regulatory Commission (FERC)-approved LGIP.
- 2.0 Interconnection Customer elects and ITO shall cause to be performed an Interconnection System Impact Study ("Study") consistent with Section 7.0 of this LGIP in accordance with the Tariff.
- 3.0 The scope of the Interconnection System Impact Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study and the technical information provided by Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the LGIP. ITO reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Customer System Impact Study. If Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the time to complete the Interconnection System Impact Study may be extended.
- 5.0 The Interconnection System Impact Study report shall provide the following information:

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- Identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
- Identification of any thermal overload or voltage limit violations resulting from the interconnection;
- Identification of any instability or inadequately damped response to system disturbances resulting from the interconnection and
- Description and non-binding, good faith estimated cost of facilities required to interconnect the Large Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.

6.0 Interconnection Customer shall provide a deposit of \$50,000 (USD) for the performance of the Interconnection System Impact Study. ITO's good faith estimate for the time of completion of the Interconnection System Impact Study is [insert date].

Upon receipt of the Interconnection System Impact Study, ITO shall charge and Interconnection Customer shall pay the actual costs of the Interconnection System Impact Study.

Any difference between the deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

7.0 MISCELLANEOUS.

7.1 OWNERSHIP OF RESULTS

Reports, summaries, plans and other documents arising out of this Agreement shall become the property of ITO and Transmission Owner. All studies, computer input and output data, planning, and material that forms the basis for determining the constraints on a project shall remain in the possession of ITO and Transmission Owner, provided that copies of all supporting documentation, workpapers, and Pre-Interconnection Request or Post-Interconnection Request power flow, short circuit, and stability databases for the Interconnection System Impact Study shall be made available upon request to Customer at Customer's expense, subject to confidentiality arrangements consistent with Section 14.1 of the Large Generator Interconnection Procedures and Section 7.2 hereof and provided ITO has received Customer's payment in full for the Interconnection System Impact Study in accordance with this Agreement.

7.2 NONDISCLOSURE OF INFORMATION

Each Party shall consider all information provided by another Party, and all supporting work papers resulting from performance of the Feasibility Study, to be proprietary unless such information is available from public sources. No Party shall publish or disclose proprietary information of another Party for any purpose without the prior written consent of that Party, provided, however, that another Party may disclose proprietary information to a federal or state regulatory body conducting an investigation, as may be required under the Transmission

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Owner's OATT, or as required by an applicable FERC Order. Information provided under this Agreement is provided on an "AS-IS" basis.

7.3 NOTICES

All notices hereunder shall be written and shall be delivered to the parties at the following addresses:

If to ITO:

If to Transmission Owner:

If to Customer:

Such notices shall be deemed to have been served when personally delivered or upon receipt as evidenced by a U.S. Postal Service receipt of mail or evidence of delivery by a private express mail service.

7.4 CHOICE OF LAW

This Agreement shall be governed by the laws of the State of Kentucky, except with regard to its choice of law provisions.

7.5 INDEMNITY

Each Party shall at all times indemnify, defend, and save any other Party harmless from, any and all damages, losses, claims, including claims and actions relating to death of any person (including employees) or damage to property, demands, suits, recoveries, costs and expenses,

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court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from a Party's performance of its obligations under this Agreement, except in the cases of gross negligence or intentional wrongdoing by the Party who would have been indemnified. It shall be a condition to a Party's obligation to indemnify pursuant to this Section that it be given written notice of the obligation and in the case of claims demands or suits, an opportunity to defend, and the right to approve any settlement.

7.6 FORCE MAJEURE

Interconnection Customer, TO, and ITO shall not be liable or deemed in default for any delay or failure in performance of this Agreement resulting directly or indirectly from any cause beyond the control of that respective Party. Such causes shall include but not be limited to acts of God, civil or military authority, civil disturbance, war, strikes, fires, other catastrophes, or other 'force majeure' events beyond the respective Party's reasonable control. Provided, however, that this provision shall not preclude the respective Party from canceling or terminating this Agreement or any portion thereof regardless of any 'force majeure' event occurring to ITO or Transmission Owner, if ITO's or Transmission Owner's performance hereunder will be delayed thereby for a period in excess of sixty (60) days.

7.7 SEVERABILITY

No waiver of any breach of this Agreement shall constitute a waiver of any other breach of the same or any other provisions of this Agreement, and no waiver shall be effective unless granted in writing. In the event that any provision herein shall be illegal or unenforceable, such provision shall be severed from the Agreement. The entire Agreement shall not fail, but the balance of the Agreement shall continue in full force and effect.

7.8 ASSIGNMENT

Transmission Owner or ITO may assign all or part of its obligations under this Agreement to an entity authorized by the FERC to perform generation interconnection studies on behalf of Transmission Owner without further consent of the Customer.

7.9 AMENDMENT

This Agreement may be amended or modified only in a writing signed by all Parties.

7.10 VALIDITY AND EFFECT

This Agreement shall become effective and is conditioned upon the following two events:

- 1) Termination of any prior Interconnection System Impact Study Agreement between Customer and Transmission Owner relating to the particular Interconnection Request which is the subject of this Agreement, and
- 2) Payment to ITO of the deposit for this study in the amount of \$50,000 (USD).

7.11 EXECUTION PROCESS

This Agreement shall be executed in triplicate by the Parties hereto, in the following order: Transmission Owner, Customer, and then ITO. Following execution by Transmission Owner, Transmission Owner shall return three (3) executed copies to ITO. Following execution by

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Customer, Customer shall return three (3) executed copies to ITO along with the designed deposit. ITO shall provide Transmission Owner and Customer a fully executed original document.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

APPROVED BY:

[Insert name of Transmission Owner]

By:
Name:
Title:
Date:

[Insert name of Interconnection
Customer]:

By:
Name:
Title:
Date:

TranServ International, Inc.

By:
Name:
Title:
Date:

**Attachment A To Appendix 3
Interconnection System Impact
Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
INTERCONNECTION SYSTEM IMPACT STUDY**

The Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study, subject to any modifications in accordance with Section 4.4 of the LGIP, and the following assumptions:

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Designation of Point of Interconnection and configuration to be studied.
Designation of alternative Point(s) of Interconnection and configuration.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and ITO]

APPENDIX 4 TO LGIP
INTERCONNECTION FACILITIES STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,"), _____, a _____ organized and existing under the laws of the State of _____ ("Transmission Owner") and _____ a _____ existing under the laws of the State of _____, ("ITO "). Interconnection Customer and ITO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System;

WHEREAS, ITO has completed an Interconnection System Impact Study (the "System Impact Study") and provided the results of said study to Interconnection Customer and Transmission Owner; and

WHEREAS, Interconnection Customer has requested an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Federal Electric Regulatory Commission (FERC)-approved LGIP.
- 2.0 Interconnection Customer elects and Transmission Owner shall perform an

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Interconnection Facilities Study (“Study”) consistent with Section 8.0 of this LGIP in accordance with the Tariff.

3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A and the data provided in Attachment B to this Agreement.

4.0 The Interconnection Facilities Study report (i) shall provide a description, estimated cost of (consistent with Attachment A), schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.

5.0 Interconnection Customer shall provide a deposit of \$100,000 (USD) for the performance of the Interconnection Facilities Study. The time for completion of the Interconnection Facilities Study is specified in Attachment A.

ITO shall invoice Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study each month. Interconnection Customer shall pay invoiced amounts within thirty (30) Calendar Days of receipt of invoice. ITO shall continue to hold the amounts on deposit until settlement of the final invoice.

6.0 MISCELLANEOUS

6.1 OWNERSHIP OF RESULTS

Reports, summaries, plans and other documents arising out of this Agreement shall become the property of Transmission Owner and ITO. Customer shall have the unrestricted right to use any reports, summaries, plans or other documents arising out of this Agreement for internal business purposes. All studies, computer input and output data, planning, and material that form the basis for determining the design of a project shall remain in the possession of Transmission Owner or ITO, provided that copies of all supporting documentation and workpapers shall be made available upon request to Customer at Customer’s expense subject to confidentiality arrangements consistent with Section 14.1 of the Large Generator Interconnection Procedures, and provided the ITO and Transmission Owner have received Customer’s payment in full for the Interconnection Facilities Study in accordance with this Agreement.

6.2 NONDISCLOSURE OF INFORMATION

Each Party shall consider all information provided by another Party, and all supporting work papers resulting from performance of the Feasibility Study, to be proprietary unless such information is available from public sources. No Party shall publish or disclose proprietary information of another Party for any purpose without the prior written consent of that Party, provided, however, that another Party may disclose proprietary information to a federal or state regulatory body conducting an investigation, as may be required under the Transmission Owner’s OATT, or as required by an applicable FERC Order. Information provided under this Agreement is provided on an "AS-IS" basis.

6.3 NOTICES

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All notices hereunder shall be written and shall be delivered to the parties at the following addresses:

If to ITO:

If to Transmission Owner:

If to Customer:

Such notices shall be deemed to have been served upon receipt as evidenced by a U.S. Postal Service receipt of mail or evidence of delivery by a private express mail service.

6.4 CHOICE OF LAW

This Agreement shall be governed by the laws of the State of Kentucky, without regard to its choice of law provisions.

6.5 INDEMNITY

Each Party shall at all times indemnify, defend, and save any other Party harmless from, any and all damages, losses, claims, including claims and actions relating to death of any person (including employees) or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from a Party's performance of its obligations under this Agreement, except in the cases of gross negligence or intentional wrongdoing by the Party who would have been indemnified. It shall be a condition to a Party's obligation to indemnify pursuant to this Section that it be given written notice of the obligation and in the case of claims demands or suits, an opportunity to

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defend, and the right to approve any settlement.

6.6 SEVERABILITY

No waiver of any breach of this Agreement shall constitute a waiver of any other breach of the same or any other provisions of this Agreement, and no waiver shall be effective unless granted in writing. In the event that any provision herein shall be illegal or unenforceable, such provision shall be severed from the Agreement. The entire Agreement shall not fail, but the balance of the Agreement shall continue in full force and effect.

6.7 FORCE MAJEURE

Interconnection Customer, TO, and ITO shall not be liable or deemed in default for any delay or failure in performance of this Agreement resulting directly or indirectly from any cause beyond the control of that respective Party. Such causes shall include but not be limited to acts of God, civil or military authority, civil disturbance, war, strikes, fires, other catastrophes, or other 'force majeure' events beyond the respective Party's reasonable control. Provided, however, that this provision shall not preclude the respective Party from canceling or terminating this Agreement or any portion thereof regardless of any 'force majeure' event occurring to ITO or Transmission Owner, if ITO's or Transmission Owner's performance hereunder will be delayed thereby for a period in excess of sixty (60) days.

6.8 ASSIGNMENT

Transmission Owner or ITO may assign all or part of its obligations under this Agreement to an entity authorized by the FERC to perform generation interconnection studies on behalf of Transmission Owner or ITO without further consent of the Customer.

6.9 AMENDMENT

This Agreement may be amended or modified only in a writing signed by all Parties.

6.10 VALIDITY AND EFFECT

This Agreement shall become effective and is conditioned upon the following two events:

- 1) Termination of any prior Interconnection Facilities Study Agreement between Customer and Transmission Owner relating to the particular Interconnection Request which is the subject of this Agreement, and
- 2) Payment to ITO of the deposit for this study in the amount of \$100,000 (USD).

6.11 EXECUTION PROCESS

This Agreement shall be executed in triplicate by the Parties hereto, in the following order: Transmission Owner, Customer, and then ITO. Following execution by Transmission Owner, Transmission Owner shall return three (3) executed copies to ITO. Following execution by Customer, Customer shall return three (3) executed copies to ITO along with the designed deposit. ITO shall provide Transmission Owner and Customer a fully executed original document.

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IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

APPROVED BY:

[Insert name of Transmission Owner]

By:
Name
Title:
Date:

[Insert name of Interconnection
Customer]:

By:
Name
Title:
Date:

[Insert name of ITO]

By:
Name
Title:
Date:

**Attachment A To Appendix 4
Interconnection Facilities
Study Agreement**

**INTERCONNECTION CUSTOMER SCHEDULE ELECTION FOR CONDUCTING
THE INTERCONNECTION FACILITIES STUDY**

Transmission Owner shall use Reasonable Efforts to complete the study and ITO shall use Reasonable Efforts to issue a draft Interconnection Facilities Study report to Interconnection Customer within the following number of days after of receipt of an executed copy of this Interconnection Facilities Study Agreement (Interconnection Customer must elect one of the following two options):

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- ____ ninety (90) Calendar Days with no more than a +/- 20 percent cost estimate contained in the report, or

- ____ one hundred eighty (180) Calendar Days with no more than a +/- 10 percent cost estimate contained in the report.

**Attachment B to Appendix 4
Interconnection Facilities
Study Agreement**

**DATA FORM TO BE PROVIDED BY INTERCONNECTION CUSTOMER WITH THE
INTERCONNECTION FACILITIES STUDY AGREEMENT**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new ring bus or existing Transmission Owner station. Number of generation connections:

On the one line diagram indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one line diagram indicate the location of auxiliary power. (Minimum load on CT/PT)
Amps

Will an alternate source of auxiliary power be available during CT/PT maintenance?
____ Yes ____ No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? ____ Yes ____ No (Please indicate on one line diagram).

What type of control system or PLC will be located at Interconnection Customer's Large Generating Facility?

What protocol does the control system or PLC use?

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

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Bus length from generation to interconnection station:

Line length from interconnection station to Transmission Owner's transmission line.

Tower number observed in the field. (Painted on tower leg)* _____

Number of third party easements required for transmission lines*:

* To be completed in coordination with ITO.

Is the Large Generating Facility in the Transmission Owner's service area?

___Yes ___No Local provider: _____

Please provide proposed schedule dates:

Begin Construction Date: _____

Generator step-up transformer Date: _____

receives back feed power

Generation Testing Date: _____

Commercial Operation Date: _____

APPENDIX 5 TO LGIP
OPTIONAL INTERCONNECTION STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ___ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer."), _____, a _____ organized and existing under the laws of the State of _____ ("Transmission Owner") and _____ a _____ existing under the laws of the State of _____, ("ITO "). Interconnection Customer and ITO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the

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Interconnection Request submitted by Interconnection Customer dated _____;

WHEREAS, Interconnection Customer is proposing to establish an interconnection with the Transmission System; and

WHEREAS, Interconnection Customer has submitted to ITO an Interconnection Request; and

WHEREAS, on or after the date when Interconnection Customer receives the Interconnection System Impact Study results, Interconnection Customer has further requested that ITO prepare an Optional Interconnection Study;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Federal Energy Regulatory Commission (FERC)-approved LGIP.
- 2.0 Interconnection Customer elects and ITO shall cause an Optional Interconnection Study consistent with Section 10.0 of this LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Optional Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Optional Interconnection Study shall be performed solely for informational purposes.
- 5.0 The Optional Interconnection Study report shall provide a sensitivity analysis based on the assumptions specified by Interconnection Customer in Attachment A to this Agreement. The Optional Interconnection Study will identify Transmission Owner's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof that may be required to provide transmission service or interconnection service based upon the assumptions specified by Interconnection Customer in Attachment A.

Interconnection Customer shall provide a deposit of \$10,000 (USD) for the performance of the Optional Interconnection Study. ITO's good faith estimate for the time of completion of the Optional Interconnection Study is [insert date].

Upon receipt of the Optional Interconnection Study, ITO shall charge and Interconnection Customer shall pay the actual costs of the Optional Study.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

6.0 MISCELLANEOUS.

6.1 OWNERSHIP OF RESULTS

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Reports, summaries, plans and other documents arising out of this Agreement shall become the property of ITO and Transmission Owner. All studies, computer input and output data, planning, and material that forms the basis for determining the constraints on a project shall remain in the possession of ITO, provided that copies of all supporting documentation, work papers, and pre-Interconnection Request or post-Interconnection Request power flow, short circuit and stability databases for the Optional Interconnection Study shall be made available upon request to Customer at Customer's expense subject to confidentiality arrangements consistent with Section 14.1 of the Large Generator Interconnection Procedures and Section 6.2 hereof and provided ITO has received Customer's payment in full for the Optional Interconnection Study in accordance with this Agreement.

6.2 NONDISCLOSURE OF INFORMATION

Each Party shall consider all information provided by another Party, and all supporting work papers resulting from performance of the Feasibility Study, to be proprietary unless such information is available from public sources. No Party shall publish or disclose proprietary information of another Party for any purpose without the prior written consent of that Party, provided, however, that another Party may disclose proprietary information to a federal or state regulatory body conducting an investigation, as may be required under the Transmission Owner's OATT, or as required by an applicable FERC Order. Information provided under this Agreement is provided on an "AS-IS" basis.

6.3 NOTICES

All notices hereunder shall be written and shall be delivered to the parties at the following Addresses:

If to ITO:

If to Transmission Owner:

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By: _____
If to Customer:

Such notices shall be deemed to have been served when personally delivered or upon receipt as evidenced by a U.S. Postal Service receipt of mail or evidence of delivery by a private express mail service.

6.4 CHOICE OF LAW

This Agreement shall be governed by the laws of the State of Kentucky, except with regard to its choice of law provisions.

6.5 INDEMNITY

Each Party shall at all times indemnify, defend, and save any other Party harmless from, any and all damages, losses, claims, including claims and actions relating to death of any person (including employees) or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from a Party's performance of its obligations under this Agreement, except in the cases of gross negligence or intentional wrongdoing by the Party who would have been indemnified. It shall be a condition to a Party's obligation to indemnify pursuant to this Section that it be given written notice of the obligation and in the case of claims demands or suits, an opportunity to defend, and the right to approve any settlement.

6.6 FORCE MAJEURE

Interconnection Customer, TO, and ITO shall not be liable or deemed in default for any delay or failure in performance of this Agreement resulting directly or indirectly from any cause beyond the control of that respective Party. Such causes shall include but not be limited to acts of God, civil or military authority, civil disturbance, war, strikes, fires, other catastrophes, or other 'force majeure' events beyond the respective Party's reasonable control. Provided, however, that this provision shall not preclude the respective Party from canceling or terminating this Agreement or any portion thereof regardless of any 'force majeure' event occurring to ITO or Transmission Owner, if ITO's or Transmission Owner's performance hereunder will be delayed thereby for a period in excess of sixty (60) days.

6.7 SEVERABILITY

No waiver of any breach of this Agreement shall constitute a waiver of any other breach of the same or any other provisions of this Agreement, and no waiver shall be effective unless granted in writing. In the event that any provision herein shall be illegal or unenforceable, such provision shall be severed from the Agreement. The entire Agreement shall not fail, but the balance of the Agreement shall continue in full force and effect.

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6.8 ASSIGNMENT

Transmission Owner or ITO may assign all or part of its obligations under this Agreement to an entity authorized by the FERC to perform generation interconnection studies on behalf of Transmission Owner or ITO without further consent of the Customer.

6.9 AMENDMENT

This Agreement may be amended or modified only in a writing signed by all Parties.

6.10 VALIDITY AND EFFECT

This Agreement shall become effective and is conditioned upon the following two events:

- 1) Termination of any prior Optional Interconnection Impact Study Agreement between Customer and Transmission Owner relating to the particular Interconnection Request which is the subject of this Agreement, and
- 2) Payment to ITO of the deposit for this study in the amount of \$10,000 (USD).

6.11 EXECUTION PROCESS

This Agreement shall be executed in triplicate by the Parties hereto, in the following order: Transmission Owner, Customer, and then ITO. Following execution by Transmission Owner, Transmission Owner shall return three (3) executed copies to ITO. Following execution by Customer, Customer shall return three (3) executed copies to ITO along with the designed deposit. ITO shall provide Transmission Owner and Customer a fully executed original document. APPROVED BY:

[Insert name of Transmission Owner]

By:
Name:
Title:
Date:

[Insert name of Interconnection Customer]:

By:
Name:
Title:
Date:

TRANSERV INTERNATIONAL, INC.

By:
Name:
Title:
Date:

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APPENDIX 6 TO THE LGIP
STANDARD LARGE GENERATOR
INTERCONNECTION AGREEMENT (LGIA)

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STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT

THIS STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT ("Agreement") is made and entered into this ____ day of _____ 20__, by and between _____, a _____ organized and existing under the laws of the State/Commonwealth of _____ ("Interconnection Customer" with a Large Generating Facility), and _____, a _____ organized and existing under the laws of the State/Commonwealth of _____ ("Transmission Owner"). Interconnection Customer and Transmission Owner each may be referred to as a "Party" or collectively as the "Parties."

Recitals

WHEREAS, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Large Generating Facility in Appendix C to this Agreement; and,

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WHEREAS, Interconnection Customer and Transmission Owner have agreed to enter into this Agreement for the purpose of interconnecting the Large Generating Facility with the Transmission Owner's Transmission System;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

When used in this Standard Large Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used or in the Open Access Transmission Tariff (OATT).

Article 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Owner's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Owner's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected.

Balancing Authority Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its

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interchange schedule with other Balancing Authority Areas and contributing to frequency regulation of the interconnection. A Balancing Authority Area must be certified by the Applicable Reliability Council.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the ITO, Transmission Owner or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday.

Clustering shall mean the process whereby a group of Generator Interconnection Requests is studied together, instead of serially, for the purpose of conducting the Interconnection System Impact Study.

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk

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power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of the Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Owner's Transmission System, Transmission Owner's Interconnection Facilities or the electric systems of others to which the Transmission Owner's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Owner's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or nonfirm capacity of the Transmission Owner's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Generator Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its

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successor.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Generator Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Generator Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Owner's Transmission System.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, ITO, Transmission Owner, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any

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other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Independent Transmission Organization shall mean the entity (referred to herein as the “ITO”) to which LG&E/KU have delegated the responsibility and authority to administer the Tariff.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Owner’s Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Owner or any of the Affiliates or subsidiaries of the Transmission Owner, that proposes to interconnect its Generating Facility with the Transmission Owner’s Transmission System.

Interconnection Customer’s Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Owner’s Transmission System. Interconnection Customer’s Interconnection Facilities are sole use facilities.

Interconnection Facilities shall mean the Transmission Owner’s Interconnection Facilities and the Interconnection Customer’s Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Owner’s Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Interconnection Facilities Study shall mean a study conducted for the Interconnection Customer by the Transmission Owner as directed, and subject to review by, the ITO, in order to determine a list of facilities (including Transmission Owner’s Interconnection Facilities and Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Owner’s Transmission System. The scope of the study is defined in Section 8 of the Standard Large Generator Interconnection Procedures.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 4 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

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Interconnection Feasibility Study shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Transmission Owner's Transmission System, the scope of which is described in Section 6 of the Standard Large Generator Interconnection Procedures.

Interconnection Feasibility Study Agreement shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.

Interconnection Service shall mean the service provided by the Transmission Owner associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Owner's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Owner's Tariff.

Interconnection Study shall mean any of the following studies: the Interconnection Feasibility Study, the Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures.

Interconnection System Impact Study shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Transmission Owner's Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on the Adverse System Impacts identified in the Interconnection Feasibility Study, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Standard Large Generator Interconnection Procedures.

Interconnection System Impact Study Agreement shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection System Impact Study.

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Owner to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's

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performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Generator Interconnection Request with a later queue priority date.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Owner's Transmission System (1) in a manner comparable to that in which the Transmission Owner integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Owner's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Owner's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Owner's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

Optional Interconnection Study shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

Optional Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.

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Party or Parties shall mean the Transmission Owner, Interconnection Customer or any combination of the above.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Owner's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Owner's Transmission System.

Provisional Interconnection Service shall mean Interconnection Service approved by the ITO and provided by Transmission Owner associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Owner's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between the Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes.

Queue Position shall mean the order of a valid Generator Interconnection Request, relative to all other pending valid Generator Interconnection Requests, that is established based upon the date and time of receipt of the valid Generator Interconnection Request by the ITO.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Reliability Coordinator shall mean the party charged with providing reliability coordination service for the Transmission Owner's system in accordance with Attachment P hereto.

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer, Transmission Owner, and ITO conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean documentation reasonably demonstrating: (1) ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Generating Facility; (2) an option to purchase or acquire a leasehold site for such purpose; or (3) an

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exclusivity or other business relationship between Interconnection Customer and the entity having the right to sell, lease or grant Interconnection Customer the right to possess or occupy a site for such purpose.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Owner and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Owner and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Owner must provide the Interconnection Customer a written technical explanation outlining why the Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Generator Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Owner's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Generator Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Owner's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Owner's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Owner's Transmission System or on other delivery systems or other generating systems to which the Transmission Owner's Transmission System is directly connected.

Tariff shall mean the Transmission Owner's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean LG&E/KU, the public utility operating companies.

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Transmission Owner's Interconnection Facilities shall mean all facilities and equipment owned, controlled or operated by the Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Transmission System shall mean the facilities owned and operated by the Transmission Owner that are used to provide transmission service under Part II and Part III of the Transmission Owner's Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Variable Energy Resource shall mean a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

Article 2. Effective Date, Term, and Termination

2.1 Effective Date.

This LGIA shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC. The Transmission Owner shall promptly file this LGIA with FERC upon execution in accordance with Article 3.1, if required.

2.2 Term of Agreement.

Subject to the provisions of Article 2.3, this LGIA shall remain in effect for a period of ten (10) years from the Effective Date or such other longer period as Interconnection Customer may request (Term to be specified in individual agreements) and shall be automatically renewed for each successive one-year period thereafter.

2.3 Termination Procedures.

2.3.1 Written Notice.

This LGIA may be terminated by Interconnection Customer after giving Transmission Owner ninety (90) Calendar Days advance written notice, or by the Transmission Owner notifying FERC after the Generating Facility permanently ceases Commercial Operation.

2.3.2 Default.

Any Party may terminate this LGIA in accordance with Article 17.

2.3.3 Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become

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effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this LGIA, which notice has been accepted for filing by FERC.

2.4 Termination Costs.

If a Party elects to terminate this Agreement pursuant to Article 2.3 above, each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges assessed by the other Party, as of the date of the other Party's receipt of such notice of termination, that are the responsibility of the Terminating Party under this LGIA. In the event of termination by a Party, the other Party shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this LGIA, unless otherwise ordered or approved by FERC:

2.4.1 With respect to any portion of Transmission Owner's Interconnection Facilities that have not yet been constructed or installed, Transmission Owner shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Owner shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Transmission Owner for any or all such costs of materials or equipment not taken by Interconnection Customer, Transmission Owner shall promptly refund such amounts to Interconnection Customer, less any costs, including penalties incurred by Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this LGIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Network Upgrades for which Transmission Owner has incurred expenses and has not been reimbursed by Interconnection Customer.

2.4.2 Transmission Owner may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Transmission Owner shall be responsible for all costs associated with procuring such

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materials, equipment, or facilities.

- 2.4.3** With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this LGIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

2.5 Disconnection.

Upon termination of this LGIA, the Parties will take all appropriate steps to disconnect the Large Generating Facility from the Transmission System. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from a non-terminating Party's Default of this LGIA or such non-terminating Party otherwise is responsible for these costs under this LGIA.

2.6 Survival.

This LGIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this LGIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this LGIA was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this LGIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment.

Article 3. Regulatory Filings

3.1 Filing.

The Transmission Owner shall file this LGIA (and any amendment hereto) with the appropriate Governmental Authority, if required. Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 22. If Interconnection Customer has executed this LGIA, or any amendment thereto, Interconnection Customer shall reasonably cooperate with Transmission Owner with respect to such filing and to provide any information reasonably requested by Transmission Owner needed to comply with applicable regulatory requirements.

Article 4. Scope of Service

4.1 Interconnection Product Options.

Interconnection Customer has selected the following (checked) type of Interconnection Service:

4.1.1 Energy Resource Interconnection Service.

4.1.1.1 The Product.

Energy Resource Interconnection Service allows

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Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. To the extent Interconnection Customer wants to receive Energy Resource Interconnection Service, Transmission Owner shall construct facilities identified in Attachment A.

4.1.1.2 Transmission Delivery Service Implications.

Under Energy Resource Interconnection Service, Interconnection Customer will be eligible to inject power from the Large Generating Facility into and deliver power across the interconnecting Transmission Owner's Transmission System on an "as available" basis up to the amount of MWs identified in the applicable stability and steady state studies to the extent the upgrades initially required to qualify for Energy Resource Interconnection Service have been constructed. Where eligible to do so (e.g., PJM, ISO-NE, NYISO), Interconnection Customer may place a bid to sell into the market up to the maximum identified Large Generating Facility output, subject to any conditions specified in the interconnection service approval, and the Large Generating Facility will be dispatched to the extent Interconnection Customer's bid clears. In all other instances, no transmission delivery service from the Large Generating Facility is assured, but Interconnection Customer may obtain Point-to-Point Transmission Service, Network Integration Transmission Service, or be used for secondary network transmission service, pursuant to Transmission Owner's Tariff, up to the maximum output identified in the stability and steady state studies. In those instances, in order for Interconnection Customer to obtain the right to deliver or inject energy beyond the Large Generating Facility Point of Interconnection or to improve its ability to do so, transmission delivery service must be obtained pursuant to the provisions of Transmission Owner's Tariff. The Interconnection Customer's ability to inject its Large Generating Facility output beyond the Point of Interconnection, therefore, will depend on the existing capacity of Transmission Owner's Transmission System at such time as a transmission service request is made that would accommodate such delivery. The provision of firm Point-to-Point Transmission Service or Network

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Integration Transmission Service may require the construction of additional Network Upgrades.

4.1.2 Network Resource Interconnection Service.

4.1.2.1 The Product.

ITO must conduct the necessary studies in coordination with the Transmission Owner and the Transmission Owner must construct the Network Upgrades needed to integrate the Large Generating Facility (1) in a manner comparable to that in which Transmission Owner integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market based congestion management, in the same manner as all Network Resources. To the extent Interconnection Customer wants to receive Network Resource Interconnection Service, Transmission Owner shall construct the facilities identified in Attachment A to this LGIA.

4.1.2.2 Transmission Delivery Service Implications.

Network Resource Interconnection Service allows Interconnection Customer's Large Generating Facility to be designated by any Network Customer under the Tariff on Transmission Owner's Transmission System as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Owner's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. Although Network Resource Interconnection Service does not convey a reservation of transmission service, any Network Customer under the Tariff can utilize its network service under the Tariff to obtain delivery of energy from the interconnected Interconnection Customer's Large Generating Facility in the same manner as it accesses Network Resources. A Large Generating Facility receiving Network Resource Interconnection Service may also be used to provide Ancillary Services after technical studies and/or periodic analyses are performed with respect to the Large Generating Facility's ability to provide any applicable Ancillary Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Network Resource. However, if an Interconnection Customer's Large Generating Facility has not been designated as a Network Resource by any load, it cannot be required to provide Ancillary Services except to

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the extent such requirements extend to all generating facilities that are similarly situated. The provision of Network Integration Transmission Service or firm Point-to-Point Transmission Service may require additional studies and the construction of additional upgrades. Because such studies and upgrades would be associated with a request for delivery service under the Tariff, cost responsibility for the studies and upgrades would be in accordance with FERC's policy for pricing transmission delivery services. Network Resource Interconnection Service does not necessarily provide Interconnection Customer with the capability to physically deliver the output of its Large Generating Facility to any particular load on Transmission Owner's Transmission System without incurring congestion costs. In the event of transmission constraints on Transmission Owner's Transmission System, Interconnection Customer's Large Generating Facility shall be subject to the applicable congestion management procedures in Transmission Owner's Transmission System in the same manner as Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that Interconnection Customer's Large Generating Facility be designated as a Network Resource by a Network Service Customer under the Tariff or that Interconnection Customer identify a specific buyer (or sink). To the extent a Network Customer does designate the Large Generating Facility as a Network Resource, it must do so pursuant to Transmission Owner's Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining Network Resource Interconnection Service, any future transmission service request for delivery from the Large Generating Facility within Transmission Owner's Transmission System of any amount of capacity and/or energy, up to the amount initially studied, will not require that any additional studies be performed or that any further upgrades associated with such Large Generating Facility be undertaken, regardless of whether or not such Large Generating Facility is ever designated by a Network Customer as a Network Resource and regardless of changes in ownership of the Large Generating Facility. However, the reduction or elimination of congestion or redispatch costs may require additional studies and the construction of additional upgrades.

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To the extent Interconnection Customer enters into an arrangement for long term transmission service for deliveries from the Large Generating Facility outside Transmission Owner's Transmission System, such request may require additional studies and upgrades in order for ITO to grant such request.

4.2 Provision of Service.

The Transmission Owner shall provide Interconnection Service for the Large Generating Facility at the Point of Interconnection.

4.3 Performance Standards.

Each Party shall perform all of its obligations under this LGIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this LGIA for its compliance therewith. If such Party is a Transmission Owner, then that Party shall amend the LGIA and submit the amendment to FERC for approval.

4.4 No Transmission Delivery Service.

The execution of this LGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Owner's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.

4.5 Interconnection Customer Provided Services.

The services provided by Interconnection Customer under this LGIA are set forth in Article 9.6 and Article 13.5.1. Interconnection Customer shall be paid for such services in accordance with Article 11.6.

Article 5. Interconnection Facilities Engineering, Procurement, and Construction

5.1 Options.

Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select the In-Service Date, Initial Synchronization Date, and Commercial Operation Date; and either the Standard Option or Alternate Option, and such dates and selected option shall be set forth in Appendix B, Milestones. At the same time, Interconnection Customer shall indicate whether it elects to exercise the Option to Build set forth in Article 5.1.3 below. If the dates designated by Interconnection Customer are not acceptable to Transmission Owner, Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Transmission Owner, the Interconnection Customer shall notify Transmission Owner within thirty (30)

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Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build.

5.1.1 Standard Option.

Transmission Owner shall design, procure, and construct Transmission Owner's Interconnection Facilities and Network Upgrades, using Reasonable Efforts to complete Transmission Owner's Interconnection Facilities and Network Upgrades by the dates set forth in Appendix B, Milestones. Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event Transmission Owner reasonably expects that it will not be able to complete Transmission Owner's Interconnection Facilities and Network Upgrades by the specified dates, Transmission Owner shall promptly provide written notice to Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.1.2 Alternate Option.

If the dates designated by Interconnection Customer are acceptable to the Transmission Owner, the Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days, and Transmission Owner shall assume responsibility for the design, procurement and construction of Transmission Owner's Interconnection Facilities by the designated dates.

If Transmission Owner subsequently fails to complete Transmission Owner's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B, Milestones; Transmission Owner shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by Interconnection Customer shall be extended day for day for each day that any third party transmission provider refuses to grant clearances to install equipment.

5.1.3 Option to Build.

Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2. Transmission Owner and Interconnection Customer must agree as to

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what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

5.1.4 Negotiated Option.

If the dates designated by Interconnection Customer are not acceptable to Transmission Owner, the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3). If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), Transmission Owner shall assume responsibility for the design, procurement and construction of all facilities other than Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.

5.2 General Conditions Applicable to Option to Build.

If Interconnection Customer assumes responsibility for the design, procurement and construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades,

(1) Interconnection Customer shall engineer, procure equipment, and construct Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by the Transmission Owner;

(2) Interconnection Customer's engineering, procurement and construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law to which Transmission Owner would be subject in the engineering, procurement or construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(3) Transmission Owner shall review and approve the engineering design, equipment acceptance tests, and the construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(4) prior to commencement of construction, Interconnection Customer shall provide to Transmission Owner with a schedule for construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Owner;

(5) at any time during construction, Transmission Owner shall have the right to gain unrestricted access to Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

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- (6) at any time during construction, should any phase of the engineering, equipment procurement, or construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Owner, Interconnection Customer shall be obligated to remedy deficiencies in that portion of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;
- (7) Interconnection Customer shall indemnify Transmission Owner for claims arising from Interconnection Customer's construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 Indemnity;
- (8) Interconnection Customer shall transfer control of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Owner;
- (9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Transmission Owner's Interconnection Facilities and Stand-Alone Network Upgrades to Transmission Owner;
- (10) Transmission Owner shall approve and accept for operation and maintenance Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2; and
- (11) Interconnection Customer shall deliver to Transmission Owner "as-built" drawings, information, and any other documents that are reasonably required by Transmission Owner to assure that the Interconnection Facilities and Stand-Alone Network Upgrades are built to the standards and specifications required by Transmission Owner.
- (12) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, Interconnection Customer shall pay Transmission Owner the agreed upon amount of [\$ PLACEHOLDER] for Transmission Owner to execute the responsibilities enumerated to Transmission Owner under Article 5.2. Transmission Owner shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

5.3 Liquidated Damages.

The actual damages to Interconnection Customer, in the event Transmission Owner's Interconnection Facilities or Network Upgrades are not completed by the dates designated by Interconnection Customer and accepted by Transmission Owner pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by Transmission Owner to Interconnection Customer in the event that Transmission Owner does not complete any portion of Transmission Owner's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to 1/2 of 1 percent per day of the actual cost of Transmission

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Owner's Interconnection Facilities and Network Upgrades, in the aggregate, for which Transmission Owner has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of Transmission Owner's Interconnection Facilities and Network Upgrades for which Transmission Owner has assumed responsibility to design, procure, and construct. The foregoing payments will be made by Transmission Owner to Interconnection Customer as just compensation for the damages caused to Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this LGIA. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Transmission Owner's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) Interconnection Customer is not ready to commence use of Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for the Large Generating Facility's Trial Operation or to export power from the Large Generating Facility on the specified dates, unless Interconnection Customer would have been able to commence use of Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for Large Generating Facility's Trial Operation or to export power from the Large Generating Facility, but for Transmission Owner's delay; (2) Transmission Owner's failure to meet the specified dates is the result of the action or inaction of Interconnection Customer or any other Interconnection Customer who has entered into an LGIA with Transmission Owner or any cause beyond Transmission Owner's reasonable control or reasonable ability to cure; (3) the Interconnection Customer has assumed responsibility for the design, procurement and construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades; or (4) the Parties have otherwise agreed.

5.4 Power System Stabilizers.

The Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with the guidelines and procedures established by the Applicable Reliability Council. Transmission Owner reserves the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Large Generating Facility. If the Large Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, Interconnection Customer shall immediately notify the Transmission Owner. The requirements of this paragraph shall not apply to wind generators.

5.5 Equipment Procurement.

If responsibility for construction of Transmission Owner's Interconnection Facilities or Network Upgrades is to be borne by Transmission Owner, then Transmission Owner shall commence design of Transmission Owner's

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Interconnection Facilities or Network Upgrades and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

- 5.5.1 Transmission Owner has completed the Facilities Study pursuant to the Facilities Study Agreement;
- 5.5.2 Transmission Owner has received written authorization to proceed with design and procurement from Interconnection Customer by the date specified in Appendix B, Milestones; and
- 5.5.3 Interconnection Customer has provided security to Transmission Owner in accordance with Article 11.5 by the dates specified in Appendix B, Milestones.

5.6 Construction Commencement.

Transmission Owner shall commence construction of Transmission Owner's Interconnection Facilities and Network Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

- 5.6.1 Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;
- 5.6.2 Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of Transmission Owner's Interconnection Facilities and Network Upgrades;
- 5.6.3 The Transmission Owner has received written authorization to proceed with construction from Interconnection Customer by the date specified in Appendix B, Milestones; and
- 5.6.4 Interconnection Customer has provided security to Transmission Owner in accordance with Article 11.5 by the dates specified in Appendix B, Milestones.

5.7 Work Progress.

The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time, request a progress report from the other Party. If, at any time, Interconnection Customer determines that the completion of Transmission Owner's Interconnection Facilities will not be required until after the specified In-Service Date, Interconnection Customer will provide written notice to Transmission Owner of such later date upon which the completion of Transmission Owner's Interconnection Facilities will be required.

5.8 Information Exchange.

As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with Transmission Owner's Transmission System, and shall work diligently and in good faith to make any necessary design changes.

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5.9 Other Interconnection Options.

If any of Transmission Owner's Interconnection Facilities or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Large Generating Facility, Transmission Owner shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Large Generating Facility and Interconnection Customer's Interconnection Facilities may operate prior to the completion of Transmission Owner's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this LGIA. Transmission Owner shall permit Interconnection Customer to operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with the results of such studies.

5.9.1 Limited Operation.

5.9.2 Provisional Interconnection Service. Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities Transmission Owner may execute a Provisional Large Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Large Generator Interconnection Agreement with the Interconnection Customer for limited Interconnection Service at the discretion of Transmission Owner based upon an evaluation that will consider the results of available studies. The ITO shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Generating Facility or Transmission System. The ITO, in consultation with the Transmission Owner, shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Generating Facility are in place prior to the commencement of Interconnection Service from the Generating Facility. Where available studies indicate that such, Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Generating Facility are not currently in place, the ITO will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Generating Facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated annually and at the Interconnection Customer's expense. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Large Generator

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Interconnection Agreement and the Large Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

5.10 Interconnection Customer's Interconnection Facilities ('ICIF').

Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.10.1 Interconnection Customer's Interconnection Facility Specifications.

Interconnection Customer shall submit initial specifications for the ICIF, including System Protection Facilities, to Transmission Owner at least one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Transmission Owner shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Owner and comment on such specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

5.10.2 Transmission Owner's Review.

Transmission Owner's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Large Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Transmission Owner, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Owner.

5.10.3 ICIF Construction.

The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Interconnection Customer shall deliver to Transmission Owner "as-built" drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Large Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with Interconnection Customer's

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step-up transformers, the facilities connecting the Large Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Large Generating Facility. The Interconnection Customer shall provide Transmission Owner specifications for the excitation system, automatic voltage regulator, Large Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

5.11 Transmission Owner's Interconnection Facilities Construction.

Transmission Owner's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Transmission Owner shall deliver to Interconnection Customer the following "as-built" drawings, information and documents for Transmission Owner's Interconnection Facilities [include appropriate drawings and relay diagrams].

Transmission Owner will obtain control of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades upon completion of such facilities.

5.12 Access Rights.

Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish at no cost to the other Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Large Generating Facility with the Transmission System; (ii) operate and maintain the Large Generating Facility, the Interconnection Facilities and the Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this LGIA. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

5.13 Lands of Other Property Owners.

If any part of Transmission Owner's Interconnection Facilities and/or Network Upgrades is to be installed on property owned by persons other than Interconnection Customer or Transmission Owner, Transmission Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority, and to the extent consistent with

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state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove Transmission Owner's Interconnection Facilities and/or Network Upgrades upon such property.

5.14 Permits.

Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses, and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Transmission Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to Transmission Owner's own, or an Affiliate's generation.

5.15 Early Construction of Base Case Facilities.

Interconnection Customer may request Transmission Owner to construct, and Transmission Owner shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades required for Interconnection Customer to be interconnected to the Transmission System which are included in the Base Case of the Facilities Study for Interconnection Customer, and which also are required to be constructed for another Interconnection Customer, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date.

5.16 Suspension.

Interconnection Customer reserves the right, upon written notice to Transmission Owner, to suspend at any time all work by Transmission Owner associated with the construction and installation of Transmission Owner's Interconnection Facilities and/or Network Upgrades required under this LGIA with the condition that Transmission System shall be left in a safe and reliable condition in accordance with Good Utility Practice and Transmission Owner's safety and reliability criteria. In such event, Interconnection Customer shall be responsible for all reasonable and necessary costs which Transmission Owner (i) has incurred pursuant to this LGIA prior to the suspension and (ii) incurs in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the Transmission System during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Transmission Owner cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Transmission Owner shall obtain Interconnection Customer's authorization to do so.

The Transmission Owner shall invoice Interconnection Customer for such costs pursuant to Article 12 and Transmission Owner shall use due diligence to minimize its costs. In the event Interconnection Customer suspends work by Transmission Owner required under this LGIA pursuant to this Article 5.16, and

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has not requested Transmission Owner to recommence the work required under this LGIA on or before the expiration of three (3) years following commencement of such suspension, this LGIA shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Owner, if no effective date is specified.

5.17 Taxes.

5.17.1 Interconnection Customer Payments Not Taxable.

The Parties intend that all payments or property transfers made by Interconnection Customer to Transmission Owner for the installation of Transmission Owner's Interconnection Facilities and the Network Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

5.17.2 Representations and Covenants.

In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Large Generating Facility will pass to another party prior to the transmission of the electricity on the Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to Transmission Owner for Transmission Owner's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of Transmission Owner's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Large Generating Facility. For this purpose, "de minimis amount" means no more than 5 percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 88-129. This is not intended to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for nontaxable treatment.

At Transmission Owner's request, Interconnection Customer shall provide Transmission Owner with a report from an independent engineer confirming its representation in clause (iii), above.

Transmission Owner represents and covenants that the cost of Transmission Owner's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

The foregoing representations and covenants are required and made

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only if there are payments or property transfers made by Interconnection Customer to Transmission Owner for the installation of Transmission Owner's Interconnection Facilities or Network Upgrades.

5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Owner.

Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Transmission Owner from the cost consequences of any current tax liability imposed against Transmission Owner as the result of payments or property transfers made by Interconnection Customer to Transmission Owner under this LGIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Transmission Owner.

Transmission Owner shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this LGIA unless (i) Transmission Owner has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Transmission Owner should be reported as income subject to taxation or (ii) any Governmental Authority directs Transmission Owner to report payments or property as income subject to taxation; provided, however, that Transmission Owner may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Transmission Owner (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Transmission Owner for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Transmission Owner of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten year testing period and the applicable statute of limitation, as it may be extended by Transmission Owner upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

5.17.4 Tax Gross-Up Amount.

Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the Parties, this means that Interconnection Customer will pay

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Transmission Owner, in addition to the amount paid for the Interconnection Facilities and Network Upgrades, an amount equal to (1) the current taxes imposed on Transmission Owner ("Current Taxes") on the excess of (a) the gross income realized by Transmission Owner as a result of payments or property transfers made by Interconnection Customer to Transmission Owner under this LGIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit Transmission Owner to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) Current Taxes shall be computed based on Transmission Owner's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Owner will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Transmission Owner's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Owner's current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows: $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$. Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.17.5 Private Letter Ruling or Change or Clarification of Law.

At Interconnection Customer's request and expense, Transmission Owner shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Transmission Owner under this LGIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Transmission Owner and Interconnection Customer shall cooperate in good faith with respect to the submission of such request. Transmission Owner shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS that authorizes

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Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Owner shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.17.6 Subsequent Taxable Events.

If, within 10 years from the date on which the relevant Transmission Owner's Interconnection Facilities are placed in service, (i) Interconnection Customer Breaches the covenants contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii) this LGIA terminates and Transmission Owner retains ownership of the Interconnection Facilities and Network Upgrades, Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Transmission Owner, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

5.17.7 Contests.

In the event any Governmental Authority determines that Transmission Owner's receipt of payments or property constitutes income that is subject to taxation, Transmission Owner shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Transmission Owner may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Transmission Owner may file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Transmission Owner reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Transmission Owner shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings. Interconnection Customer shall pay to Transmission Owner on a periodic basis, as invoiced by Transmission Owner, Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Transmission Owner may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice

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from nationally-recognized tax counsel, selected by Transmission Owner, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Transmission Owner for the tax at issue in the contest.

5.17.8

Refund.

In the event that (a) a private letter ruling is issued to Transmission Owner which holds that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Owner under the terms of this LGIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Transmission Owner in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Owner under the terms of this LGIA is not taxable to Transmission Owner, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Transmission Owner are not subject to federal income tax, or (d) if Transmission Owner receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Transmission Owner pursuant to this LGIA, Transmission Owner shall promptly refund to Interconnection Customer the following:

- (i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,
- (ii) interest on any amounts paid by Interconnection Customer to Transmission Owner for such taxes which Transmission Owner did not submit to the taxing authority, calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR §35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Transmission Owner refunds such payment to Interconnection Customer, and
- (iii) with respect to any such taxes paid by Transmission Owner, any refund or credit Transmission Owner receives or to which it may be entitled from any Governmental Authority, interest (or that portion

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thereof attributable to the payment described in clause (i), above) owed to Transmission Owner for such overpayment of taxes (including any reduction in interest otherwise payable by Transmission Owner to any Governmental Authority resulting from an offset or credit); provided, however, that Transmission Owner will remit such amount promptly to Interconnection Customer only after and to the extent that Transmission Owner has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to Transmission Owner's Interconnection Facilities.

The intent of this provision is to leave the Parties, to the extent practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

5.17.9 Taxes Other Than Income Taxes.

Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Transmission Owner may appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Owner for which Interconnection Customer may be required to reimburse Transmission Owner under the terms of this LGIA. Interconnection Customer shall pay to Transmission Owner on a periodic basis, as invoiced by Transmission Owner, Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Transmission Owner shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Transmission Owner for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Owner.

5.18 Tax Status.

Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this LGIA is intended to adversely affect any Transmission Owner's tax exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

5.19 Modification.

5.19.1 General.

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Each Party may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, that Party shall provide to the other Party sufficient information regarding such modification so that the other Party may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be confidential hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Large Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Large Generating Facility modifications that do not require Interconnection Customer to submit an Generator Interconnection Request, Transmission Owner shall provide to the Interconnection Customer, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Transmission System, Transmission Owner's Interconnection Facilities or Network Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

5.19.2 Standards.

Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed and operated in accordance with this LGIA and Good Utility Practice.

5.19.3 Modification Costs.

Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Transmission Owner makes to Transmission Owner's Interconnection Facilities or the Transmission System to facilitate the interconnection of a third party to Transmission Owner's Interconnection Facilities or the Transmission System, or to provide transmission service to a third party under Transmission Owner's Tariff. Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

Article 6. Testing and Inspection

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6.1 Pre-Commercial Operation Date Testing and Modifications.

Prior to the Commercial Operation Date, Transmission Owner shall test Transmission Owner's Interconnection Facilities and Network Upgrades and Interconnection Customer shall test the Large Generating Facility and Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Large Generating Facility only if it has arranged for the delivery of such test energy.

6.2 Post-Commercial Operation Date Testing and Modifications.

Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Large Generating Facility with the Transmission System in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.

6.3 Right to Observe Testing.

Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities. The other Party has the right, at its own expense, to observe such testing.

6.4 Right to Inspect.

Each Party shall have the right, but shall have no obligation to: (i) observe the other Party's tests and/or inspection of any of its System Protection Facilities and other protective equipment, including Power System Stabilizers; (ii) review the settings of the other Party's System Protection Facilities and other protective equipment; and (iii) review the other Party's maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Party. The exercise or nonexercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this LGIA.

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Article 7. Metering

7.1 General.

Each Party shall comply with the Applicable Reliability Council requirements. Unless otherwise agreed by the Parties, Transmission Owner shall install Metering Equipment at the Point of Interconnection prior to any operation of the Large Generating Facility and shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Large Generating Facility shall be measured at or, at Transmission Owner's option, compensated to, the Point of Interconnection. Transmission Owner shall provide metering quantities, in analog and/or digital form, to Interconnection Customer upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

7.2 Check Meters.

Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check Transmission Owner's meters. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this LGIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Owner or its designee. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.

7.3 Standards.

The Transmission Owner shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards.

7.4 Testing of Metering Equipment.

The Transmission Owner shall inspect and test all Transmission Owner-owned Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by Interconnection Customer, Transmission Owner shall, at Interconnection Customer's expense, inspect or test Metering Equipment more frequently than every two (2) years. Transmission Owner shall give reasonable notice of the time when any inspection or test shall take place, and Interconnection Customer may have representatives present at the test or inspection. If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to Transmission Owner's failure to maintain, then Transmission Owner shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent from the

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measurement made by the standard meter used in the test, Transmission Owner shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using Interconnection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last previous test of the Metering Equipment.

7.5 Metering Data.

At Interconnection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Owner and one or more locations designated by Interconnection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Large Generating Facility to the Point of Interconnection.

Article 8. Communications

8.1 Interconnection Customer Obligations.

Interconnection Customer shall maintain satisfactory operating communications with Transmission Owner's Transmission System dispatcher or representative designated by Transmission Owner. Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Large Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Interconnection Customer shall also provide the dedicated data circuit(s) necessary to provide Interconnection Customer data to Transmission Owner as set forth in Appendix D, Security Arrangements Details. The data circuit(s) shall extend from the Large Generating Facility to the location(s) specified by Transmission Owner. Any required maintenance of such communications equipment shall be performed by Interconnection Customer. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data.

8.2 Remote Terminal Unit.

Prior to the Initial Synchronization Date of the Large Generating Facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the Parties, shall be installed by Interconnection Customer, or by Transmission Owner at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by Transmission Owner through use of a dedicated point-to-point data circuit(s) as indicated in Article 8.1. The communication protocol for the data circuit(s) shall be specified by Transmission Owner. Instantaneous bi-directional

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analog real power and reactive power flow information must be telemetered directly to the location(s) specified by Transmission Owner.

Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

8.3 No Annexation.

Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

8.4 Provision of Data from a Variable Energy Resource

The Interconnection Customer whose Generating Facility is a Variable Energy Resource shall provide meteorological and forced outage data to the Transmission Owner to the extent necessary for the Transmission Owner's development and deployment of power production forecasts for that class of Variable Energy Resources. The Interconnection Customer with a Variable Energy Resource having wind as the energy source, at a minimum, will be required to provide the Transmission Owner with site-specific meteorological data including: temperature, wind speed, wind direction, and atmospheric pressure. The Interconnection Customer with a Variable Energy Resource having solar as the energy source, at a minimum, will be required to provide the Transmission Owner with site-specific meteorological data including: temperature, atmospheric pressure, and irradiance. The Transmission Owner and Interconnection Customer whose Generating Facility is a Variable Energy Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. The Interconnection Customer whose Generating Facility is a Variable Energy Resource also shall submit data to the Transmission Owner regarding all forced outages to the extent necessary for the Transmission Owner's development and deployment of power production forecasts for that class of Variable Energy Resources. The exact specifications of the meteorological and forced outage data to be provided by the Interconnection Customer to the Transmission Owner, including the frequency and timing of data submittals, shall be made taking into account the size and configuration of the Variable Energy Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Owner. Such requirements for meteorological and forced outage data are set forth in Appendix C, Interconnection Details, of this LGIA, as they may change from time to time.

Article 9. Operations

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9.1 General.

Each Party shall comply with the Applicable Reliability Council requirements. Each Party shall provide to the other Party all information that may reasonably be required by the other Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.

9.2 Balancing Authority Area Notification.

At least three months before Initial Synchronization Date, Interconnection Customer shall notify ITO and Transmission Owner in writing of the Balancing Authority Area in which the Large Generating Facility will be located. If Interconnection Customer elects to locate the Large Generating Facility in a Balancing Authority Area other than the Balancing Authority Area in which the Large Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this LGIA, and remote Balancing Authority Area generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented prior to the placement of the Large Generating Facility in the other Balancing Authority Area.

9.3 Transmission Owner Obligations.

The Transmission Owner shall cause the Transmission System and Transmission Owner's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this LGIA. Transmission Owner may provide operating instructions to Interconnection Customer consistent with this LGIA and Transmission Owner's operating protocols and procedures as they may change from time to time. Transmission Owner will consider changes to its operating protocols and procedures proposed by Interconnection Customer.

9.4 Interconnection Customer Obligations.

Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA. Interconnection Customer shall operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of the Balancing Authority Area of which it is part, as such requirements are set forth in Appendix C, Interconnection Details, of this LGIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Either Party may request that the other Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this LGIA.

9.5 Start-Up and Synchronization.

Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Large Generating

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- Facility to Transmission Owner's Transmission System.
- 9.6 Reactive Power and Primary Frequency Response.**
- 9.6.1 Power Factor Design Criteria.**
- 9.6.1.1 Synchronous Generation.**
Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Owner has established different requirements that apply to all synchronous generators in the Balancing Authority Area on a comparable basis.
- 9.6.1.2 Non-Synchronous Generation.**
Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Owner has established a different power factor range that applies to all non-synchronous generators in the Balancing Authority Area on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting non-synchronous generators that have not yet executed a Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).
- 9.6.2 Voltage Schedules.**
Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Transmission Owner shall require Interconnection Customer to operate the Large Generating Facility to produce or absorb reactive power within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). Transmission Owner's voltage schedules shall treat all sources of reactive power in the Balancing Authority Area in an equitable and not unduly discriminatory manner. Transmission Owner shall exercise Reasonable Efforts to provide

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Interconnection Customer with such schedules at least one (1) day in advance, and may make changes to such schedules as necessary to maintain the reliability of the Transmission System. Interconnection Customer shall operate the Large Generating Facility to maintain the specified output voltage or power factor at the Point of Interconnection within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). If Interconnection Customer is unable to maintain the specified voltage or power factor, it shall promptly notify the System Operator.

9.6.2.1 Voltage Regulators.

Whenever the Large Generating Facility is operated in parallel with the Transmission System and voltage regulators are capable of operation, Interconnection Customer shall operate the Large Generating Facility with its and voltage regulators in automatic operation. If the Large Generating Facility's speed governors and voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Owner, or its designated representative, and ensure that such Large Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Large Generating Facility's generating unit(s) and steady state stability limits. Interconnection Customer shall not cause its Large Generating Facility to disconnect automatically or instantaneously from the Transmission System or trip any generating unit comprising the Large Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Balancing Authority Area on a comparable basis.

9.6.3 Payment for Reactive Power.

Transmission Owner is required to pay Interconnection Customer for reactive power that Interconnection Customer provides or absorbs from the Large Generating Facility when Transmission Owner requests Interconnection Customer to operate its Large Generating Facility outside the range specified in Article 9.6.1, provided that if Transmission Owner pays its own or affiliated generators for reactive power service within the specified range, Transmission Owner must also pay Interconnection Customer. Payments shall be pursuant to

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Article 11.6 or such other agreement to which the Parties have otherwise agreed.

9.6.4 Primary Frequency Response

Interconnection Customer shall ensure the primary frequency response capability of its Large Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Large Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Large Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Large Generating Facility’s real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Large Generating Facility’s real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Owner that the primary frequency response capability of the Large Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Interconnection Customer shall operate the Large Generating Facility consistent with the provisions specified in Sections 9.6.4.1 and 9.6.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Large Generating Facilities.

9.6.4.1 Governor or Equivalent Controls. Whenever the Large Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Large Generating Facility with its governor or equivalent controls in service and responsive to frequency.

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Interconnection Customer shall: (1) in coordination with Transmission Owner and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Owner and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Large Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Owner and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Large Generating Facility's governor or equivalent controls to a minimum whenever the Large Generating Facility is operated in parallel with the Transmission System.

9.6.4.2 Timely and Sustained Response. Interconnection Customer shall ensure that the Large Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Large Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Large Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

9.6.4.3 Exemptions. Large Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Sections 9.6.4, 9.6.4.1, and 9.6.4.2 of this Agreement. Large Generating

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Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Section 9.6.4, but shall be otherwise exempt from the operating requirements in Sections 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this Agreement.

9.6.4.4 Electric Storage Resources. Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Appendix C of its LGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Sections 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.3 of this Agreement. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Owner and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Section 9.6.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice

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versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

9.7 Outages and Interruptions.

9.7.1 Outages.

9.7.1.1 Outage Authority and Coordination.

Each Party may in accordance with Good Utility Practice in coordination with the other Party remove from service any of its respective Interconnection Facilities or Network Upgrades that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent an Emergency Condition, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to schedule such removal on a date and time mutually acceptable to the Parties. In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Party of such removal.

9.7.1.2 Outage Schedules.

ITO shall post scheduled outages of the transmission facilities on the OASIS. Interconnection Customer shall submit its planned maintenance schedules for the Large Generating Facility to the ITO and Transmission Owner for a minimum of a rolling twenty-four month period. Interconnection Customer shall update its planned maintenance schedules as necessary. Transmission Owner may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Transmission System; provided, however, adequacy of generation supply shall not be a criterion in determining Transmission System reliability. Transmission Owner shall compensate Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would have incurred absent Transmission Owner's request to reschedule maintenance. Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance

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activities.

9.7.1.3 Outage Restoration.

If an outage on a Party's Interconnection Facilities or Network Upgrades adversely affects the other Party's operations or facilities, the Party that owns or controls the facility that is out of service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. The Party that owns or controls the facility that is out of service shall provide the other Party, to the extent such information is known, information on the nature of the Emergency Condition, an estimated time of restoration, and any corrective actions required. Initial verbal notice shall be followed up as soon as practicable with written notice explaining the nature of the outage.

9.7.2 Interruption of Service.

If required by Good Utility Practice to do so, Transmission Owner may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Transmission Owner's ability to perform such activities as are necessary to safely and reliably operate and maintain the Transmission System. The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2:

9.7.2.1 The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

9.7.2.2 Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Transmission System;

9.7.2.3 When the interruption or reduction must be made under circumstances which do not allow for advance notice, Transmission Owner shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. Telephone notification shall be followed by written notification as soon as practicable;

9.7.2.4 Except during the existence of an Emergency Condition, when the interruption or reduction can be scheduled without advance notice, Transmission Owner or Reliability Coordinator shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify Interconnection Customer of the expected duration. Transmission Owner shall coordinate with Interconnection Customer using Good Utility Practice to

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schedule the interruption or reduction during periods of least impact to Interconnection Customer and Transmission Owner;

9.7.2.5 The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Large Generating Facility, Interconnection Facilities, and the Transmission System to their normal operating state, consistent with system conditions and Good Utility Practice.

9.7.3 Under-Frequency and Over-Frequency Conditions.

The Transmission System is designed to automatically activate a loadshed program as required by the Applicable Reliability Council in the event of an under-frequency system disturbance. Interconnection Customer shall implement under-frequency and over-frequency relay set points for the Large Generating Facility as required by the Applicable Reliability Council to ensure "ride through" capability of the Transmission System. Large Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with Transmission Owner in accordance with Good Utility Practice. The term "ride through" as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice.

9.7.4 System Protection and Other Control Requirements.

9.7.4.1 System Protection Facilities.

Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Owner shall install at Interconnection Customer's expense any System Protection Facilities that may be required on Transmission Owner's Interconnection Facilities or the Transmission System as a result of the interconnection of the Large Generating Facility and Interconnection Customer's Interconnection Facilities.

9.7.4.2 Each Party's protection facilities shall be designed and coordinated with other systems in accordance with Good Utility Practice.

9.7.4.3 Each Party shall be responsible for protection of its facilities consistent with Good Utility Practice.

9.7.4.4 Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in

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Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of Interconnection Customer's units.

9.7.4.5 Each Party will test, operate and maintain System Protection Facilities in accordance with Good Utility Practice.

9.7.4.6 Prior to the In-Service Date, and again prior to the Commercial Operation Date, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, each Party shall perform both calibration and functional trip tests of its System Protection Facilities. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated.

9.7.5 Requirements for Protection.

In compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Large Generating Facility to any short circuit occurring on the Transmission System not otherwise isolated by Transmission Owner's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the Transmission System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Large Generating Facility and the Transmission System at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Large Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or undervoltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Large Generating Facility and Interconnection Customer's other equipment if conditions on the Transmission System could adversely affect the Large Generating Facility.

9.7.6 Power Quality.

No Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE

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Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric industry standard, ANSI Standard C84.1-1989, or the applicable superseding electric industry standard, shall control.

9.8 Switching and Tagging Rules.

Each Party shall provide the other Party a copy of its switching and tagging rules that are applicable to the other Party's activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

9.9 Use of Interconnection Facilities by Third Parties.

9.9.1 Purpose of Interconnection Facilities.

Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to between the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Large Generating Facility to the Transmission System and shall be used for no other purpose.

9.9.2 Third Party Users.

If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use Transmission Owner's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Transmission Owner, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Transmission Owner, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to FERC for resolution.

9.10 Disturbance Analysis Data Exchange.

The Parties will cooperate with one another in the analysis of disturbances to either the Large Generating Facility or Transmission Owner's Transmission

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System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice.

Article 10. Maintenance

10.1 Transmission Owner Obligations.

Transmission Owner shall maintain the Transmission System and Transmission Owner's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.2 Interconnection Customer Obligations.

Interconnection Customer shall maintain the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.3 Coordination.

The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Large Generating Facility and the Interconnection Facilities.

10.4 Secondary Systems.

Each Party shall cooperate with the other Party in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Party. Each Party shall provide advance notice to the other Party before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

10.5 Operating and Maintenance Expenses.

Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Transmission Owner's Interconnection Facilities.

Article 11. Performance Obligation

11.1 Interconnection Customer Interconnection Facilities.

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Interconnection Customer shall design, procure, construct, install, own and/or control Interconnection Customer Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at its sole expense.

11.2 Transmission Owner's Interconnection Facilities.

Transmission Owner shall design, procure, construct, install, own and/or control the Transmission Owner's Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at the sole expense of the Interconnection Customer.

11.3 Network Upgrades and Distribution Upgrades.

Transmission Owner shall design, procure, construct, install, and own the Network Upgrades and Distribution Upgrades described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades. The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Unless Transmission Owner elects to fund the capital for the Network Upgrades, they shall be solely funded by Interconnection Customer.

11.4 Transmission Credits.

11.4.1 Repayment of Amounts Advanced for Network Upgrades.

Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to Transmission Owner and Affected System Operator, if any, for the Network Upgrades, including any tax gross-up or other tax-related payments associated with Network Upgrades, and not refunded to Interconnection Customer pursuant to Article 5.17.8 or otherwise, to be paid to Interconnection Customer on a dollar-for-dollar basis for the nonusage sensitive portion of transmission charges, as payments are made under Transmission Owner's Tariff and Affected System's Tariff for transmission services with respect to the Large Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii) from the date of any payment for Network Upgrades through the date on which the Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. Interconnection Customer may assign such repayment rights to any person.

Notwithstanding the foregoing, Interconnection Customer, Transmission Owner, and Affected System Operator may adopt any alternative payment schedule that is mutually agreeable so long as Transmission Owner and Affected System Operator take one of the following actions no later than five years from the Commercial Operation Date: (1) return to Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that Transmission Owner or Affected System Operator will

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continue to provide payments to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the Commercial Operation Date.

If the Large Generating Facility fails to achieve commercial operation, but it or another Generating Facility is later constructed and makes use of the Network Upgrades, Transmission Owner and Affected System Operator shall at that time reimburse Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, the Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which reimbursement must be made.

11.4.2 Special Provisions for Affected Systems.

Unless Transmission Owner provides, under the LGIA, for the repayment of amounts advanced to Affected System Operator for Network Upgrades, Interconnection Customer and Affected System Operator shall enter into an agreement that provides for such repayment. The agreement shall specify the terms governing payments to be made by Interconnection Customer to the Affected System Operator as well as the repayment by the Affected System Operator.

11.4.3 Notwithstanding any other provision of this LGIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that Interconnection Customer, shall be entitled to, now or in the future under any other agreement or tariff as a result of, or otherwise associated with, the transfer capability, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Large Generating Facility.

11.5 Provision of Security.

At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of a Transmission Owner's Interconnection Facilities, Network Upgrades, or Distribution Upgrades, Interconnection Customer shall provide Transmission Owner, at Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1.

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Such security for payment shall be in an amount sufficient to cover the costs for constructing, procuring and installing the applicable portion of Transmission Owner's Interconnection Facilities, Network Upgrades, or Distribution Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Owner for these purposes.

In addition:

- 11.5.1 The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Owner, and contain terms and conditions that guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.
- 11.5.2 The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.
- 11.5.3 The surety bond must be issued by an insurer reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.

11.6 Interconnection Customer Compensation.

If Transmission Owner requests or directs Interconnection Customer to provide a service pursuant to Articles 9.6.3 (Payment for Reactive Power), or 13.5.1 of this LGIA, Transmission Owner shall compensate Interconnection Customer in accordance with Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to an RTO or ISO FERC-approved rate schedule. Interconnection Customer shall serve Transmission Owner or RTO or ISO with any filing of a proposed rate schedule at the time of such filing with FERC. To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb any Reactive Power under this LGIA, Transmission Owner agrees to compensate Interconnection Customer in such amount as would have been due Interconnection Customer had the rate schedule been in effect at the time service commenced; provided, however, that such rate schedule must be filed at FERC or other appropriate Governmental Authority within sixty (60) Calendar Days of the commencement of service.

11.6.1 Interconnection Customer Compensation for Actions During Emergency Condition.

Transmission Owner shall compensate Interconnection Customer for its provision of real and reactive power and other Emergency Condition services that Interconnection Customer provides to support the Transmission System during an Emergency Condition in accordance with Article 11.6.

Article 12. Invoice

12.1 General.

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Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this LGIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

12.2 Final Invoice.

Within six months after completion of the construction of Transmission Owner's Interconnection Facilities and the Network Upgrades, Transmission Owner shall provide an invoice of the final cost of the construction of Transmission Owner's Interconnection Facilities and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Owner shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

12.3 Payment.

Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by any Party will not constitute a waiver of any rights or claims either Party may have under this LGIA.

12.4 Disputes.

In the event of a billing dispute between Transmission Owner and Interconnection Customer, Transmission Owner shall continue to provide Interconnection Service under this LGIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Transmission Owner or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Owner may provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated in accord with the methodology set forth in FERC's regulations at 18 CFR § a(a)(2)(iii).

Article 13. Emergencies

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13.1 Definition.

"Emergency Condition" shall mean a condition or situation: (i) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (ii) that, in the case of Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Owner's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (iii) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Large Generating Facility or Interconnection Customer's Interconnection Facilities' System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by this LGIA to possess black start capability.

13.2 Obligations.

Each Party shall comply with the Emergency Condition procedures of the applicable Reliability Coordinator, NERC, the Applicable Reliability Council, Applicable Laws and Regulations, and any emergency procedures agreed to by the Joint Operating Committee.

13.3 Notice.

Transmission Owner shall notify Interconnection Customer promptly when it becomes aware of an Emergency Condition that affects Transmission Owner's Interconnection Facilities or the Transmission System that may reasonably be expected to affect Interconnection Customer's operation of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Interconnection Customer shall notify Transmission Owner promptly when it becomes aware of an Emergency Condition that affects the Large Generating Facility or Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the Transmission System or Transmission Owner's Interconnection Facilities. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Transmission Owner's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.

13.4 Immediate Action.

Unless, in Interconnection Customer's reasonable judgment, immediate action is required, Interconnection Customer shall obtain the consent of Transmission Owner, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Large Generating Facility or Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by Transmission Owner or otherwise regarding the Transmission

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System.

13.5 Reliability Coordinator's Authority.

13.5.1 General.

Reliability Coordinator may take whatever actions or inactions with regard to the Transmission System or Transmission Owner's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Transmission System or Transmission Owner's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service.

Reliability Coordinator shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Reliability Coordinator may, on the basis of technical considerations, require the Large Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Large Generating Facility; implementing a reduction or disconnection pursuant to Article 13.5.2; directing Interconnection Customer to assist with blackstart (if available) or restoration efforts; or altering the outage schedules of the Large Generating Facility and Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of Reliability Coordinator's operating instructions concerning Large Generating Facility real power and reactive power output within the manufacturer's design limitations of the Large Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

13.5.2 Reduction and Disconnection.

Reliability Coordinator may reduce Interconnection Service or disconnect the Large Generating Facility or Interconnection Customer's Interconnection Facilities, when such reduction or disconnection is necessary under Good Utility Practice due to Emergency Conditions. These rights are separate and distinct from any right of curtailment of Transmission Owner pursuant to Transmission Owner's Tariff. When Transmission Owner can schedule the reduction or disconnection in advance, Transmission Owner shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. Transmission Owner shall coordinate with Interconnection Customer using Good Utility Practice to schedule the reduction or disconnection during

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periods of least impact to Interconnection Customer and Transmission Owner. Any reduction or disconnection shall continue only for so long as reasonably necessary under Good Utility Practice. The Parties shall cooperate with each other to restore the Large Generating Facility, the Interconnection Facilities, and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

13.6 Interconnection Customer Authority.

Consistent with Good Utility Practice and the LGIA and the LGIP, Interconnection Customer may take actions or inactions with regard to the Large Generating Facility or Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Large Generating Facility or Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Transmission System and Transmission Owner's Interconnection Facilities. Transmission Owner shall use Reasonable Efforts to assist Interconnection Customer in such actions.

13.7 Limited Liability.

Except as otherwise provided in Article 11.6.1 of this LGIA, neither Party shall be liable to the other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and is consistent with Good Utility Practice.

Article 14. Regulatory Requirements and Governing Law

14.1 Regulatory Requirements.

Each Party's obligations under this LGIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this LGIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978.

14.2 Governing Law.

14.2.1 The validity, interpretation and performance of this LGIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of

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law principles.

14.2.2 This LGIA is subject to all Applicable Laws and Regulations.

14.2.3 Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

Article 15. Notices

15.1 General.

Unless otherwise provided in this LGIA, any notice, demand or request required or permitted to be given by a Party to the other Party and any instrument required or permitted to be tendered or delivered by either Party in writing to the other shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for Delivery of Notices and Billings.

Each Party may change the notice information in this LGIA by giving five (5) Business Days written notice prior to the effective date of the change.

15.2 Billings and Payments.

Billings and payments shall be sent to the addresses set out in Appendix F.

15.3 Alternative Forms of Notice.

Any notice or request required or permitted to be given by a Party to another and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

15.4 Operations and Maintenance Notice.

Each Party shall notify the other Party in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

Article 16. Force Majeure

16.1 Force Majeure.

16.1.1 Economic hardship is not considered a Force Majeure event.

16.1.2 Neither Party shall be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the

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cause relied upon. Telephone notices given pursuant to this article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

Article 17. Default

17.1 Default.

17.1.1 General.

No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this LGIA or the result of an act of omission of the other Party. Upon a Breach, the non-breaching Party shall give written notice of such Breach to the breaching Party. Except as provided in Article 17.1.2, the breaching Party shall have thirty (30) Calendar Days from receipt of the Default notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Default notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

17.1.2 Right to Terminate.

If a Breach is not cured as provided in this article, or if a Breach is not capable of being cured within the period provided for herein, the nonbreaching Party shall have the right to declare a Default and terminate this LGIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this LGIA, to recover from the breaching Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this LGIA.

Article 18. Indemnity, Consequential Damages and Insurance

18.1 Indemnity.

The Parties shall at all times indemnify, defend, and hold each other harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to

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third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this LGIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

18.1.1 Indemnified Person.

If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

18.1.2 Indemnifying Party.

If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

18.1.3 Indemnity Procedures.

Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply, the Indemnified Person shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent

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that, in the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

18.2 Consequential Damages.

Other than the Liquidated Damages heretofore described, in no event shall any Party be liable under any provision of this LGIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to another Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

18.3 Insurance.

Each party shall, at its own expense, maintain in force throughout the period of this LGIA, and until released by the other Party, the following minimum insurance coverages, with insurers authorized to do business in the state where the Point of Interconnection is located:

18.3.1 Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

18.3.2 Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.

18.3.3 Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury, including death, and property damage.

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- 18.3.4** Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.3.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this LGIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.
- 18.3.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.
- 18.3.7** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this LGIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.
- 18.3.8** The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this LGIA.
- 18.3.9** Within ten (10) days following execution of this LGIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) days thereafter, each Party shall provide certification of all insurance required in this LGIA, executed by each insurer or by an authorized representative of each insurer.
- 18.3.10** Notwithstanding the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program; provided that, such

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Party's senior secured debt is rated at investment grade or better by Standard & Poor's and that its self-insurance program meets the minimum insurance requirements of Articles 18.3.2 through 18.3.8. For any period of time that a Party's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.3.2 through 18.3.9. In the event that a Party is permitted to self-insure pursuant to this article, it shall notify the other Party that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.

18.3.11 The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this LGIA.

Article 19. Assignment

19.1 Assignment.

This LGIA may be assigned by a Party only with the written consent of the other Party; provided that each Party may assign this LGIA without the consent of another Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this LGIA; and provided further that Interconnection Customer shall have the right to assign this LGIA, without the consent of Transmission Owner, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that Interconnection Customer will promptly notify Transmission Owner of any such assignment. Any financing arrangement entered into by Interconnection Customer pursuant to this article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Owner of the date and particulars of any such exercise of assignment right(s), including providing the Transmission Owner with proof that it meets the requirements of Articles 11.5 and 18.3. Any attempted assignment that violates this article is void and ineffective. Any assignment under this LGIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

Article 20. Severability

20.1 Severability.

If any provision in this LGIA is finally determined to be invalid, void or

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unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this LGIA; provided that if Interconnection Customer (or any third party, but only if such third party is not acting at the direction of Transmission Owner) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1).

Article 21. Comparability

21.1 Comparability.

The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

Article 22. Confidentiality

22.1 Confidentiality.

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of this LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential. If requested by a Party, the other Party shall provide in writing, the basis for asserting that the information referred to in this Article 22 warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

22.1.1 Term.

During the term of this LGIA, and for a period of three (3) years after the expiration or termination of this LGIA, except as otherwise provided in this Article 22, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

22.1.2 Scope.

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party,

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who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this LGIA; or (6) is required, in accordance with Article 22.1.7 of the LGIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

22.1.3 Release of Confidential Information.

A Party shall not release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this LGIA, unless such person has first been advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

22.1.4 Rights.

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The disclosure by each Party to the other of Confidential Information shall not be deemed a waiver by a Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

22.1.5 No Warranties.

By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, a Party does not obligate itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

22.1.6 Standard of Care.

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or

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dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this LGIA or its regulatory requirements.

22.1.7 Order of Disclosure.

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires any Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

22.1.8 Termination of Agreement.

Upon termination of this LGIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to another Party) or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party.

22.1.9 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article 22. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 22.

22.1.10 Disclosure to FERC, its Staff, or a State.

Notwithstanding anything in this Article 22 to the contrary, and

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pursuant to 18 CFR section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this LGIA, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party to this LGIA prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

22.1.11 Subject to the exception in Article 22.1.10, any information that a Party claims is competitively sensitive, commercial or financial information under this LGIA ("Confidential Information") shall not be disclosed by either Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this LGIA or as a transmission service provider or a Balancing Authority including disclosing the Confidential Information to an RTO or ISO or to a regional or national reliability organization. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

Article 23. Environmental Releases

23.1 Each Party shall notify the other Party, first orally and then in writing, of the

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release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Party copies of any publicly available reports filed with any Governmental Authorities addressing such events.

Article 24. Information Requirements

24.1 Information Acquisition.

Transmission Owner and Interconnection Customer shall submit to each other with copies to the ITO specific information regarding the electrical characteristics of their respective facilities as described below and in accordance with Applicable Reliability Standards.

24.2 Information Submission by Transmission Owner.

The initial information submission by Transmission Owner shall occur no later than one hundred eighty (180) Calendar Days prior to Trial Operation and shall include Transmission System information necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise agreed to by the Parties. On a monthly basis the Transmission Owner shall provide Interconnection Customer and ITO a status report on the construction and installation of Transmission Owner's Interconnection Facilities and Network Upgrades, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

24.3 Updated Information Submission by Interconnection Customer.

The updated information submission by Interconnection Customer, including manufacturer information, shall occur no later than one hundred eighty (180) Calendar Days prior to the Trial Operation. Interconnection Customer shall submit a completed copy of the Large Generating Facility data requirements contained in Appendix 1 to the LGIP. It shall also include any additional information provided to ITO for the Feasibility Study and to the Transmission Owner for the Facilities Study. Information in this submission shall be the most current Large Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Transmission Owner's standard models. If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information. If Interconnection Customer's data is materially different from what was originally provided to the ITO or Transmission Owner pursuant to the Interconnection Study Agreement

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among the ITO, Transmission Owner, and Interconnection Customer, then the ITO and/or Transmission Owner, as appropriate, will conduct appropriate studies to determine the impact on Transmission Owner's Transmission System based on the actual data submitted pursuant to this Article 24.3. The Interconnection Customer shall not begin Trial Operation until such studies are completed.

24.4 Information Supplementation.

Prior to the Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Large Generating Facility information or "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. The Interconnection Customer shall conduct tests on the Large Generating Facility as required by Good Utility Practice such as an open circuit "step voltage" test on the Large Generating Facility to verify proper operation of the Large Generating Facility's automatic voltage regulator. Unless otherwise agreed, the test conditions shall include: (1) Large Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent change in Large Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Large Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Large Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Large Generating Facility terminal or field voltages is provided. Large Generating Facility testing shall be conducted and results provided to Transmission Owner and ITO for each individual generating unit in a station.

Subsequent to the Operation Date, Interconnection Customer shall provide Transmission Owner and ITO any information changes due to equipment replacement, repair, or adjustment. Transmission Owner shall provide Interconnection Customer any information changes due to equipment replacement, repair or adjustment in the directly connected substation or any adjacent Transmission Owner-owned substation that may affect Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.

Article 25. Information Access and Audit Rights

25.1 Information Access.

Each Party (the "disclosing Party") shall make available to the other Party information that is in the possession of the disclosing Party and is necessary in order for the other Party to: (i) verify the costs incurred by the disclosing Party for

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which the other Party is responsible under this LGIA; and (ii) carry out its obligations and responsibilities under this LGIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this LGIA.

25.2 Reporting of Non-Force Majeure Events.

Each Party (the "notifying Party") shall notify the other Party when the notifying Party becomes aware of its inability to comply with the provisions of this LGIA for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this article shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this LGIA.

25.3 Audit Rights.

Subject to the requirements of confidentiality under Article 22 of this LGIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party, to audit at its own expense the other Party's accounts and records pertaining to each Party's performance or each Party's satisfaction of obligations under this LGIA. Such audit rights shall include audits of the other Party's costs, calculation of invoiced amounts, Transmission Owner's efforts to allocate responsibility for the provision of reactive support to the Transmission System, Transmission Owner's efforts to allocate responsibility for interruption or reduction of generation on the Transmission System, and each Party's actions in an Emergency Condition. Any audit authorized by this article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this LGIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

25.4 Audit Rights Periods.

25.4.1 Audit Rights Period for Construction-Related Accounts and Records.

Accounts and records related to the design, engineering, procurement, and construction of Transmission Owner's Interconnection Facilities and Network Upgrades shall be subject to audit for a period of twenty-four months following Transmission Owner's issuance of a final invoice in accordance with Article 12.2.

25.4.2 Audit Rights Period for All Other Accounts and Records.

Accounts and records related to each Party's performance or satisfaction of all obligations under this LGIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for

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an audit relating to cost obligations, the applicable audit rights period shall be twenty-four months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four months after the event for which the audit is sought.

25.5 Audit Results.

If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party together with those records from the audit which support such determination.

Article 26. Subcontractors

26.1 General.

Nothing in this LGIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this LGIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this LGIA in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

26.2 Responsibility of Principal.

The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this LGIA. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Transmission Owner be liable for the actions or inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this LGIA. Any applicable obligation imposed by this LGIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

26.3 No Limitation by Insurance.

The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

Article 27. Disputes

27.1 Submission.

In the event any Party has a dispute, or asserts a claim, that arises out of or in connection with this LGIA or its performance, such Party (the "disputing Party") shall provide the other Party with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the Party. In the event the

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designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

27.2 External Arbitration Procedures.

Any arbitration initiated under this LGIA shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, the Transmission Owner or the Interconnection Customer shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article 27, the terms of this Article 27 shall prevail.

27.3 Arbitration Decisions.

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of this LGIA and shall have no power to modify or change any provision of this Agreement in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

27.4 Costs.

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator

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chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or (2) one half the cost of the single arbitrator jointly chosen by the Parties.

Article 28. Representations, Warranties, and Covenants

28.1 General.

Each Party makes the following representations, warranties and covenants:

28.1.1 Good Standing.

Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Large Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this LGIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this LGIA.

28.1.2 Authority.

Such Party has the right, power and authority to enter into this LGIA, to become a Party hereto and to perform its obligations hereunder. This LGIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

28.1.3 No Conflict.

The execution, delivery and performance of this LGIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

28.1.4 Consent and Approval.

Such Party has sought or obtained, or, in accordance with this LGIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this LGIA, and it will provide to any Governmental Authority notice of any actions under this LGIA that are required by Applicable Laws and Regulations.

Article 29. Joint Operating Committee

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29.1 Joint Operating Committee.

Transmission Owner and Interconnection Customer shall constitute a Joint Operating Committee to coordinate operating and technical considerations of Interconnection Service. At least six (6) months prior to the expected Initial Synchronization Date, Interconnection Customer and Transmission Owner shall each appoint one representative and one alternate to the Joint Operating Committee. Each Interconnection Customer shall notify Transmission Owner of its appointment in writing. Such appointments may be changed at any time by similar notice. The Joint Operating Committee shall meet as necessary, but not less than once each calendar year, to carry out the duties set forth herein. The Joint Operating Committee shall hold a meeting at the request of each Party, at a time and place agreed upon by the representatives. The Joint Operating Committee shall perform all of its duties consistent with the provisions of this LGIA. Each Party shall cooperate in providing to the Joint Operating Committee all information required in the performance of the Joint Operating Committee's duties. All decisions and agreements, if any, made by the Joint Operating Committee, shall be evidenced in writing. The duties of the Joint Operating Committee shall include the following:

- 29.1.1** Establish data requirements and operating record requirements.
- 29.1.2** Review the requirements, standards, and procedures for data acquisition equipment, protective equipment, and any other equipment or software.
- 29.1.3** Annually review the one (1) year forecast of maintenance and planned outage schedules of Transmission Owner's and Interconnection Customer's facilities at the Point of Interconnection.
- 29.1.4** Coordinate the scheduling of maintenance and planned outages on the Interconnection Facilities, the Large Generating Facility and other facilities that impact the normal operation of the interconnection of the Large Generating Facility to the Transmission System.
- 29.1.5** Ensure that information is being provided by each Party regarding equipment availability.
- 29.1.6** Perform such other duties as may be conferred upon it by mutual agreement of the Parties.

Article 30. Miscellaneous

30.1 Binding Effect.

This LGIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

30.2 Conflicts.

In the event of a conflict between the body of this LGIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this LGIA shall prevail and be deemed the final intent of the Parties.

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30.3 Rules of Interpretation.

This LGIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this LGIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this LGIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this LGIA or such Appendix to this LGIA, or such Section to the LGIP or such Appendix to the LGIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this LGIA as a whole and not to any particular Article or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".

30.4 Entire Agreement.

This LGIA, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this LGIA. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this LGIA.

30.5 No Third Party Beneficiaries.

This LGIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

30.6 Waiver.

The failure of a Party to this LGIA to insist, on any occasion, upon strict performance of any provision of this LGIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

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Any waiver at any time by either Party of its rights with respect to this LGIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this LGIA. Termination or Default of this LGIA for any reason by Interconnection Customer shall not constitute a waiver of Interconnection Customer's legal rights to obtain an interconnection from Transmission Owner. Any waiver of this LGIA shall, if requested, be provided in writing.

30.7 Headings.

The descriptive headings of the various Articles of this LGIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this LGIA.

30.8 Multiple Counterparts.

This LGIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

30.9 Amendment.

The Parties may by mutual agreement amend this LGIA by a written instrument duly executed by the Parties.

30.10 Modification by the Parties.

The Parties may by mutual agreement amend the Appendices to this LGIA by a written instrument duly executed by the Parties. Such amendment shall become effective and a part of this LGIA upon satisfaction of all Applicable Laws and Regulations.

30.11 Reservation of Rights.

Transmission Owner shall have the right to make a unilateral filing with FERC to modify this LGIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this LGIA pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by any other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this LGIA shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

30.12 No Partnership.

This LGIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. A Party shall not have a right, power or authority to enter into any agreement or undertaking for, or

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act on behalf of, or to act as or be an agent or representative of, or to otherwise
bind, the other Party.

IN WITNESS WHEREOF, the Parties have executed this LGIA in duplicate originals,
each of which shall constitute and be an original effective Agreement between the Parties.

Louisville Gas & Electric and Kentucky Utilities Company

By: _____

Title: _____

Date: _____

Interconnection Customer

By: _____

Title: _____

Date: _____

Appendix A to LGIA
Interconnection Facilities, Network Upgrades and Distribution Upgrades

- 1. **Interconnection Facilities:**
 - (a) [insert Interconnection Customer’s Interconnection Facilities]:
 - (b) [insert Transmission Owner’s Interconnection Facilities]:

- 2. **Network Upgrades:**
 - (a) [insert Stand Alone Network Upgrades]:
 - (b) [insert Other Network Upgrades]:

- 3. **Distribution Upgrades:**

Appendix B to LGIA
Milestones

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In-Service Date: _____
 Critical milestones and responsibility as agreed to by the Parties:

Milestone/Date	Responsible Party
(1) _____	_____
(2) _____	_____
(3) _____	_____
(4) _____	_____
(5) _____	_____
(6) _____	_____
(7) _____	_____
(8) _____	_____
(9) _____	_____
(10) _____	_____

Agreed to by:

For the Transmission Owner _____ Date _____
 For the Interconnection Customer _____ Date _____

Appendix C to LGIA
Interconnection Details

Appendix D to LGIA
Security Arrangements Details

Infrastructure security of Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day Transmission System reliability and operational security. FERC will expect all public utilities, market participants, and Interconnection Customers interconnected to the Transmission System to comply with the recommendations offered by the President’s Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

Appendix E to LGIA
Commercial Operation Date

This Appendix E is a part of the LGIA between Transmission Owner and Interconnection Customer.

[Date]

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[Transmission Owner address]

Re: _____ Large Generating Facility

Dear _____:

On [Date] [Interconnection Customer] has completed Trial Operation of Unit No. ____.
This letter confirms that [Interconnection Customer] commenced Commercial Operation of Unit
No. ____ at the Large Generating Facility, effective as of [Date plus one day].

Thank you.

[Signature]

[Interconnection Customer Representative]

Appendix F to LGIA
Addresses for Delivery of Notices and Billings Notices:

Notices:

ITO:

[To be supplied.]

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Billings and Payments:

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Alternative Forms of Delivery of Notices (telephone, facsimile or email):

ITO:

[To be supplied.]

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Effective On: May 22, 2019

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**Appendix G to LGIA
Interconnection Requirements for a Wind Generating Plant**

Appendix G sets forth requirements and provisions specific to a wind generating plant. All other requirements of this LGIA continue to apply to wind generating plant interconnections.

A. Technical Standards Applicable to a Wind Generating Plant

i. Low Voltage Ride-Through (LVRT) Capability

A wind generating plant shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

Transition Period LVRT Standard

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) interconnection agreements signed and filed with the Commission, filed with the Commission in unexecuted form, or filed with the Commission as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) wind generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 - 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to pre-fault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by the

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Transmission Owner. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or “GSU”), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.

2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator, etc.) within the wind generating plant or by a combination of generator performance and additional equipment.
5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

Post-transition Period LVRT Standard

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All wind generating plants subject to FERC Order No. 661 and not covered by the transition period described above must meet the following requirements:

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 - 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to pre-fault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by the Transmission Owner. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system. A wind generating plant shall remain interconnected during such a fault on the transmission system for a voltage level as low as zero volts, as measured at the high voltage side of the wind GSU.
2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator) within the wind generating plant or by a combination of generator performance and additional equipment.

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5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

ii. Power Factor Design Criteria (Reactive Power)

The following reactive power requirements apply only to a newly interconnecting wind generating plant that has executed a Facilities Study Agreement as of the effective date of the Final Rule establishing the reactive power requirements for non-synchronous generators in section 9.6.1 of this LGIA (Order No. 827). A wind generating plant to which this provision applies shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this LGIA, if the ITO's System Impact Study shows that such a requirement is necessary to ensure safety or reliability. The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by the Transmission Owner, or a combination of the two. The Interconnection Customer shall not disable power factor equipment while the wind plant is in operation. Wind plants shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the System Impact Study shows this to be required for system safety or reliability.

iii. Supervisory Control and Data Acquisition (SCADA) Capability

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The wind plant shall provide SCADA capability to transmit data and receive instructions from the Transmission Owner to protect system reliability. The Transmission Owner and the wind plant Interconnection Customer shall determine what SCADA information is essential for the proposed wind plant, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

APPENDIX 7 TO LGIP

INTERCONNECTION PROCEDURES FOR A WIND GENERATING PLANT

Appendix G sets forth procedures specific to a wind generating plant. All other requirements of this LGIP continue to apply to wind generating plant interconnections.

A. Special Procedures Applicable to Wind Generators

The wind plant Interconnection Customer, in completing the Interconnection Request required by section 3.3 of this LGIP, may provide to the ITO a set of preliminary electrical design specifications depicting the wind plant as a single equivalent generator. Upon satisfying these and other applicable Interconnection Request conditions, the wind plant may enter the queue and receive the base case data as provided for in this LGIP.

No later than six months after submitting an Interconnection Request completed in this manner, the wind plant Interconnection Customer must submit completed detailed electrical design specifications and other data (including collector system layout data) needed to allow the ITO to complete the System Impact Study.

APPENDIX 8 TO LGIP

INTERIM INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and

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between _____, a organized and existing under the laws of the State of _____, ("Interconnection Customer,"), _____, a _____ organized and existing under the laws of the State of _____ ("Transmission Owner") and _____ a _____ existing under the laws of the State of _____, ("ITO "). Interconnection Customer and ITO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer has satisfied the requirements for requesting Interim Interconnection Service;

WHEREAS, Interconnection Customer desires to interconnect the Generating Facility with the Transmission System on an interim basis before all such required studies under the LGIP process can be completed;

WHEREAS, Interconnection Customer has requested ITO to perform an Interim SIS to assess the impact of interconnecting the Large Generating Facility to the Transmission System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Federal Energy Regulatory Commission (FERC)-approved LGIP.

2.0 Interconnection Customer elects and ITO shall cause to be performed an Interim SIS ("Study") consistent with Section 13 of the LGIP in accordance with the Tariff.

3.0 The scope of the Interim SIS shall be subject to the assumptions set forth in Attachment A to this Agreement.

4.0 The Interim SIS report shall provide the following information if the Interim SIS finds the requested Interim Interconnection Service cannot be provided:

- Identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
- Identification of any thermal overload or voltage limit violations resulting from the interconnection; and
- Identification of any instability or inadequately damped response to system disturbances

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resulting from the interconnection.

5.0 Interconnection Customer shall provide a deposit of \$50,000 (USD) for the performance of the Interim SIS. ITO's good faith estimate for the time of completion of the Interim SIS is [insert date].

Upon receipt of the Interim SIS, ITO shall charge and Interconnection Customer shall pay the actual costs of the Interim SIS.

Any difference between the deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

6.0 MISCELLANEOUS

6.1 OWNERSHIP OF RESULTS

Reports, summaries, plans and other documents arising out of this Agreement shall become the property of ITO and Transmission Owner. All studies, computer input and output data, planning, and material that forms the basis for determining the constraints on a project shall remain in the possession of ITO or Transmission Owner, provided that copies of all supporting documentation, workpapers, and Pre-Interconnection Request or Post-Interconnection Request power flow, short circuit, and stability databases for the Interim Interconnection System Impact Study shall be made available upon request to Customer at Customer's expense, subject to confidentiality arrangements consistent with Section 14.1 of the Large Generator Interconnection Procedures and Section 6.2 hereof and provided ITO has received Customer's payment in full for the Interim Interconnection System Impact Study in accordance with this Agreement.

6.2 NONDISCLOSURE OF INFORMATION

Each Party shall consider all information provided by another Party, and all supporting work papers resulting from performance of the Feasibility Study, to be proprietary unless such information is available from public sources. No Party shall publish or disclose proprietary information of another Party for any purpose without the prior written consent of that Party, provided, however, that another Party may disclose proprietary information to a federal or state regulatory body conducting an investigation, as may be required under the Transmission Owner's OATT, or as required by an applicable FERC Order. Information provided under this Agreement is provided on an "AS-IS" basis.

6.3 NOTICES

All notices hereunder shall be written and shall be delivered to the parties at the following addresses:

If to ITO:

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If to Transmission Owner:

If to Customer:

Such notices shall be deemed to have been served when personally delivered or upon receipt as evidenced by a U.S. Postal Service receipt of mail or evidence of delivery by a private express mail service.

6.4 CHOICE OF LAW

This Agreement shall be governed by the laws of the State of Kentucky, except with regard to its choice of law provisions.

6.5 INDEMNITY

Each Party shall at all times indemnify, defend, and save any other Party harmless from, any and all damages, losses, claims, including claims and actions relating to death of any person (including employees) or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from a Party's performance of its obligations under this Agreement, except in the cases of gross negligence or intentional wrongdoing by the Party who would have been indemnified. It shall be a condition to a Party's obligation to indemnify pursuant to this Section that it be given written notice of the obligation and in the case of claims demands or suits, an opportunity to defend, and the right to approve any settlement.

6.6 FORCE MAJEURE

Interconnection Customer, TO, and ITO shall not be liable or deemed in default for any delay or failure in performance of this Agreement resulting directly or indirectly from any cause beyond the control of that respective Party. Such causes shall include but not be limited to acts of God, civil or military authority, civil disturbance, war, strikes, fires, other catastrophes, or other 'force majeure' events beyond the respective Party's reasonable control. Provided, however, that this provision shall not preclude the respective Party from canceling or terminating this Agreement or

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any portion thereof regardless of any 'force majeure' event occurring to ITO or Transmission Owner, if ITO's or Transmission Owner's performance hereunder will be delayed thereby for a period in excess of sixty (60) days.

6.7 SEVERABILITY

No waiver of any breach of this Agreement shall constitute a waiver of any other breach of the same or any other provisions of this Agreement, and no waiver shall be effective unless granted in writing. In the event that any provision herein shall be illegal or unenforceable, such provision shall be severed from the Agreement. The entire Agreement shall not fail, but the balance of the Agreement shall continue in full force and effect.

6.8 ASSIGNMENT

Transmission Owner or ITO may assign all or part of its obligations under this Agreement to an entity authorized by the FERC to perform generation interconnection studies on behalf of Transmission Owner without further consent of the Customer.

6.9 AMENDMENT

This Agreement may be amended or modified only in a writing signed by all Parties.

6.10 VALIDITY AND EFFECT

This Agreement shall become effective and is conditioned upon the following two events:

- 1) Termination of any prior Interim Interconnection System Impact Study Agreement between Customer and Transmission Owner relating to the particular Interconnection Request which is the subject of this Agreement, and
- 2) Payment to ITO of the deposit for this study in the amount of \$50,000 (USD).

6.11 EXECUTION PROCESS

This Agreement shall be executed in triplicate by the Parties hereto, in the following order: Transmission Owner, Customer, and then ITO. Following execution by Transmission Owner, Transmission Owner shall return three (3) executed copies to ITO. Following execution by Customer, Customer shall return three (3) executed copies to ITO along with the designed deposit. ITO shall provide Transmission Owner and Customer a fully executed original document.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

APPROVED BY:

[Insert name of Transmission Owner]

By:
Name:
Title:
Date:

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[Insert name of Interconnection Customer]:

By:
Name:
Title:
Date:

TRANSERV INTERNATIONAL, INC.

By:
Name:
Title:
Date:

Attachment A To Appendix 8
Interim Interconnection System Impact
Study Agreement

ASSUMPTIONS USED IN CONDUCTING THE
INTERIM SYSTEM IMPACT STUDY

The Interim SIS will be based upon the information set forth in the Interim Generator Interconnection Request and the underlying Generator Interconnection Request and results of applicable prior studies, subject to any modifications in accordance with Section 4.4 of the LGIP, the assumptions regarding higher-queued interconnection customers detailed in Section 13 of the LGIP, and the following assumptions: Designation of Point of Interconnection and configuration to be studied.

Designation of alternative Point(s) of Interconnection and configuration.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and ITO]

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Appendix 9 to LGIP
INTERIM LARGE GENERATOR INTERCONNECTION AGREEMENT

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23.1 Each Party shall notify the other Parties, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Parties..... 55

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Appendix 9 to LGIP

INTERIM LARGE GENERATOR INTERCONNECTION AGREEMENT

THIS INTERIM LARGE GENERATOR INTERCONNECTION AGREEMENT ("Agreement") is made and entered into this ____ day of _____ 20__, by and between _____, a _____ organized and existing under the laws of the State/Commonwealth of _____ ("Interconnection Customer" with a Large Generating Facility), and _____, a _____ organized and existing under the laws of the State/Commonwealth of _____ ("Transmission Owner"). Interconnection Customer and Transmission Owner each may be referred to as a "Party" or collectively as the "Parties."

Recitals

WHEREAS, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Large Generating Facility in Appendix C to this Agreement; and,

WHEREAS, Interconnection Customer and Transmission Owner have agreed to enter into this Agreement for the purpose of providing Interim Interconnection Service ;

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NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

When used in this Standard Large Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used or in the Open Access Transmission Tariff (Tariff) Standard Large Generator Interconnection Procedures.

Article 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Owner's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Owner's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected.

Balancing Authority Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Balancing Authority Areas and contributing to frequency regulation of the interconnection. A Balancing Authority Area must be certified by the Applicable Reliability Council.

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Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the ITO, Transmission Owner or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday.

Clustering shall mean the process whereby a group of Generator Interconnection Requests is studied together, instead of serially, for the purpose of conducting the Interconnection System Impact Study.

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate

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interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of the Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Owner's Transmission System, Transmission Owner's Interconnection Facilities or the electric systems of others to which the Transmission Owner's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Owner's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or nonfirm capacity of the Transmission Owner's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Owner to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Generator Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force

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Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Generator Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Owner's Transmission System.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, ITO, Transmission Owner, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Higher-Queued Projects shall mean those projects specifically identified as "Higher Queued Projects" in Appendix A, exclusive of any such projects that are withdrawn, deemed to have been withdrawn, or are otherwise removed from the standard queue for Generator Interconnection Requests.

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Independent Transmission Organization shall mean the entity (referred to herein as the “ITO”) to which LG&E/KU have delegated the responsibility and authority to administer the Tariff.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Owner’s Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Owner or any of the Affiliates or subsidiaries of the Transmission Owner, that proposes to interconnect its Generating Facility with the Transmission Owner’s Transmission System.

Interconnection Customer’s Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of this Interim LGIA , that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Owner’s Transmission System. Interconnection Customer’s Interconnection Facilities are sole use facilities.

Interconnection Facilities shall mean the Transmission Owner’s Interconnection Facilities and the Interconnection Customer’s Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Owner’s Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Interconnection Facilities Study shall mean a study conducted for the Interconnection Customer by the Transmission Owner as directed, and subject to review by, the ITO, in order to determine a list of facilities (including Transmission Owner’s Interconnection Facilities and Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Owner’s Transmission System. The scope of the study is defined in Section 8 of the Standard Large Generator Interconnection Procedures.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 4 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

Interconnection Feasibility Study shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Transmission Owner’s Transmission System, the scope of which is described in Section 6 of the Standard Large Generator

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Interconnection Feasibility Study Agreement shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.

Interconnection Service shall mean the service approved by the ITO and provided by the Transmission Owner associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Owner's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Owner's Tariff.

Interconnection Study shall mean any of the following studies: the Interconnection Feasibility Study, the Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures.

Interconnection System Impact Study shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Transmission Owner's Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on the Adverse System Impacts identified in the Interconnection Feasibility Study, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Standard Large Generator Interconnection Procedures.

Interconnection System Impact Study Agreement shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection System Impact Study.

Interim Generator Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, for Interim Interconnection Service.

Interim Interconnection Service shall mean Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Owner's Transmission System and be eligible to deliver the Generating Facility's electric output on a temporary basis while the Interconnection Customer's Generator Interconnection Request is being processed through the LGIP.

Interim Interconnection System Impact Study ("Interim SIS") shall mean the study conducted in response to a request by an Interconnection Customer for Interim Interconnection Service.

Interim Interconnection System Impact Study Agreement shall mean the form of agreement

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contained in Appendix 7 of the Standard Large Generator Interconnection Procedures for conducting the Interim Interconnection System Impact Study.

Interim LGIA shall mean the agreement that governs the provision of Interim Interconnection Service.

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Owner to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Generator Interconnection Request with a later queue priority date.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Owner's Transmission System (1) in a manner comparable to that in which the Transmission Owner integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

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Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Owner's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Owner's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Owner's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

Optional Interconnection Study shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

Optional Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.

Party or Parties shall mean Transmission Owner, Interconnection Customer or any combination of the above.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Owner's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Owner's Transmission System.

Provisional Interconnection Service shall mean interconnection service approved by the ITO and provided by Transmission Owner associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Owner's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes.

Queue Position shall mean the order of a valid Generator Interconnection Request, relative to all other pending valid Generator Interconnection Requests, that is established based upon the date and time of receipt of the valid Generator Interconnection Request by the ITO.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and

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consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Reliability Coordinator shall mean the party charged with providing reliability coordination service for the Transmission Owner's system in accordance with Attachment P hereto.

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer, Transmission Owner, and ITO conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean documentation reasonably demonstrating: (1) ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Generating Facility; (2) an option to purchase or acquire a leasehold site for such purpose; or (3) an exclusivity or other business relationship between Interconnection Customer and the entity having the right to sell, lease or grant Interconnection Customer the right to possess or occupy a site for such purpose.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Owner and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Owner and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Owner must provide the Interconnection Customer a written technical explanation outlining why the Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Generator Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Owner's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Generator Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Owner's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

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System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Owner's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Owner's Transmission System or on other delivery systems or other generating systems to which the Transmission Owner's Transmission System is directly connected.

Tariff shall mean the Transmission Owner's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean LG&E/KU, the public utility operating companies.

Transmission Owner's Interconnection Facilities shall mean all facilities and equipment owned, controlled or operated by the Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to this Interim LGIA, including any modifications, additions or upgrades to such facilities and equipment. Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Transmission System shall mean the facilities owned and operated by the Transmission Owner that are used to provide transmission service under Part II and Part III of the Transmission Owner's Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Variable Energy Resource shall mean a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

Article 2. Effective Date, Term, and Termination

2.1. Effective Date.

This Interim LGIA shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC. Transmission Owner shall promptly file this Interim LGIA with FERC upon execution in accordance with Article 3.1, if required.

2.2. Term of Agreement

Subject to the provisions of Article 2.3, this Interim LGIA shall remain in effect until terminated pursuant to Section 2.3.

2.3. Termination Procedures

Effective On: May 22, 2019

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2.3.1. Written Notice.

This Interim LGIA may be terminated by Interconnection Customer after giving ITO and Transmission Owner ninety (90) Calendar Days advance written notice, or by Transmission Owner notifying FERC after the Generating Facility permanently ceases Commercial Operation.

2.3.2. This Interim LGIA shall terminate upon occurrence of one or more of the following events:

- (a) The Effective Date of a LGIA or Provisional LGIA regarding the Generating Facility that is the subject of this Interim LGIA that has been accepted by FERC and/or reported in Transmission Owner's Electric Quarterly Report;
- (b) The date of a FERC order rejecting an unexecuted LGIA or Provisional LGIA regarding the Generating Facility that is the subject of this Interim LGIA;
- (c) The date the Interconnection Customer's Generator Interconnection Request is deemed withdrawn pursuant to the LGIP;
- (d) The Interconnection Customer's failure to provide part or all of the required security pursuant to Article 11.5; or
- (e) A determination in accordance with Section 4.3.2 of this Interim LGIA, that the level of Interim Interconnection Service pursuant to this Interim LGIA is reduced to zero.

2.3.3. Default

Any Party may terminate this Interim LGIA in accordance with Article 17.

2.3.4. Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this Interim LGIA, which notice has been accepted for filing by FERC.

2.4. Termination Costs

If this Interim LGIA is terminated pursuant to Article 2.3.2(a), the cost responsibilities of Interconnection Customer and Transmission Owner pursuant to this Interim LGIA will be included in the standard LGIA or Provisional LGIA regarding the Generating Facility that is the subject of this Interim LGIA to the extent not satisfied during the term of this Interim LGIA.

If this Interim LGIA is terminated pursuant to Article 2.3 for any reason except as specified 2.3.2(a) or 2.3.2(e), each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges

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assessed by the other Parties, as of the date of the other Parties receipt of such notice of termination, that are the responsibility of the Terminating Party under this Interim LGIA. In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this Interim LGIA, unless otherwise ordered or approved by FERC:

2.4.1. With respect to any portion of Transmission Owner's Interconnection Facilities that have not yet been constructed or installed, Transmission Owner shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Owner shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Transmission Owner for any or all such costs of materials or equipment not taken by Interconnection Customer, Transmission Owner shall promptly refund such amounts to Interconnection Customer, less any costs, including penalties incurred by Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this Interim LGIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses Transmission Owner has incurred and that has not been reimbursed by Interconnection Customer.

2.4.2. Transmission Owner may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Transmission Owner shall be responsible for all costs associated with procuring such materials, equipment, or facilities.

2.4.3. With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this Interim LGIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

2.5. Disconnection or Limitation of Output

If this Interim LGIA is terminated pursuant to Article 2.3 and disconnection or limitation in generation output is required, then the Parties will take all appropriate steps to either disconnect the Generating Facility from the Transmission System or limit the amount of generation output that can be injected into the transmission system pursuant to Section 4.2, whichever is applicable.

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2.6. Survival

This Interim LGIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this Interim LGIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Interim LGIA was in effect; and to permit each Party to have access to the lands of another Party pursuant to this Interim LGIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment.

Article 3. Regulatory Filings

3.1. Filing

The Transmission Owner shall file this Interim LGIA (and any amendment hereto) with the appropriate Governmental Authority, if required. Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 22. If Interconnection Customer has executed this Interim LGIA, or any amendment thereto, Interconnection Customer shall reasonably cooperate with the Transmission Owner with respect to such filing and to provide any information reasonably requested by the Transmission Owner needed to comply with applicable regulatory requirements.

Article 4. Scope of Service

4.1. Interim Interconnection Service

Interim Interconnection Service is interconnection service that may be provided to an Interconnection Customer on a temporary and conditional basis while its Generator Interconnection Request is being processed through the LGIP, to the extent that the Generating Facility at issue will be completed and ready to interconnect before the LGIP study process has been completed or before required facility upgrades to accommodate the unit on a permanent basis have been constructed. Interim Interconnection Service is limited to service that may be provided and supported by the transmission system in its current configuration without the need for Network Upgrades. Only the construction of Transmission Owner Interconnection Facilities will be considered to accommodate Interim Interconnection Service. Interim Interconnection Service is subject to the conditions and limitations of Section 13.7 of the LGIP and Section 4.3 of this Interim LGIA.

4.2. Transmission Delivery Service Implications

The execution of this Interim LGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Owner's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery. A customer taking Interim Interconnection Service may qualify and operate its unit as a Designated Network Resource to the extent permitted by the Transmission Owner's Tariff.

4.3. Conditions of Interim Interconnection Service.

Interim Interconnection Service is subject to the following limitations.

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4.3.1. Output Limits. The Interconnection Customer taking Interim Interconnection Service is limited to the output level specified in Appendix A of the Interim LGIA. That output level shall be subject to the demands of higher-queued customers pursuant to Section 4.3.2.

4.3.2. Subject to Demands of Higher-Queued Customers. Interim Interconnection Service is limited by and subject to the requirements of Higher-Queued Customers. Because Interim Interconnection Service will not be modeled in Feasibility Studies, System Impact Studies, or Facilities Studies for Interconnection Service requests of higher-queued customers, Interim Interconnection Service may be limited, terminated or otherwise curtailed in whole or in part by the ITO to accommodate Interconnection Service granted to a higher-queued Interconnection Customer. If such a limitation, termination, or curtailment of Interconnection Service is necessary, the ITO shall provide as much notice to the Interconnection Customer taking Interim Interconnection Service as is reasonably practicable. Any reduction pursuant to this Section 4.3 will be based on the Queue Position priority of the Interconnection Customer's Generator Interconnection Request relative to the Queue Position priority of the Higher Queued Projects.

4.4. Performance Standards

Each Party shall perform all of its obligations under this Interim LGIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this Interim LGIA for its compliance therewith. If such Party is a Transmission Owner, then that Party shall amend the LGIA and submit the amendment to FERC for approval.

4.5. Interconnection Customer Provided Services

The services provided by Interconnection Customer under this Interim LGIA are set forth in Article 9.6 and Article 13.5.1. Interconnection Customer shall be paid for such services in accordance with Article 11.6.

Article 5. Interconnection Facilities Engineering, Procurement, and Construction

5.1. Options

Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select the In-Service Date, Initial Synchronization Date, and Commercial Operation Date; and either the Standard Option or Alternate Option set forth below and such dates and selected option shall be set forth in Appendix B, Milestones. At the same time, Interconnection Customer shall indicate whether it elects to exercise the Option to Build set forth in article 5.1.3 below. If the dates designated by Interconnection Customer are not acceptable to Transmission Owner, Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Transmission Owner, the Interconnection Customer shall notify Transmission

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Owner within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build.

5.1.1. Standard Option

Transmission Owner shall design, procure, and construct Transmission Owner's Interconnection Facilities using Reasonable Efforts to complete Transmission Owner's Interconnection Facilities by the dates set forth in Appendix B, Milestones. Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event Transmission Owner reasonably expects that it will not be able to complete Transmission Owner's Interconnection Facilities by the specified dates, Transmission Owner shall promptly provide written notice to Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.1.2. Alternate Option

If the dates designated by Interconnection Customer are acceptable to the Transmission Owner, Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days, and Transmission Owner shall assume responsibility for the design, procurement and construction of Transmission Owner's Interconnection Facilities by the designated dates.

5.1.3. Option to Build

Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2. Transmission Owner and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

5.1.4. Negotiated Option

If the dates designated by Interconnection Customer are not acceptable to Transmission Owner, the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates, the provision of incentives or the procurement and construction of all facilities other than Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under article 5.1.3). If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to article 5.1.1 (Standard Option), Transmission Owner shall assume responsibility for the design, procurement and construction of all facilities other than Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.

5.2. General Conditions Applicable to Option to Build

If Interconnection Customer assumes responsibility for the design, procurement and construction of Transmission Owner's Interconnection Facilities,

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(1) Interconnection Customer shall engineer, procure equipment, and construct Transmission Owner's Interconnection Facilities using Good Utility Practice and using standards and specifications provided in advance by Transmission Owner;

(2) Interconnection Customer's engineering, procurement and construction of Transmission Owner's Interconnection Facilities shall comply with all requirements of law to which Transmission Owner would be subject in the engineering, procurement or construction of Transmission Owner's Interconnection Facilities;

(3) Transmission Owner shall review and approve the engineering design, equipment acceptance tests, and the construction of Transmission Owner's Interconnection Facilities;

(4) prior to commencement of construction, Interconnection Customer shall provide to Transmission Owner with a schedule for construction of Transmission Owner's Interconnection Facilities, and shall promptly respond to requests for information from Transmission Owner;

(5) at any time during construction, Transmission Owner shall have the right to gain unrestricted access to Transmission Owner's Interconnection Facilities and to conduct inspections of the same;

(6) at any time during construction, should any phase of the engineering, equipment procurement, or construction of Transmission Owner's Interconnection Facilities not meet the standards and specifications provided by Transmission Owner, Interconnection Customer shall be obligated to remedy deficiencies in that portion of Transmission Owner's Interconnection Facilities;

(7) Interconnection Customer shall indemnify Transmission Owner for claims arising from Interconnection Customer's construction of Transmission Owner's Interconnection Facilities under the terms and procedures applicable to Article 18.1 Indemnity;

(8) Interconnection Customer shall transfer control of Transmission Owner's Interconnection Facilities to Transmission Owner;

(9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Transmission Owner's Interconnection Facilities to Transmission Owner;

(10) Transmission Owner shall approve and accept for operation and maintenance Transmission Owner's Interconnection Facilities to the extent engineered, procured, and constructed in accordance with this Article 5.2; and

(11) Interconnection Customer shall deliver to Transmission Owner "as-built"

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drawings, information, and any other documents that are reasonably required by Transmission Owner to assure that the Interconnection Facilities are built to the standards and specifications required by Transmission Owner.

(12) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, Interconnection Customer shall pay Transmission Owner the agreed upon amount of [\$ PLACEHOLDER] for Transmission Owner to execute the responsibilities enumerated to Transmission Owner under Article 5.2. Transmission Owner shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

5.3. Damages

The Parties agree that Interim Interconnection Service is provided on an as-available basis and in no instance will the Transmission Owner or ITO be liable to Transmission Customer for damages, actual or otherwise, for any failure to meet any agreed-upon date for construction of any facilities constructed to accommodate Interim Interconnection Service.

5.4. Power System Stabilizers

The Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with the guidelines and procedures established by the Applicable Reliability Council. Transmission Owner reserves the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Large Generating Facility. If the Large Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, Interconnection Customer shall immediately notify the Transmission Owner. The requirements of this paragraph shall not apply to wind generators.

5.5. Equipment Procurement

If responsibility for construction of Transmission Owner's Interconnection Facilities is to be borne by Transmission Owner, then Transmission Owner shall commence design of Transmission Owner's Interconnection Facilities and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

5.5.1. Transmission Owner has received written authorization to proceed with design and procurement from Interconnection Customer by the date specified in Appendix B, Milestones; and

5.5.2. Interconnection Customer has provided security to Transmission Owner in accordance with Article 11.5 by the dates specified in Appendix B, Milestones.

5.6. Construction Commencement

Transmission Owner shall commence construction of Transmission Owner's Interconnection Facilities for which it is responsible as soon as practicable after the following

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additional conditions are satisfied:

5.6.1. Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;

5.6.2. Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of Transmission Owner's Interconnection Facilities;

5.6.3. Transmission Owner has received written authorization to proceed with construction from Interconnection Customer by the date specified in Appendix B, Milestones; and

5.6.4. Interconnection Customer has provided security to Transmission Owner in accordance with Article 11.5 by the dates specified in Appendix B, Milestones.

5.7. Work Progress

The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time, request a progress report from the other Party. If, at any time, Interconnection Customer determines that the completion of Transmission Owner's Interconnection Facilities will not be required until after the specified In- Service Date, Interconnection Customer will provide written notice to Transmission Owner of such later date upon which the completion of Transmission Owner's Interconnection Facilities will be required.

5.8. Information Exchange

As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with Transmission Owner's Transmission System, and shall work diligently and in good faith to make any necessary design changes.

5.9. Other Interconnection Options

5.9.1 Limited Operation

5.9.2 Provisional Interconnection Service

Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities Transmission Owner may execute a Provisional Large Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Large Generator Interconnection Agreement with the Interconnection Customer for limited Interconnection Service at the discretion of Transmission Owner based upon an evaluation that will consider the results of available studies. The ITO shall determine, through

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available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Generating Facility or Transmission System. The ITO, in consultation with the Transmission Owner, shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Generating Facility are in place prior to the commencement of Interconnection Service from the Generating Facility. Where available studies indicate that such, Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Generating Facility are not currently in place, the ITO will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Generating Facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated annually and at the Interconnection Customer's expense. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Large Generator Interconnection Agreement and the Large Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

5.10. Interconnection Customer's Interconnection Facilities ('ICIF')

Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A.

5.10.1. Interconnection Customer's Interconnection Facility Specifications

Interconnection Customer shall submit to the Transmission Owner final specifications for review and comment as soon as practicable after the execution of this agreement. Transmission Owner shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Owner and comment on such specifications as soon as practicable after Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

5.10.2. Transmission Owner's Review

Transmission Owner's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Large Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Transmission Owner, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Owner.

5.10.3. ICIF Construction

The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the

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Parties agree on another mutually acceptable deadline, Interconnection Customer shall deliver to Transmission Owner "as-built" drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Large Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with Interconnection Customer's step-up transformers, the facilities connecting the Large Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Large Generating Facility. The Interconnection Customer shall provide Transmission Owner specifications for the excitation system, automatic voltage regulator, Large Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

5.11. Transmission Owner's Interconnection Facilities Construction

Transmission Owner's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Transmission Owner shall deliver to Interconnection Customer the following "as-built" drawings, information and documents for Transmission Owner's Interconnection Facilities [include appropriate drawings and relay diagrams].

Transmission Owner will obtain control of Transmission Owner's Interconnection Facilities upon completion of such facilities.

5.12. Access Rights

Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish at no cost to the other Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Large Generating Facility with the Transmission System; (ii) operate and maintain the Large Generating Facility, the Interconnection Facilities and the Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this Interim LGIA. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

5.13. Lands of Other Property Owners

If any part of Transmission Owner's Interconnection Facilities is to be installed on property owned by persons other than Interconnection Customer or Transmission Owner, Transmission Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates,

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including use of its eminent domain authority, and to the extent consistent with state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove Transmission Owner's Interconnection Facilities upon such property.

5.14. Permits

Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses, and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Transmission Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to Transmission Owner's own, or an Affiliate's generation.

5.15. [RESERVED]

5.16. [RESERVED]

5.17. Taxes

5.17.1. Interconnection Customer Payments Not Taxable

The Parties intend that all payments or property transfers made by Interconnection Customer to Transmission Owner for the installation of Transmission Owner's Interconnection Facilities shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

5.17.2. Representations and Covenants

In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Large Generating Facility will pass to another party prior to the transmission of the electricity on the Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to Transmission Owner for Transmission Owner's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of Transmission Owner's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Large Generating Facility. For this purpose, "de minimis amount" means no more than 5 percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 88-129. This is not intended to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for nontaxable treatment.

At Transmission Owner's request, Interconnection Customer shall provide Transmission Owner with a report from an independent engineer confirming its representation in clause (iii), above.

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Transmission Owner represents and covenants that the cost of Transmission Owner's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

5.17.3. Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Owner

Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Transmission Owner from the cost consequences of any current tax liability imposed against Transmission Owner as the result of payments or property transfers made by Interconnection Customer to Transmission Owner under this Interim LGIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Transmission Owner.

Transmission Owner shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this Interim LGIA unless (i) Transmission Owner has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Transmission Owner should be reported as income subject to taxation or (ii) any Governmental Authority directs Transmission Owner to report payments or property as income subject to taxation; provided, however, that Transmission Owner may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Transmission Owner (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Transmission Owner for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Transmission Owner of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten year testing period and the applicable statute of limitation, as it may be extended by Transmission Owner upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

5.17.4. Tax Gross-Up Amount.

Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Transmission Owner, in addition to the amount paid for the Interconnection Facilities, an amount equal to (1) the current taxes imposed on Transmission Owner ("Current Taxes") on the excess of (a) the gross income realized by Transmission Owner as a result of payments or property transfers made by Interconnection Customer to Transmission Owner under this Interim LGIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount

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sufficient to permit Transmission Owner to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) Current Taxes shall be computed based on Transmission Owner's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Owner will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Transmission Owner's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Owner's current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows: $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$. Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A.

5.17.5. Private Letter Ruling or Change or Clarification of Law

At Interconnection Customer's request and expense, Transmission Owner shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Transmission Owner under this Interim LGIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Transmission Owner and Interconnection Customer shall cooperate in good faith with respect to the submission of such request.

Transmission Owner shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Owner shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.17.6. Subsequent Taxable Events

If, within 10 years from the date on which the relevant Transmission Owner's Interconnection Facilities are placed in service, (i) Interconnection Customer Breaches the covenants contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii) this Interim LGIA terminates and Transmission Owner retains ownership of the Interconnection Facilities, Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Transmission Owner, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

5.17.7. Contests

In the event any Governmental Authority determines that Transmission Owner's receipt of

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payments or property constitutes income that is subject to taxation, Transmission Owner shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Transmission Owner may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Transmission Owner may file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Transmission Owner reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Transmission Owner shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.

Interconnection Customer shall pay to Transmission Owner on a periodic basis, as invoiced by Transmission Owner, Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Transmission Owner may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Transmission Owner, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Transmission Owner for the tax at issue in the contest.

5.17.8. Refund

In the event that (a) a private letter ruling is issued to Transmission Owner which holds that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Owner under the terms of this Interim LGIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Transmission Owner in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Owner under the terms of this Interim LGIA is not taxable to Transmission Owner, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Transmission Owner are not subject to federal income tax, or (d) if Transmission Owner receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Transmission Owner pursuant to this Interim LGIA, Transmission Owner shall promptly refund to Interconnection Customer the following:

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(i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,

(ii) interest on any amounts paid by Interconnection Customer to Transmission Owner for such taxes which Transmission Owner did not submit to the taxing authority, calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR §35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Transmission Owner refunds such payment to Interconnection Customer, and

(iii) with respect to any such taxes paid by Transmission Owner, any refund or credit Transmission Owner receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to Transmission Owner for such overpayment of taxes (including any reduction in interest otherwise payable by Transmission Owner to any Governmental Authority resulting from an offset or credit); provided, however, that Transmission Owner will remit such amount promptly to Interconnection Customer only after and to the extent that Transmission Owner has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to Transmission Owner's Interconnection Facilities.

The intent of this provision is to leave the Parties, to the extent practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities hereunder, in the same position they would have been in had no such tax payments been made.

5.17.9. Taxes Other Than Income Taxes

Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Transmission Owner may appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Owner for which Interconnection Customer may be required to reimburse Transmission Owner under the terms of this Interim LGIA. Interconnection Customer shall pay to Transmission Owner on a periodic basis, as invoiced by Transmission Owner, Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest.

Interconnection Customer and Transmission Owner shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Transmission Owner for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Owner.

5.18. Tax Status

Each Party shall cooperate with the other Parties to maintain the other Parties tax status. Nothing in this Interim LGIA is intended to adversely affect any Transmission Owner's tax exempt status with respect to the issuance of bonds including, but not limited to, Local

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5.19. Modification

5.19.1. General

Each Party may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, that Party shall provide to the other Party sufficient information regarding such modification so that the other Party may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be confidential hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Large Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Large Generating Facility modifications that do not require Interconnection Customer to submit an Generator Interconnection Request, ITO shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Transmission System, or Transmission Owner's Interconnection Facilities necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

5.19.2. Standards

Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed and operated in accordance with this Interim LGIA and Good Utility Practice.

5.19.3. Modification Costs

Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Transmission Owner makes to Transmission Owner's Interconnection Facilities or the Transmission System to facilitate the interconnection of a third party to Transmission Owner's Interconnection Facilities or the Transmission System, or to provide transmission service to a third party under Transmission Owner's Tariff.

Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

Article 6. Testing and Inspection

6.1. Pre-Commercial Operation Date Testing and Modifications

Prior to the Commercial Operation Date, Transmission Owner shall test Transmission Owner's Interconnection Facilities and Interconnection Customer shall test the

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Large Generating Facility and Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Large Generating Facility only if it has arranged for the delivery of such test energy.

6.2. Post-Commercial Operation Date Testing and Modifications

Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Large Generating Facility with the Transmission System in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.

6.3. Right to Observe Testing

Each Party shall notify the other Parties in advance of its performance of tests of its Interconnection Facilities. The other Parties have the right, at their own expense, to observe such testing.

6.4. Right to Inspect

Each Party shall have the right, but shall have no obligation to: (i) observe another Party's tests and/or inspection of any of its System Protection Facilities and other protective equipment, including Power System Stabilizers; (ii) review the settings of another Party's System Protection Facilities and other protective equipment; and (iii) review another Party's maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Parties. The exercise or nonexercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this Interim LGIA.

Article 7. Metering

7.1. General

Each Party shall comply with the Applicable Reliability Council requirements. Unless otherwise agreed by the Parties, Transmission Owner shall install Metering Equipment at the Point of Interconnection prior to any operation of the Large Generating Facility and shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Large Generating Facility shall be measured at or, at Transmission Owner's option, compensated to, the Point of Interconnection. Transmission Owner shall provide metering quantities, in analog

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and/or digital form, to Interconnection Customer upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

7.2. Check Meters

Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check Transmission Owner's meters. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this Interim LGIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Owner or its designee. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.

7.3. Standards

Transmission Owner shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards.

7.4. Testing of Metering Equipment

Transmission Owner shall inspect and test all Transmission Owner-owned Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by Interconnection Customer, Transmission Owner shall, at Interconnection Customer's expense, inspect or test Metering Equipment more frequently than every two (2) years. Transmission Owner shall give reasonable notice of the time when any inspection or test shall take place, and Interconnection Customer may have representatives present at the test or inspection. If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to Transmission Owner's failure to maintain, then Transmission Owner shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent from the measurement made by the standard meter used in the test, Transmission Owner shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using Interconnection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last previous test of the Metering Equipment.

7.5. Metering Data

At Interconnection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Owner and one or more locations designated by Interconnection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Large Generating Facility to the Point of Interconnection.

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Article 8. Communications

8.1. Interconnection Customer Obligations

Interconnection Customer shall maintain satisfactory operating communications with Transmission Owner's Transmission System dispatcher or representative designated by Transmission Owner. Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Large Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Interconnection Customer shall also provide the dedicated data circuit(s) necessary to provide Interconnection Customer data to Transmission Owner as set forth in Appendix D, Security Arrangements Details. The data circuit(s) shall extend from the Large Generating Facility to the location(s) specified by Transmission Owner. Any required maintenance of such communications equipment shall be performed by Interconnection Customer. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data.

8.2. Remote Terminal Unit

Prior to the Initial Synchronization Date of the Large Generating Facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the Parties, shall be installed by Interconnection Customer, or by Transmission Owner at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by Transmission Owner through use of a dedicated point-to-point data circuit(s) as indicated in Article 8.1. The communication protocol for the data circuit(s) shall be specified by Transmission Owner. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by Transmission Owner.

Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

8.3. No Annexation

Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

8.4 Provision of Data from a Variable Energy Resource

The Interconnection Customer whose Generating Facility is a Variable Energy Resource shall provide meteorological and forced outage data to the Transmission Owner to the extent necessary for the Transmission Owner's development and deployment of power production forecasts for that class of Variable Energy Resources. The Interconnection Customer with a Variable Energy Resource having wind as the energy source, at a minimum, will be

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required to provide the Transmission Owner with site-specific meteorological data including: temperature, wind speed, wind direction, and atmospheric pressure. The Interconnection Customer with a Variable Energy Resource having solar as the energy source, at a minimum, will be required to provide the Transmission Owner with site-specific meteorological data including: temperature, atmospheric pressure, and irradiance. The Transmission Owner and Interconnection Customer whose Generating Facility is a Variable Energy Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. The Interconnection Customer whose Generating Facility is a Variable Energy Resource also shall submit data to the Transmission Owner regarding all forced outages to the extent necessary for the Transmission Owner's development and deployment of power production forecasts for that class of Variable Energy Resources. The exact specifications of the meteorological and forced outage data to be provided by the Interconnection Customer to the Transmission Owner, including the frequency and timing of data submittals, shall be made taking into account the size and configuration of the Variable Energy Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Owner. Such requirements for meteorological and forced outage data are set forth in Appendix C, Interconnection Details, of this Interim LGIA, as they may change from time to time.

Article 9. Operations

9.1. General

Each Party shall comply with the Applicable Reliability Council requirements. Each Party shall provide to the other Party all information that may reasonably be required by the other Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.

9.2. Balancing Authority Area Notification

At least three months before Initial Synchronization Date, Interconnection Customer shall notify ITO in writing of the Balancing Authority Area in which the Large Generating Facility will be located. If Interconnection Customer elects to locate the Large Generating Facility in a Balancing Authority Area other than the Balancing Authority Area in which the Large Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this Interim LGIA, and remote Balancing Authority Area generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented prior to the placement of the Large Generating Facility in the other Balancing Authority Area.

9.3. Transmission Owner Obligations

Transmission Owner shall cause the Transmission System and Transmission Owner's Interconnection Facilities to be operated, maintained and controlled in a safe and

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reliable manner and in accordance with this Interim LGIA. Transmission Owner may provide operating instructions to Interconnection Customer consistent with this Interim LGIA and Transmission Owner's operating protocols and procedures as they may change from time to time. Transmission Owner will consider changes to its operating protocols and procedures proposed by Interconnection Customer.

9.4. Interconnection Customer Obligations

Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this Interim LGIA. Interconnection Customer shall operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of the Balancing Authority Area of which it is part, as such requirements are set forth in Appendix C, Interconnection Details, of this Interim LGIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Either Party may request that the other Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this Interim LGIA.

9.5. Start-Up and Synchronization

Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Large Generating Facility to Transmission Owner's Transmission System.

9.6. Reactive Power and Primary Frequency Response

9.6.1. Power Factor Design Criteria

9.6.1.1 Synchronous Generation

Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Owner has established different requirements that apply to all synchronous generators in the Balancing Authority Area on a comparable basis.

9.6.1.2 Non-Synchronous Generation

Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Owner has established a different power factor range that applies to all non-synchronous generators in the Balancing Authority Area on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting non-synchronous generators that have not yet executed a

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Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).

9.6.2. Voltage Schedules

Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Transmission Owner shall require Interconnection Customer to operate the Large Generating Facility to produce or absorb reactive power within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). Transmission Owner's voltage schedules shall treat all sources of reactive power in the Balancing Authority Area in an equitable and not unduly discriminatory manner. Transmission Owner shall exercise Reasonable Efforts to provide Interconnection Customer with such schedules at least one (1) day in advance, and may make changes to such schedules as necessary to maintain the reliability of the Transmission System. Interconnection Customer shall operate the Large Generating Facility to maintain the specified output voltage or power factor at the Point of Interconnection within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). If Interconnection Customer is unable to maintain the specified voltage or power factor, it shall promptly notify the System Operator.

9.6.2.1. Voltage Regulators

Whenever the Large Generating Facility is operated in parallel with the Transmission System and voltage regulators are capable of operation, Interconnection Customer shall operate the Large Generating Facility with its speed governors and voltage regulators in automatic operation. If the Large Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Owner, or its designated representative, and ensure that such Large Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Large Generating Facility's generating unit(s) and steady state stability limits. Interconnection Customer shall not cause its Large Generating Facility to disconnect automatically or instantaneously from the Transmission System or trip any generating unit comprising the Large Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Balancing Authority Area on a comparable basis.

9.6.3. Payment for Reactive Power

Transmission Owner is required to pay Interconnection Customer for reactive power that Interconnection Customer provides or absorbs from the Large Generating Facility when Transmission Owner requests Interconnection Customer to operate its Large Generating Facility outside the range specified in Article 9.6.1, provided that if Transmission Owner pays its own or affiliated generators for reactive power service within the specified range, Transmission Owner must also pay Interconnection Customer. Payments shall be pursuant to Article 11.6 or such other agreement to which the Parties have otherwise agreed.

9.6.4 Primary Frequency Response.

Interconnection Customer shall ensure the primary frequency response capability of its Large

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Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Large Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Large Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Large Generating Facility’s real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Large Generating Facility’s real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Owner that the primary frequency response capability of the Large Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Interconnection Customer shall operate the Large Generating Facility consistent with the provisions specified in Sections 9.6.4.1 and 9.6.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Large Generating Facilities.

9.6.4.1 Governor or Equivalent Controls.

Whenever the Large Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Large Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1), in coordination with Transmission Owner and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Owner and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Large Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Owner and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is

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currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Large Generating Facility's governor or equivalent controls to a minimum whenever the Large Generating Facility is operated in parallel with the Transmission System.

9.6.4.2 Timely and Sustained Response.

Interconnection Customer shall ensure that the Large Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Large Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ~~and~~ ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Large Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

9.6.4.3 Exemptions.

Large Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Sections 9.6.4, 9.6.4.1, and 9.6.4.2 of this Agreement. Large Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Section 9.6.4, but shall be otherwise exempt from the operating requirements in Sections 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this Agreement.

9.6.4.4 Electric Storage Resources.

Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Appendix C of its LGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Sections 9.6.4, 9.6.4.1, 9.6.4.2 and 9.6.4.3 of this Agreement. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to

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manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Owner and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Section 9.6.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

9.7. Outages and Interruptions

9.7.1. Outages

9.7.1.1. Outage Authority and Coordination

Each Party may in accordance with Good Utility Practice in coordination with the other Parties remove from service any of its respective Interconnection Facilities that may impact the other Parties facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent an Emergency Condition, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to schedule such removal on a date and time mutually acceptable to the Parties. In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Parties of such removal.

9.7.1.2. Outage Schedules

ITO shall post scheduled outages of the transmission facilities on the OASIS. Interconnection Customer shall submit its planned maintenance schedules for the Large Generating Facility to ITO for a minimum of a rolling twenty-four month period. Interconnection Customer shall update its planned maintenance schedules as necessary. ITO may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Transmission System; provided, however, adequacy of generation supply shall not be a criterion in determining Transmission System reliability. Transmission Owner shall compensate Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would

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have incurred absent Transmission Owner's request to reschedule maintenance. Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance activities.

9.7.1.3. Outage Restoration

If an outage on a Party's Interconnection Facilities or Network Upgrades adversely affects the another Party's operations or facilities, the Party that owns or controls the facility that is out of service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. The Party that owns or controls the facility that is out of service shall provide the other Parties, to the extent such information is known, information on the nature of the Emergency Condition, an estimated time of restoration, and any corrective actions required. Initial verbal notice shall be followed up as soon as practicable with written notice explaining the nature of the outage.

9.7.2. Interruption of Service

If required by Good Utility Practice to do so or if permitted or required by Section 4.2, Transmission Owner may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Transmission Owner's ability to perform such activities as are necessary to safely and reliably operate and maintain the Transmission System. The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2, except any limitation or termination of Interim Interconnection Service permitted or required by Section 4.2:

9.7.2.1. The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

9.7.2.2. Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Transmission System;

9.7.2.3. When the interruption or reduction must be made under circumstances which do not allow for advance notice, Transmission Owner shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. Telephone notification shall be followed by written notification as soon as practicable;

9.7.2.4. Except during the existence of an Emergency Condition, when the interruption or reduction can be scheduled without advance notice, Transmission Owner or Reliability Coordinator shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify Interconnection Customer of the expected duration. Transmission Owner shall coordinate with Interconnection Customer using Good Utility Practice to schedule the interruption or reduction during periods of least impact to Interconnection Customer and Transmission Owner;

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9.7.2.5. The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Large Generating Facility, Interconnection Facilities, and the Transmission System to their normal operating state, consistent with system conditions and Good Utility Practice.

9.7.3. Under-Frequency and Over Frequency Conditions
The Transmission System is designed to automatically activate a loadshed program as required by the Applicable Reliability Council in the event of an under-frequency system disturbance. Interconnection Customer shall implement under-frequency and over-frequency relay set points for the Large Generating Facility as required by the Applicable Reliability Council to ensure "ride through" capability of the Transmission System. Large Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with Transmission Owner in accordance with Good Utility Practice. The term "ride through" as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice.

9.7.4. System Protection and Other Control Requirements

9.7.4.1. System Protection Facilities
Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Owner shall install at Interconnection Customer's expense any System Protection Facilities that may be required on Transmission Owner's Interconnection Facilities or the Transmission System as a result of the interconnection of the Large Generating Facility and Interconnection Customer's Interconnection Facilities.

9.7.4.2. Each Party's protection facilities shall be designed and coordinated with other systems in accordance with Good Utility Practice.

9.7.4.3. Each Party shall be responsible for protection of its facilities consistent with Good Utility Practice.

9.7.4.4. Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of Interconnection Customer's units.

9.7.4.5. Each Party will test, operate and maintain System Protection Facilities in accordance with Good Utility Practice.

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9.7.4.6. Prior to the In-Service Date, and again prior to the Commercial Operation Date, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, each Party shall perform both calibration and functional trip tests of its System Protection Facilities. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated.

9.7.5. Requirements for Protection

In compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Large Generating Facility to any short circuit occurring on the Transmission System not otherwise isolated by Transmission Owner's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the Transmission System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Large Generating Facility and the Transmission System at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Large Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or undervoltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Large Generating Facility and Interconnection Customer's other equipment if conditions on the Transmission System could adversely affect the Large Generating Facility.

9.7.6. Power Quality

No Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric industry standard, ANSI Standard C84.1-1989, or the applicable superseding electric industry standard, shall control.

9.8. Switching and Tagging Rules

Each Party shall provide the other Parties a copy of its switching and tagging rules that are applicable to the other Parties activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

9.9. Use of Interconnection Facilities by Third Parties

9.9.1. Purpose of Interconnection Facilities

Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to

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among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Large Generating Facility to the Transmission System and shall be used for no other purpose.

9.9.2. Third Party Users

If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use Transmission Owner's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Transmission Owner, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Transmission Owner, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to FERC for resolution.

9.10. Disturbance Analysis Data Exchange

The Parties will cooperate with one another in the analysis of disturbances to either the Large Generating Facility or Transmission Owner's Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice.

Article 10. Maintenance

10.1. Transmission Owner Obligations

Transmission Owner shall maintain the Transmission System and Transmission Owner's Interconnection Facilities in a safe and reliable manner and in accordance with this Interim LGIA.

10.2. Interconnection Customer Obligations

Interconnection Customer shall maintain the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this Interim LGIA.

10.3. Coordination

The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Large Generating Facility and the Interconnection Facilities.

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10.4. Secondary Systems

Each Party shall cooperate with the other Parties in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Parties. Each Party shall provide advance notice to the other Parties before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

10.5. Operating and Maintenance Expenses

Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Transmission Owner's Interconnection Facilities.

Article 11. Performance Obligation

11.1. Interconnection Customer Interconnection Facilities

Interconnection Customer shall design, procure, construct, install, own and/or control Interconnection Customer Interconnection Facilities described in Appendix A at its sole expense.

11.2. Transmission Owner's Interconnection Facilities

Transmission Owner or Transmission Owner shall design, procure, construct, install, own and/or control the Transmission Owner's Interconnection Facilities described in Appendix A, at the sole expense of the Interconnection Customer.

11.3. [RESERVED]

11.4. [RESERVED]

11.5. Provision of Security

At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of a Transmission Owner's Interconnection Facilities Interconnection Customer shall provide Transmission Owner, at Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1. Such security for payment shall be in an amount sufficient to cover the costs for constructing, procuring and installing the applicable portion of Transmission Owner's Interconnection Facilities and shall be reduced on a dollar-for-

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dollar basis for payments made to Transmission Owner for these purposes.

In addition:

11.5.1. The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Owner, and contain terms and conditions that guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.

11.5.2. The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.

11.5.3. The surety bond must be issued by an insurer reasonably acceptable to Transmission Owner and must specify a reasonable expiration date.

11.6. Interconnection Customer Compensation

If Transmission Owner requests or directs Interconnection Customer to provide a service pursuant to Articles 9.6.3 (Payment for Reactive Power), or 13.5.1 of this Interim LGIA, Transmission Owner shall compensate Interconnection Customer in accordance with Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to an RTO or ISO FERC-approved rate schedule. Interconnection Customer shall serve Transmission Owner or RTO or ISO with any filing of a proposed rate schedule at the time of such filing with FERC. To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb any Reactive Power under this Interim LGIA, Transmission Owner agrees to compensate Interconnection Customer in such amount as would have been due Interconnection Customer had the rate schedule been in effect at the time service commenced; provided, however, that such rate schedule must be filed at FERC or other appropriate Governmental Authority within sixty (60) Calendar Days of the commencement of service.

**11.6.1. Interconnection Customer Compensation for Actions During
Emergency Condition**

Transmission Owner or RTO or ISO shall compensate Interconnection Customer for its provision of real and reactive power and other Emergency Condition services that Interconnection Customer provides to support the Transmission System during an Emergency Condition in accordance with Article 11.6.

Article 12. Invoice

12.1. General

Each Party shall submit to another Party, on a monthly basis, invoices of amounts due for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case

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all amounts a Party owes to another Party under this Interim LGIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

12.2. Final Invoice

Within six months after completion of the construction of Transmission Owner's Interconnection Facilities, Transmission Owner shall provide an invoice of the final cost of the construction of Transmission Owner's Interconnection Facilities and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Owner shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

12.3. Payment

Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by any Party will not constitute a waiver of any rights or claims either Party may have under this Interim LGIA.

12.4. Disputes

In the event of a billing dispute between Transmission Owner and Interconnection Customer, Transmission Owner shall continue to provide Interconnection Service under this Interim LGIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Transmission Owner or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Owner may provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated in accord with the methodology set forth in FERC's regulations at 18 CFR § a(a)(2)(iii).

Article 13. Emergencies

13.1. Definition

"Emergency Condition" shall mean a condition or situation: (i) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (ii) that, in the case of Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Owner's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (iii) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory

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manner) to cause a material adverse effect on the security of, or damage to, the Large Generating Facility or Interconnection Customer's Interconnection Facilities' System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by this Interim LGIA to possess black start capability.

13.2. Obligations

Each Party shall comply with the Emergency Condition procedures of the applicable Reliability Coordinator, NERC, the Applicable Reliability Council, Applicable Laws and Regulations, and any emergency procedures agreed to by the Joint Operating Committee.

13.3. Notice

Transmission Owner shall notify Interconnection Customer promptly when it becomes aware of an Emergency Condition that affects Transmission Owner's Interconnection Facilities or the Transmission System that may reasonably be expected to affect Interconnection Customer's operation of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Interconnection Customer shall notify Transmission Owner promptly when it becomes aware of an Emergency Condition that affects the Large Generating Facility or Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the Transmission System or Transmission Owner's Interconnection Facilities. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Transmission Owner's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.

13.4. Immediate Action

Unless, in Interconnection Customer's reasonable judgment, immediate action is required, Interconnection Customer shall obtain the consent of Transmission Owner, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Large Generating Facility or Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by Transmission Owner or otherwise regarding the Transmission System.

13.5. Reliability Coordinator's Authority

13.5.1. General

Reliability Coordinator may take whatever actions or inactions with regard to the Transmission System or Transmission Owner's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Transmission System or Transmission Owner's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service

Reliability Coordinator shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Large Generating Facility or Interconnection Customer's Interconnection

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Facilities. Reliability Coordinator may, on the basis of technical considerations, require the Large Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Large Generating Facility; implementing a reduction or disconnection pursuant to Article 13.5.2; directing Interconnection Customer to assist with blackstart (if available) or restoration efforts; or altering the outage schedules of the Large Generating Facility and Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of Reliability Coordinator's operating instructions concerning Large Generating Facility real power and reactive power output within the manufacturer's design limitations of the Large Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

13.5.2. Reduction and Disconnection

Reliability Coordinator may reduce Interim Interconnection Service or disconnect the Large Generating Facility or Interconnection Customer's Interconnection Facilities, when such, reduction or disconnection is necessary under Good Utility Practice due to Emergency Conditions. These rights are separate and distinct from any right of curtailment of Transmission Owner pursuant to Transmission Owner's Tariff. When Transmission Owner can schedule the reduction or disconnection in advance, Transmission Owner shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. Transmission Owner shall coordinate with Interconnection Customer using Good Utility Practice to schedule the reduction or disconnection during periods of least impact to Interconnection Customer and Transmission Owner. Any reduction or disconnection shall continue only for so long as reasonably necessary under Good Utility Practice. The Parties shall cooperate with each other to restore the Large Generating Facility, the Interconnection Facilities, and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

13.6. Interconnection Customer Authority

Consistent with Good Utility Practice and the LGIA and the LGIP, Interconnection Customer may take actions or inactions with regard to the Large Generating Facility or Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Large Generating Facility or Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Transmission System and Transmission Owner's Interconnection Facilities. Transmission Owner shall use Reasonable Efforts to assist Interconnection Customer in such actions.

13.7. Limited Liability

Except as otherwise provided in Article 11.6.1 of this Interim LGIA, neither Party shall be liable to the other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and is consistent with Good Utility Practice.

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Article 14. Regulatory Requirements and Governing Law

14.1. Regulatory Requirements

Each Party's obligations under this Interim LGIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this Interim LGIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978.

14.2. Governing Law

14.2.1. The validity, interpretation and performance of this Interim LGIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.

14.2.2. This Interim LGIA is subject to all Applicable Laws and Regulations.

14.2.3. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

Article 15. Notices.

15.1. General

Unless otherwise provided in this Interim LGIA, any notice, demand or request required or permitted to be given by a Party to another Party and any instrument required or permitted to be tendered or delivered by any Party in writing to the other shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for Delivery of Notices and Billings.

Each Party may change the notice information in this Interim LGIA by giving five (5) Business Days written notice prior to the effective date of the change.

15.2. Billings and Payments

Billings and payments shall be sent to the addresses set out in Appendix F.

15.3. Alternative Forms of Notice

Any notice or request required or permitted to be given by a Party to another and

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not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

15.4. Operations and Maintenance Notice

Each Party shall notify another Party in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

Article 16. Force Majeure

16.1. Force Majeure.

16.1.1. Economic hardship is not considered a Force Majeure event.

16.1.2. A Party shall be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

Article 17. Default

17.1. Default

17.1.1. General

No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this Interim LGIA or the result of an act of omission of the other Party. Upon a Breach, the non-breaching Party shall give written notice of such Breach to the breaching Party. Except as provided in Article 17.1.2, the breaching Party shall have thirty (30) Calendar Days from receipt of the Default notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Default notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

17.1.2. Right to Terminate

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If a Breach is not cured as provided in this article, or if a Breach is not capable of being cured within the period provided for herein, the nonbreaching Party shall have the right to declare a Default and terminate this Interim LGIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Interim LGIA, to recover from the breaching Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this Interim LGIA.

Article 18. Indemnity, Consequential Damages and Insurance

18.1. Indemnity

The Parties shall at all times indemnify, defend, and hold the other Parties harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from another Party's action or inactions of its obligations under this Interim LGIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

18.1.1. Indemnified Person

If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

18.1.2. Indemnifying Party

If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

18.1.3. Indemnity Procedures

Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply, the Indemnified Person shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those

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available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

18.2. Consequential Damages

Other than the Liquidated Damages heretofore described, in no event shall any Party be liable under any provision of this Interim LGIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to another Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

18.3. Insurance

Each party shall, at its own expense, maintain in force throughout the period of this Interim LGIA, and until released by another Party, the following minimum insurance coverages, with insurers authorized to do business in the state where the Point of Interconnection is located:

18.3.1. Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

18.3.2. Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate

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combined single limit for personal injury, bodily injury, including death and property damage.

18.3.3. Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury, including death, and property damage.

18.3.4. Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.

18.3.5. The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this Interim LGIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.

18.3.6. The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.

18.3.7. The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this Interim LGIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.

18.3.8. The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this Interim LGIA.

18.3.9. Within ten (10) days following execution of this Interim LGIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) days thereafter, each Party shall provide certification of all insurance required in this Interim LGIA, executed by each insurer or by an authorized representative of each insurer.

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18.3.10. Notwithstanding the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program; provided that, such Party's senior secured debt is rated at investment grade or better by Standard & Poor's and that its self-insurance program meets the minimum insurance requirements of Articles 18.3.2 through 18.3.8. For any period of time that a Party's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.3.2 through 18.3.9. In the event that a Party is permitted to self-insure pursuant to this article, it shall notify the other Party that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.

18.3.11. The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this Interim LGIA.

Article 19. Assignment

19.1. Assignment.

This Interim LGIA may be assigned by a Party only with the written consent of the other Parties; provided that each Party may assign this Interim LGIA without the consent of another Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Interim LGIA; and provided further that Interconnection Customer shall have the right to assign this Interim LGIA, without the consent of Transmission Owner, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that Interconnection Customer will promptly notify Transmission Owner of any such assignment. Any financing arrangement entered into by Interconnection Customer pursuant to this article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Owner of the date and particulars of any such exercise of assignment right(s), including providing the Transmission Owner with proof that it meets the requirements of Articles 11.5 and 18.3. Any assignment under this article not solely for collateral security purposes shall be conditioned on the simultaneous assignment of Interconnection Customer's Queue Position to assignee and assignee demonstrating the ability to enter into and fulfill the obligations of a final LGIA. Any attempted assignment that violates this article is void and ineffective. Any assignment under this Interim LGIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

Article 20. Severability

20.1. Severability.

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If any provision in this Interim LGIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this Interim LGIA; provided that if Interconnection Customer (or any third party, but only if such third party is not acting at the direction of Transmission Owner) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1).

Article 21. Comparability

21.1. Comparability.

The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

Article 22. Confidentiality

22.1. Confidentiality

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of this Interim LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by a Party, the other Parties shall provide in writing, the basis for asserting that the information referred to in this Article 22 warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

22.1.1. Term

During the term of this Interim LGIA, and for a period of three (3) years after the expiration or termination of this Interim LGIA, except as otherwise provided in this Article 22, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

22.1.2. Scope

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before

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receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this Interim LGIA; or (6) is required, in accordance with Article 22.1.7 of the LGIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Interim LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

22.1.3. Release of Confidential Information

A Party shall not release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this Interim LGIA, unless such person has first been advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

22.1.4. Rights

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Parties. The disclosure by each Party to the other Parties of Confidential Information shall not be deemed a waiver by a Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

22.1.5. No Warranties

By providing Confidential Information, none of the Parties makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, a Party does not obligates itself to provide any particular information or Confidential Information to another Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

22.1.6. Standard of Care

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this Interim LGIA or its regulatory requirements.

22.1.7. Order of Disclosure

If a court or a Government Authority or entity with the right, power, and apparent authority to do

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so requests or requires any Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Parties with prompt notice of such request(s) or requirement(s) so that the other Parties may seek an appropriate protective order or waive compliance with the terms of this Interim LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

22.1.8. Termination of Agreement

Upon termination of this Interim LGIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from another Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to another Party) or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party.

22.1.9. Remedies

The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article 22. Each Party accordingly agrees that the other Parties shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the receiving Parties shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 22.

22.1.10. Disclosure to FERC, its Staff, or a State

Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Interim LGIA, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Parties to this Interim LGIA prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Parties to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR §

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388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

22.1.11. Subject to the exception in Article 22.1.10, any information that a Party claims is competitively sensitive, commercial or financial information under this Interim LGIA ("Confidential Information") shall not be disclosed by another Party to any person not employed or retained by the other Parties, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this Interim LGIA or as a transmission service provider or a Balancing Authority Area operator including disclosing the Confidential Information to an RTO or ISO or to a regional or national reliability organization. The Party asserting confidentiality shall notify the other Parties in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Parties in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

Article 23. Environmental Releases

23.1. Each Party shall notify the other Parties, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Parties. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Parties copies of any publicly available reports filed with any Governmental Authorities addressing such events.

Article 24. Information Requirements

24.1. Information Acquisition

Transmission Owner, in conjunction with the Interconnection Customer shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

24.2. Information Submission by Transmission Owner

The initial information submission by Transmission Owner shall occur as soon as practicable prior to Trial Operation and shall include Transmission System information necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise agreed to by the Parties. On a monthly basis

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Transmission Owner shall provide Interconnection Customer a status report on the construction and installation of Transmission Owner's Interconnection Facilities, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

24.3. Updated Information Submission by Interconnection Customer

The updated information submission by Interconnection Customer, including manufacturer information, shall occur as soon as practicable prior to the Trial Operation. Interconnection Customer shall submit a completed copy of the Large Generating Facility data requirements contained in Appendix 1 to the LGIP. Information in this submission shall be the most current Large Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with ITO standard models. If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information. If Interconnection Customer's data is materially different from what was originally provided to ITO pursuant to the Interconnection Study Agreement between ITO and Interconnection Customer, then ITO will conduct appropriate studies to determine the impact on Transmission Owner's Transmission System based on the actual data submitted pursuant to this Article 24.3. The Interconnection Customer shall not begin Trial Operation until such studies are completed.

24.4. Information Supplementation

Prior to the Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Large Generating Facility information or "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. The Interconnection Customer shall conduct tests on the Large Generating Facility as required by Good Utility Practice such as an open circuit "step voltage" test on the Large Generating Facility to verify proper operation of the Large Generating Facility's automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Large Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent change in Large Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Large Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Large Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Large Generating Facility terminal or field voltages is provided. Large Generating Facility testing shall be conducted and results provided to ITO for each individual generating unit in a station.

Subsequent to the Operation Date, Interconnection Customer shall provide ITO any information changes due to equipment replacement, repair, or adjustment. ITO shall provide Interconnection Customer any information changes due to equipment replacement, repair or

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adjustment in the directly connected substation or any adjacent Transmission Owner-owned substation that may affect Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.

Article 25. Information Access and Audit Rights

25.1. Information Access

Each Party (the "disclosing Party") shall make available to the other Parties information that is in the possession of the disclosing Party and is necessary in order for the other Parties to: (i) verify the costs incurred by the disclosing Party for which the other Parties are responsible under this Interim LGIA; and (ii) carry out its obligations and responsibilities under this Interim LGIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this Interim LGIA.

25.2. Reporting of Non-Force Majeure Events

Each Party (the "notifying Party") shall notify the other Parties when the notifying Party becomes aware of its inability to comply with the provisions of this Interim LGIA for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this article shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this Interim LGIA.

25.3. Audit Rights

Subject to the requirements of confidentiality under Article 22 of this Interim LGIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Parties, to audit at its own expense the other Party's accounts and records pertaining to each Party's performance or each Party's satisfaction of obligations under this Interim LGIA. Such audit rights shall include audits of the other Party's costs, calculation of invoiced amounts, Transmission Owner's efforts to allocate responsibility for the provision of reactive support to the Transmission System, Transmission Owner's efforts to allocate responsibility for interruption or reduction of generation on the Transmission System, and each Party's actions in an Emergency Condition. Any audit authorized by this article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this Interim LGIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

25.4. Audit Rights Periods

25.4.1. Audit Rights Period for Construction-Related Accounts and Records

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Accounts and records related to the design, engineering, procurement, and construction of Transmission Owner's Interconnection Facilities shall be subject to audit for a period of twenty-four months following Transmission Owner's issuance of a final invoice in accordance with Article 12.2.

25.4.2. Audit Rights Period for All Other Accounts and Records

Accounts and records related to each Party's performance or satisfaction of all obligations under this Interim LGIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four months after the event for which the audit is sought.

25.5. Audit Results

If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Parties together with those records from the audit which support such determination.

Article 26. Subcontractors

26.1. General

Nothing in this Interim LGIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Interim LGIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Interim LGIA in providing such services and each Party shall remain primarily liable to the other Parties for the performance of such subcontractor.

26.2. Responsibility of Principal

The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Interim LGIA. The hiring Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Transmission Owner be liable for the actions or inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this Interim LGIA. Any applicable obligation imposed by this Interim LGIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

26.3. No Limitation by Insurance

The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

Article 27. Disputes

27.1. Submission

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In the event any Party has a dispute, or asserts a claim, that arises out of or in connection with this Interim LGIA or its performance, such Party (the "disputing Party") shall provide the other Parties with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this Interim LGIA.

27.2. External Arbitration Procedures

Any arbitration initiated under this Interim LGIA shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, the Transmission Owner or the Interconnection Customer shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article 27, the terms of this Article 27 shall prevail.

27.3. Arbitration Decisions

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of this Interim LGIA and shall have no power to modify or change any provision of this Agreement in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

27.4. Costs

Each Party shall be responsible for its own costs incurred during the arbitration

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process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or (2) one half the cost of the single arbitrator jointly chosen by the Parties.

Article 28. Representations, Warranties, and Covenants

28.1. General

Each Party makes the following representations, warranties and covenants:

28.1.1. Good Standing

Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Large Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this Interim LGIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Interim LGIA.

28.1.2. Authority

Such Party has the right, power and authority to enter into this Interim LGIA, to become a Party hereto and to perform its obligations hereunder. This Interim LGIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

28.1.3. No Conflict

The execution, delivery and performance of this Interim LGIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

28.1.4. Consent and Approval

Such Party has sought or obtained, or, in accordance with this Interim LGIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this Interim LGIA, and it will provide to any Governmental Authority notice of any actions under this Interim LGIA that are required by Applicable Laws and Regulations.

Article 29. Joint Operating Committee

29.1. Joint Operating Committee.

Transmission Owner and Interconnection Customer shall constitute a Joint

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Operating Committee to coordinate operating and technical considerations of Interconnection Service. At least six (6) months prior to the expected Initial Synchronization Date, Interconnection Customer, and Transmission Owner shall each appoint one representative and one alternate to the Joint Operating Committee. Each Interconnection Customer shall notify the Transmission Owner of its appointment in writing. Such appointments may be changed at any time by similar notice. The Joint Operating Committee shall meet as necessary, but not less than once each calendar year, to carry out the duties set forth herein. The Joint Operating Committee shall hold a meeting at the request of each Party, at a time and place agreed upon by the representatives. The Joint Operating Committee shall perform all of its duties consistent with the provisions of this Interim LGIA. Each Party shall cooperate in providing to the Joint Operating Committee all information required in the performance of the Joint Operating Committee's duties. All decisions and agreements, if any, made by the Joint Operating Committee, shall be evidenced in writing. The duties of the Joint Operating Committee shall include the following:

- 29.1.1.** Establish data requirements and operating record requirements.
- 29.1.2.** Review the requirements, standards, and procedures for data acquisition equipment, protective equipment, and any other equipment or software.
- 29.1.3.** Annually review the one (1) year forecast of maintenance and planned outage schedules of Transmission Owner's and Interconnection Customer's facilities at the Point of Interconnection.
- 29.1.4.** Coordinate the scheduling of maintenance and planned outages on the Interconnection Facilities, the Large Generating Facility and other facilities that impact the normal operation of the interconnection of the Large Generating Facility to the Transmission System.
- 29.1.5.** Ensure that information is being provided by each Party regarding equipment availability.
- 29.1.6.** Perform such other duties as may be conferred upon it by mutual agreement of the Parties.

Article 30. Miscellaneous

30.1. Binding Effect

This Interim LGIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

30.2. Conflicts

In the event of a conflict between the body of this Interim LGIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this Interim LGIA shall prevail and be deemed the final intent of the Parties.

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30.3. Rules of Interpretation

This Interim LGIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Interim LGIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this Interim LGIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this Interim LGIA or such Appendix to this Interim LGIA, or such Section to the LGIP or such Appendix to the LGIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this Interim LGIA as a whole and not to any particular Article or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".

30.4. Entire Agreement

This Interim LGIA, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Interim LGIA. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Interim LGIA.

30.5. No Third Party Beneficiaries

This Interim LGIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

30.6. Waiver

The failure of a Party to this Interim LGIA to insist, on any occasion, upon strict performance of any provision of this Interim LGIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this Interim LGIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to

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comply with any other obligation, right, duty of this Interim LGIA. Termination or Default of this Interim LGIA for any reason by Interconnection Customer shall not constitute a waiver of Interconnection Customer's legal rights to obtain an interconnection from Transmission Owner. Any waiver of this Interim LGIA shall, if requested, be provided in writing.

30.7. Headings

The descriptive headings of the various Articles of this Interim LGIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Interim LGIA.

30.8. Multiple Counterparts

This Interim LGIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

30.9. Amendment

The Parties may by mutual agreement amend this Interim LGIA by a written instrument duly executed by the Parties.

30.10. Modification by the Parties

The Parties may by mutual agreement amend the Appendices to this Interim LGIA by a written instrument duly executed by the Parties. Such amendment shall become effective and a part of this Interim LGIA upon satisfaction of all Applicable Laws and Regulations.

30.11. Reservation of Rights

Transmission Owner shall have the right to make a unilateral filing with FERC to modify this Interim LGIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Interim LGIA pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by any other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Interim LGIA shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

30.12. No Partnership

This Interim LGIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. A Party shall not have a right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Parties.

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IN WITNESS WHEREOF, the Parties have executed this Interim LGIA in duplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

[Insert name Transmission Owner]

By: _____

Title: _____

Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

**Appendix A to Interim LGIA
Interconnection Facilities**

1. Interconnection Facilities:

(a) **[insert Interconnection Customer’s Interconnection Facilities]:**

(b) **[insert Transmission Owner’s Interconnection Facilities]:**

2. Security and Taxes:

The amount of initial security to be provided by Interconnection Customer in accordance with Article 11.5 is \$_____.

Interconnection Customer’s estimated liability for reimbursement of Transmission Owner for taxes, interest and/or penalties under Article 5.17.3 of this Agreement is \$_____.

3. Amount of Interim Interconnection Service.

Interim Interconnection Service will be provided pursuant to this Interim LGIA in the amount of _____ MW.

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4. Higher-Queued Projects.

[list Higher Queued Projects]
**Appendix B to Interim LGIA
Milestones**

In-Service Date: _____

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	Responsible Party
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____
(4)	_____	_____
(5)	_____	_____
(6)	_____	_____
(7)	_____	_____
(8)	_____	_____
(9)	_____	_____
(10)	_____	_____

Agreed to by:

For the Transmission Owner _____ Date _____

For the Interconnection Customer _____ Date _____

**Appendix C to Interim LGIA
Interconnection Details**

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**Appendix D to Interim LGIA
Security Arrangements Details**

Infrastructure security of Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day Transmission System reliability and operational security. FERC will expect all public utilities, market participants, and Interconnection Customers interconnected to the Transmission System to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

**Appendix E to Interim LGIA
Commercial Operation Date**

This Appendix E is a part of the Interim LGIA between ITO, Transmission Owner and Interconnection Customer.

[Date]

[Transmission Owner Address]

Re: _____ Large Generating Facility

Dear _____:

On [Date] [Interconnection Customer] has completed Trial Operation of Unit No. ____.
This letter confirms that [Interconnection Customer] commenced Commercial Operation of Unit No. ____ at the Large Generating Facility, effective as of [Date plus one day].

Thank you.

[Signature]

[Interconnection Customer Representative]

**Appendix F to Interim LGIA
Addresses for Delivery of Notices and Billings Notices:**

Notices:

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Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Billings and Payments:

Interconnection Customer:

[To be supplied.]

Alternative Forms of Delivery of Notices (telephone, facsimile or email):

Transmission Owner:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

**Appendix G to Interim LGIA
Interconnection Requirements for a Wind Generating Plant**

Appendix G sets forth requirements and provisions specific to a wind generating plant. All other requirements of this Interim LGIA continue to apply to wind generating plant interconnections.

A. Technical Standards Applicable to a Wind Generating Plant

i. Low Voltage Ride-Through (LVRT) Capability

A wind generating plant shall be able to remain online during voltage disturbances up to

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the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

Transition Period LVRT Standard

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) interconnection agreements signed and filed with the Commission, filed with the Commission in unexecuted form, or filed with the Commission as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) wind generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 - 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by the Transmission Owner. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or “GSU”), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.

Effective On: May 22, 2019

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2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator, etc.) within the wind generating plant or by a combination of generator performance and additional equipment.
5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

Post-transition Period LVRT Standard

All wind generating plants subject to FERC Order No. 661 and not covered by the transition period described above must meet the following requirements:

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 - 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind

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generating plant substation location, as determined by and documented by the Transmission Owner. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system. A wind generating plant shall remain interconnected during such a fault on the transmission system for a voltage level as low as zero volts, as measured at the high voltage side of the wind GSU.

2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator) within the wind generating plant or by a combination of generator performance and additional equipment.
5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

ii. Power Factor Design Criteria (Reactive Power)

The following reactive power requirements apply only to a newly interconnecting wind

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generating plant that has executed a Facilities Study Agreement as of the effective date of the Final Rule establishing the reactive power requirements for non-synchronous generators in section 9.6.1 of this Interim LGIA (Order No. 827). A wind generating plant to which this provision applies shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this Interim LGIA, if the ITO's System Impact Study shows that such a requirement is necessary to ensure safety or reliability. The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by the Transmission Owner, or a combination of the two. The Interconnection Customer shall not disable power factor equipment while the wind plant is in operation. Wind plants shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the System Impact Study shows this to be required for system safety or reliability.

iii. Supervisory Control and Data Acquisition (SCADA) Capability

The wind plant shall provide SCADA capability to transmit data and receive instructions from the Transmission Owner to protect system reliability. The Transmission Owner and the wind plant Interconnection Customer shall determine what SCADA information is essential for the proposed wind plant, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

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ATTACHMENT N
SMALL GENERATOR
INTERCONNECTION PROCEDURES (SGIP)

AND

SMALL GENERATOR INTERCONNECTION AGREEMENT (SGIA)

(For Generating Facilities No Larger Than 20 MW)

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Appendix 2 - Small Generator Interconnection Request
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Section 1. Application

1.1 Applicability

- 1.1.1** A request to interconnect a certified Small Generating Facility (See Attachments 3 and 4 for description of certification criteria) to the Transmission Owner's Distribution System shall be evaluated under the section 2 Fast Track Process if the eligibility requirements of section 2.1 are met. A request to interconnect a certified inverter-based Small Generating Facility no larger than 10 kilowatts (kW) shall be evaluated under the Attachment 5 10 kW Inverter Process. A request to interconnect a Small Generating Facility no larger than 20 megawatts (MW) that does not meet the eligibility requirements of section 2.1, or that does not pass the Fast Track Process or the 10 kW Inverter Process, shall be evaluated under the section 3 Study Process. If the Interconnection Customer wishes to interconnect its Small Generating Facility using Network Resource Interconnection Service, it must do so under the Standard Large Generator Interconnection Procedures and execute the Standard Large Generator Interconnection Agreement.
- 1.1.2** Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Appendix 1 or the body of these procedures.
- 1.1.3** Neither these procedures nor the requirements included hereunder apply to Small Generating Facilities interconnected or approved for interconnection prior to 60 Business Days after the effective date of these procedures.
- 1.1.4** Prior to submitting its Generator Interconnection Request (Appendix 2), the Interconnection Customer may ask the ITO's Interconnection contact employee or office whether the proposed interconnection is subject to these procedures. The ITO shall respond within 15 Business Days.
- 1.1.5** Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. The Federal Energy Regulatory Commission expects all Transmission Owners, market participants, and Interconnection Customers interconnected with electric systems to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and best practice recommendations from the electric reliability authority. All public utilities are expected

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to meet basic standards for electric system infrastructure and operational security, including physical, operational, and cyber-security practices.

- 1.1.6** References in these procedures to interconnection agreement are to the Small Generator Interconnection Agreement (SGIA) or Interim SGIA, as applicable.

1.2 Pre-Application

- 1.2.1** The ITO and Transmission Owner shall each designate an employee or office from which information on the application process and on an Affected System can be obtained through informal requests from the Interconnection Customer presenting a proposed project for a specific site. The name, telephone number, and e-mail address of such contact employee or office shall be made available on the Transmission Owner's Internet web site. Electric system information provided to the Interconnection Customer should include relevant system studies, interconnection studies, and other materials useful to an understanding of an interconnection at a particular point on the Transmission Owner's Transmission System, to the extent such provision does not violate confidentiality provisions of prior agreements or critical infrastructure requirements. The ITO and Transmission Owner shall comply with reasonable requests for such information.

- 1.2.2** In addition to the information described in section 1.2.1, which may be provided in response to an informal request, an Interconnection Customer may submit a formal written request form along with a non-refundable fee of \$300 for a pre-application report on a proposed project at a specific site. The ITO and Transmission Owner shall provide the pre-application data described in section 1.2.3 to the Interconnection Customer within 20 Business Days of receipt of the completed request form and payment of the \$300 fee. The pre-application report produced by the ITO and Transmission Owner is non-binding, does not confer any rights, and the Interconnection Customer must still successfully apply to interconnect to the Transmission Owner's system. The written pre-application report request form shall include the information in sections 1.2.2.1 through 1.2.2.8 below to clearly and sufficiently identify the location of the proposed Point of Interconnection.

- 1.2.2.1** Project contact information, including name, address, phone number, and email address.

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- 1.2.2.2** Project location (street address with nearby cross streets and town)
 - 1.2.2.3** Meter number, pole number, or other equivalent information identifying proposed Point of Interconnection, if available.
 - 1.2.2.4** Generator Type (e.g., solar, wind, combined heat and power, etc.)
 - 1.2.2.5** Size (alternating current kW)
 - 1.2.2.6** Single or three phase generator configuration
 - 1.2.2.7** Stand-alone generator (no onsite load, not including station service - Yes or No?)
 - 1.2.2.8** Is new service requested? Yes or No? If there is existing service, include the customer account number, site minimum and maximum current or proposed electric loads in kW (if available) and specify if the load is expected to change.
- 1.2.3** Using the information provided in the pre-application report request form in section 1.2.2, the Transmission Owner will identify the substation/area bus, bank or circuit likely to serve the proposed Point of Interconnection. This selection by the Transmission Owner does not necessarily indicate, after application of the screens and/or study, that this would be the circuit the project ultimately connects to. The Interconnection Customer must request additional pre-application reports if information about multiple Points of Interconnection is requested. Subject to section 1.2.4, the pre-application report will include the following information:
- 1.2.3.1** Total capacity (in MW) of substation/area bus, bank or circuit based on normal or operating ratings likely to serve the proposed Point of Interconnection.
 - 1.2.3.2** Existing aggregate generation capacity (in MW) interconnected to a substation/area bus, bank or circuit (i.e., amount of generation online) likely to serve the proposed Point of Interconnection.
 - 1.2.3.3** Aggregate queued generation capacity (in MW) for a

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substation/area bus, bank or circuit (i.e., amount of generation in the queue) likely to serve the proposed Point of Interconnection.

- 1.2.3.4** Available capacity (in MW) of substation/area bus or bank and circuit likely to serve the proposed Point of Interconnection (i.e., total capacity less the sum of existing aggregate generation capacity and aggregate queued generation capacity).
- 1.2.3.5** Substation nominal distribution voltage and/or transmission nominal voltage if applicable.
- 1.2.3.6** Nominal distribution circuit voltage at the proposed Point of Interconnection.
- 1.2.3.7** Approximate circuit distance between the proposed Point of Interconnection and the substation.
- 1.2.3.8** Relevant line section(s) actual or estimated peak load and minimum load data, including daytime minimum load as described in section 2.4.4.1.1 below and absolute minimum load, when available.
- 1.2.3.9** Number and rating of protective devices and number and type (standard, bi-directional) of voltage regulating devices between the proposed Point of Interconnection and the substation/area. Identify whether the substation has a load tap changer.
- 1.2.3.10** Number of phases available at the proposed Point of Interconnection. If a single phase, distance from the three-phase circuit.
- 1.2.3.11** Limiting conductor ratings from the proposed Point of Interconnection to the distribution substation.
- 1.2.3.12** Whether the Point of Interconnection is located on a spot network, grid network, or radial supply.
- 1.2.3.13** Based on the proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the

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circuit, capacity constraints, or secondary networks.

- 1.2.4** The pre-application report need only include existing data. A pre-application report request does not obligate the ITO or Transmission Owner to conduct a study or other analysis of the proposed generator in the event that data is not readily available. If the ITO and Transmission Owner cannot complete all or some of a pre-application report due to lack of available data, the ITO shall provide the Interconnection Customer with a pre-application report that includes the data that is available. The provision of information on “available capacity” pursuant to section 1.2.3.4 does not imply that an interconnection up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, and data provided in the pre-application report may become outdated at the time of the submission of the complete Interconnection Request. Notwithstanding any of the provisions of this section, the ITO and Transmission Owner shall, in good faith, include data in the pre-application report that represents the best available information at the time of reporting.

1.3 Interconnection Request

The Interconnection Customer shall submit its Generator Interconnection Request to the ITO, together with the processing fee or deposit specified in the Generator Interconnection Request. The Generator Interconnection Request shall be date- and time-stamped upon receipt. The original date- and time-stamp applied to the Generator Interconnection Request at the time of its original submission shall be accepted as the qualifying date- and time-stamp for the purposes of any timetable in these procedures. The Interconnection Customer shall be notified of receipt by the ITO within three Business Days of receiving the Generator Interconnection Request. The ITO shall notify the Interconnection Customer within ten Business Days of the receipt of the Generator Interconnection Request as to whether the Interconnection Request is complete or incomplete. If the Generator Interconnection Request is incomplete, the ITO shall provide along with the notice that the Generator Interconnection Request is incomplete, a written list detailing all information that must be provided to complete the Generator Interconnection Request. The Interconnection Customer will have ten Business Days after receipt of the notice to submit the listed information or to request an extension of time to provide such information. If the Interconnection Customer does not provide the listed information or a request for an extension of time within the deadline, the Generator Interconnection Request will be deemed withdrawn. A Generator Interconnection Request will be deemed complete upon submission of the listed information to the ITO.

1.4 Modification of the Generator Interconnection Request

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Any modification to machine data or equipment configuration or to the interconnection site of the Small Generating Facility not agreed to in writing by the ITO, Transmission Owner and the Interconnection Customer may be deemed a withdrawal of the Generator Interconnection Request and may require submission of a new Generator Interconnection Request, unless proper notification of each Party by the other and a reasonable time to cure the problems created by the changes are undertaken.

1.5 Site Control

Documentation of site control must be submitted with the Generator Interconnection Request. Site control may be demonstrated through:

- 1.5.1 Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Small Generating Facility;
- 1.5.2 An option to purchase or acquire a leasehold site for such purpose; or
- 1.5.3 An exclusivity or other business relationship between the Interconnection Customer and the entity having the right to sell, lease, or grant the Interconnection Customer the right to possess or occupy a site for such purpose.

1.6 Queue Position

The ITO shall assign a Queue Position based upon the date- and time-stamp of the Generator Interconnection Request. The Queue Position of each Generator Interconnection Request will be used to determine the cost responsibility for the Upgrades necessary to accommodate the interconnection. The ITO shall maintain a single queue per geographic region. At the ITO's option, Generator Interconnection Requests may be studied serially or in clusters for the purpose of the system impact study.

1.7 Interconnection Requests Submitted Prior to the Effective Date of the SGIP

Nothing in this SGIP affects an Interconnection Customer's Queue Position assigned before the effective date of this SGIP. The Parties agree to complete work on any interconnection study agreement executed prior the effective date of this SGIP in accordance with the terms and conditions of that interconnection study agreement. Any new studies or other additional work will be completed pursuant to this SGIP.

Section 2. Fast Track Process

2.1 Applicability

The Fast Track Process is available to an Interconnection Customer proposing to interconnect its Small Generating Facility with the Transmission Owner's

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Distribution System if the Small Generating Facility’s capacity does not exceed the size limits identified in the table below. Small Generating Facilities below these limits are eligible for Fast Track review. However, Fast Track eligibility is distinct from the Fast Track Process itself, and eligibility does not imply or indicate that a Small Generating Facility will pass the Fast Track screens in section 2.2.1 below or the Supplemental Review screens in section 2.4.1 below.

Fast Track eligibility is determined based upon the generator type, the size of the generator, voltage of the line and the location of and the type of line at the Point of Interconnection. All Small Generating Facilities connecting to lines greater than 69 kilovolt (kV) are ineligible for the Fast Track Process regardless of size. All synchronous and induction machines must be no larger than 2 MW to be eligible for the Fast Track Process, regardless of location. For certified inverter-based systems, the size limit varies according to the voltage of the line at the proposed Point of Interconnection. Certified inverter-based Small Generating Facilities located within 2.5 electrical circuit miles of a substation and on a mainline (as defined in the table below) are eligible for the Fast Track Process under the higher thresholds according to the table below. In addition to the size threshold, the Interconnection Customer’s proposed Small Generating Facility must meet the codes, standards, and certification requirements of Appendices 3 and 4 of these procedures, or the Transmission Owner has to have reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

<u>Fast Track Eligibility for Inverter-Based Systems</u>		
<u>Line Voltage</u>	<u>Fast Track Eligibility Regardless of Location</u>	<u>Fast Track Eligibility on a Mainline¹ and ≤ 2.5 Electrical Circuit Miles from Substation²</u>
<u>< 5 kV</u>	<u>≤ 500 kW</u>	<u>≤ 500 kW</u>
<u>≥ 5 kV and < 15 kV</u>	<u>≤ 2 MW</u>	<u>≤ 3 MW</u>
<u>≥ 15 kV and < 30 kV</u>	<u>≤ 3 MW</u>	<u>≤ 4 MW</u>
<u>≥ 30 kV and ≤ 69 kV</u>	<u>≤ 4 MW</u>	<u>≤ 5 MW</u>

2.2 Initial Review

Within 15 Business Days after the ITO notifies the Interconnection Customer it has received a complete Generator Interconnection Request, the ITO shall perform an initial review using the screens set forth below, shall notify the Interconnection Customer of the results, and include with the notification copies of the analysis and data underlying the ITO’s determinations under the screens.

2.2.1 Screens

2.2.1.1 The proposed Small Generating Facility’s Point of Interconnection must be on a portion of the Transmission

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Owner's Distribution System that is subject to the Tariff.

- 2.2.1.2** For interconnection of a proposed Small Generating Facility to a radial distribution circuit, the aggregated generation, including the proposed Small Generating Facility, on the circuit shall not exceed 15% of the line

¹ For purposes of this table, a mainline is the three-phase backbone of a circuit. It will typically constitute lines with wire sizes of 4/0 American wire gauge, 336.4 kcmil, 397.5 kcmil, 477 kcmil and 795 kcmil.

² An Interconnection Customer can determine this information about its proposed interconnection location in advance by requesting a pre-application report pursuant to section 1.2.

section annual peak load as most recently measured at the substation. A line section is that portion of a Transmission Owner's electric system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.

- 2.2.1.3** For interconnection of a proposed Small Generating Facility to the load side of spot network protectors, the proposed Small Generating Facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of 5% of a spot network's maximum load or 50 kW.³

- 2.2.1.4** The proposed Small Generating Facility, in aggregation with other generation on the distribution circuit, shall not contribute more than 10% to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership.

- 2.2.1.5** The proposed Small Generating Facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed 87.5% of the short circuit interrupting capability; nor shall the interconnection proposed for a circuit that already exceeds 87.5% of the short circuit interrupting capability.

- 2.2.1.6** Using the table below, determine the type of interconnection to a primary distribution line. This screen

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includes a review of the type of electrical service provided to the Interconnecting Customer, including line configuration and the transformer connection to limit the potential for creating over-voltages on the Transmission Owner's electric power system due to a loss of ground during the operating time of any anti-islanding function.

³ A spot network is a type of distribution system found within modern commercial buildings to provide high reliability of service to a single customer. (Standard Handbook for Electrical Engineers, 11th edition, Donald Fink, McGraw Hill Book Company).

Primary Distribution Line Type	Type of Interconnection to Primary Distribution Line	Result/Criteria
Three-phase, three wire	3-phase or single phase, phase-to-phase	Pass screen
Three-phase, four wire	Effectively-grounded 3 phase or Single-phase, line-to-neutral	Pass screen

- 2.2.1.7** If the proposed Small Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed Small Generating Facility, shall not exceed 20 kW.
- 2.2.1.8** If the proposed Small Generating Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
- 2.2.1.9** The Small Generating Facility, in aggregate with other generation interconnected to the transmission side of a substation transformer feeding the circuit where the Small Generating Facility proposes to interconnect shall not exceed 10 MW in an area where there are known, or posted, transient stability limitations to generating units located in the general electrical vicinity (e.g., three or four transmission busses from the point of interconnection).
- 2.2.1.10** No construction of facilities by the Transmission Owner on its own system shall be required to accommodate the Small

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Generating Facility.

- 2.2.2** If the proposed interconnection passes the screens, the Generator Interconnection Request shall be approved and the Transmission Owner through the ITO, will provide the Interconnection Customer an executable interconnection agreement within five Business Days after the determination.
- 2.2.3** If the proposed interconnection fails the screens, but the ITO and Transmission Owner determines that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the Transmission Owner through the ITO shall provide the Interconnection Customer an executable interconnection agreement within five Business Days after the determination.
- 2.2.4** If the proposed interconnection fails the screens, but the ITO and Transmission Owner do not or cannot determine from the initial review that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards unless the Interconnection Customer is willing to consider minor modifications or further study, the ITO and Transmission Owner shall provide the Interconnection Customer with the opportunity to attend a customer options meeting.
- 2.3 Customer Options Meeting**
If the ITO and Transmission Owner determine the Generator Interconnection Request cannot be approved without (1) minor modifications at minimal cost, (2) a supplemental study or other additional studies or actions, or (3) incurring significant cost to address safety, reliability, or power quality problems, the ITO shall notify the Interconnection Customer of that determination within five Business Days after the determination and provide copies of all data and analyses underlying its conclusion. Within ten Business Days of the ITO and Transmission Owner's determination, the ITO shall offer to convene a customer options meeting with the ITO and Transmission Owner to review possible Interconnection Customer facility modifications or the screen analysis and related results, to determine what further steps are needed to permit the Small Generating Facility to be connected safely and reliably. At the time of notification of the ITO and Transmission Owner's determination, or at the customer options meeting, the ITO shall:
- 2.3.1** Convey Transmission Owner's offer to perform facility modifications or minor modifications to the Transmission Owner's electric system (e.g., changing meters, fuses, relay settings) and provide a non-binding

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good faith estimate of the limited cost to make such modifications to the Transmission Owner's electric system. If the Interconnection Customer agrees to pay for the modifications to the Transmission Owner's electric system, the Transmission Owner through the ITO will provide the Interconnection Customer with an executable interconnection agreement within ten Business Days of the customer options meeting; or

- 2.3.2 Offer to perform a supplemental review in accordance with section 2.4 and provide a non-binding good faith estimate of the costs of such review; or
- 2.3.3 Obtain the Interconnection Customer's agreement to continue evaluating the Generator Interconnection Request under the section 3 Study Process.

2.4 Supplemental Review

- 2.4.1 To accept the offer of a supplemental review, the Interconnection Customer shall agree in writing and submit a deposit for the estimated costs of the supplemental review in the amount of the ITO's good faith estimate of the costs of such review, both within 15 Business Days of the offer. If the written agreement and deposit have not been received by the ITO within that timeframe, the Interconnection Request shall continue to be evaluated under the section 3 Study Process unless it is withdrawn by the Interconnection Customer.
- 2.4.2 The Interconnection Customer may specify the order in which the ITO will complete the screens in section 2.4.4.
- 2.4.3 The Interconnection Customer shall be responsible for the ITO and Transmission Owner's actual costs for conducting the supplemental review. The Interconnection Customer must pay any review costs that exceed the deposit within 20 Business Days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, the ITO will return such excess within 20 Business Days of the invoice without interest.
- 2.4.4 Within 30 Business Days following receipt of the deposit for a supplemental review, the ITO shall (1) perform a supplemental review using the screens set forth below; (2) notify in writing the Interconnection Customer of the results; and (3) include with the notification copies of the analysis and data underlying the ITO's determinations under the screens. Unless the Interconnection

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Customer provided instructions for how to respond to the failure of any of the supplemental review screens below at the time the Interconnection Customer accepted the offer of supplemental review, the ITO shall notify the Interconnection Customer following the failure of any of the screens, or if it is unable to perform the screen in section 2.4.4.1, within two Business Days of making such determination to obtain the Interconnection Customer's permission to: (1) continue evaluating the proposed interconnection under this section 2.4.4; (2) terminate the supplemental review and continue evaluating the Small Generating Facility under section 3; or (3) terminate the supplemental review upon withdrawal of the Interconnection Request by the Interconnection Customer.

2.4.1.1 Minimum Load Screen: Where 12 months of line section minimum load data (including onsite load but not station service load served by the proposed Small Generating Facility) are available, can be calculated, can be estimated from existing data, or determined from a power flow model, the aggregate Generating Facility capacity on the line section is less than 100% of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the proposed Small Generating Facility. If minimum load data is not available, or cannot be calculated, estimated or determined, the ITO shall include the reason(s) that it is unable to calculate, estimate or determine minimum load in its supplemental review results notification under section 2.4.4.

2.4.4.1.1 The type of generation used by the proposed Small Generating Facility will be taken into account when calculating, estimating, or determining circuit or line section minimum load relevant for the application of screen 2.4.1.1. Solar photovoltaic (PV) generation systems with no battery storage use daytime minimum load (i.e. 10 a.m. to 4 p.m. for fixed panel systems and 8 a.m. to 6 p.m. for PV systems utilizing tracking systems), while all other generation uses absolute minimum load

2.4.4.1.2 When this screen is being applied to a Small Generating Facility that serves some station

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service load, only the net injection into the Transmission Owner's electric system will be considered as part of the aggregate generation.

2.4.4.1.3 ITO will not consider as part of the aggregate generation for purposes of this screen generating facility capacity known to be already reflected in the minimum load data.

2.4.4.2 Voltage and Power Quality Screen: In aggregate with existing generation on the line section: (1) the voltage regulation on the line section can be maintained in compliance with relevant requirements under all system conditions; (2) the voltage fluctuation is within acceptable limits as defined by Institute of Electrical and Electronics Engineers (IEEE) Standard 1453, or utility practice similar to IEEE Standard 1453; and (3) the harmonic levels meet IEEE Standard 519 limits.

2.4.4.3 Safety and Reliability Screen: The location of the proposed Small Generating Facility and the aggregate generation capacity on the line section do not create impacts to safety or reliability that cannot be adequately addressed without application of the Study Process. The ITO, in consultation with the Transmission Owner, shall give due consideration to the following and other factors in determining potential impacts to safety and reliability in applying this screen.

2.4.4.3.1 Whether the line section has significant minimum loading levels dominated by a small number of customers (e.g., several large commercial customers).

2.4.4.3.2 Whether the loading along the line section uniform or even.

2.4.4.3.3 Whether the proposed Small Generating Facility is located in close proximity to the substation (i.e., less than 2.5 electrical circuit miles), and whether the line section from the substation to the Point of Interconnection is a Mainline rated for

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normal and emergency ampacity.

2.4.4.3.4 Whether the proposed Small Generating Facility incorporates a time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time.

2.4.4.3.5 Whether operational flexibility is reduced by the proposed Small Generating Facility, such that transfer of the line section(s) of the Small Generating Facility to a neighboring distribution circuit/substation may trigger overloads or voltage issues.

2.4.4.3.6 Whether the proposed Small Generating Facility employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, islanding, reverse power flow, or voltage quality.

2.4.5 If the proposed interconnection passes the supplemental screens in sections 2.4.4.1, 2.4.4.2, and 2.4.4.3 above, the Interconnection Request shall be approved and the Transmission Owner through the ITO will provide the Interconnection Customer with an executable interconnection agreement within the timeframes established in sections 2.4.5.1 and 2.4.5.2 below. If the proposed interconnection fails any of the supplemental review screens and the Interconnection Customer does not withdraw its Interconnection Request, it shall continue to be evaluated under the section 3 Study Process consistent with section 2.4.5.3 below.

2.4.5.1 If the proposed interconnection passes the supplemental screens in sections 2.4.1.1, 2.4.1.2, and 2.4.1.3 above and does not require construction of facilities by the Transmission Owner on its own system, the interconnection agreement shall be provided within ten Business Days after the notification of the supplemental review results.

2.4.5.2 If interconnection facilities or minor modifications to the Transmission Owner's system are required for the proposed

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interconnection to pass the supplemental screens in sections 2.4.1.1, 2.4.1.2, and 2.4.1.3 above, and the Interconnection Customer agrees to pay for the modifications to the Transmission Owner's electric system, the interconnection agreement, along with a non-binding good faith estimate for the interconnection facilities and/or minor modifications, shall be provided to the Interconnection Customer within 15 Business Days after receiving written notification of the supplemental review results.

- 2.4.5.3** If the proposed interconnection would require more than interconnection facilities or minor modifications to the Transmission Owner's system to pass the supplemental screens in sections 2.4.1.1, 2.4.1.2, and 2.4.1.3 above, the ITO shall notify the Interconnection Customer, at the same time it notifies the Interconnection Customer with the supplemental review results, that the Interconnection Request shall be evaluated under the section 3 Study Process unless the Interconnection Customer withdraws its Small Generating Facility.

Section 3. Study Process

3.1 Applicability

The Study Process shall be used by an Interconnection Customer proposing to interconnect its Small Generating Facility with the Transmission Owner's Transmission System or Distribution System if the Small Generating Facility (1) is larger than 2 MW but no larger than 20 MW, (2) is not certified, or (3) is certified but did not pass the Fast Track Process or the 10 kW Inverter Process.

3.2 Scoping Meeting

- 3.2.1** A scoping meeting will be held within ten Business Days after the Generator Interconnection Request is deemed complete, or as otherwise mutually agreed to by the Parties. The ITO, Transmission Owner and the Interconnection Customer will bring to the meeting personnel, including system engineers and other resources as may be reasonably required to accomplish the purpose of the meeting.
- 3.2.2** The purpose of the scoping meeting is to discuss the Generator Interconnection Request and review existing studies relevant to the Generator Interconnection Request. The Parties shall further discuss whether the ITO should perform a feasibility study or proceed directly to a system impact study, or a facilities study, or an interconnection

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agreement. If the Parties agree that a feasibility study should be performed, the ITO shall provide the Interconnection Customer, as soon as possible, but not later than five Business Days after the scoping meeting, a feasibility study agreement (Appendix 6) including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study.

- 3.2.3** The scoping meeting may be omitted by mutual agreement. In order to remain in consideration for interconnection, an Interconnection Customer who has requested a feasibility study must return the executed feasibility study agreement within 15 Business Days. If the Parties agree not to perform a feasibility study, the ITO shall provide the Interconnection Customer, no later than five Business Days after the scoping meeting, a system impact study agreement (Appendix 7) including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

3.3 Feasibility Study

- 3.3.1** The feasibility study shall identify any potential adverse system impacts that would result from the interconnection of the Small Generating Facility.
- 3.3.2** A deposit of the lesser of 50 percent of the good faith estimated feasibility study costs or earnest money of \$1,000 may be required from the Interconnection Customer.
- 3.3.3** The scope of and cost responsibilities for the feasibility study are described in the attached feasibility study agreement.
- 3.3.4** If the feasibility study shows no potential for adverse system impacts, the ITO shall send the Interconnection Customer a facilities study agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study. If no additional facilities are required, the Transmission Owner through the ITO shall send the Interconnection Customer an executable interconnection agreement within five Business Days.
- 3.3.5** If the feasibility study shows the potential for adverse system impacts, the review process shall proceed to the appropriate system impact study(s).
- 3.3.6** Generators interconnected to the Transmission System pursuant to Interim Interconnection Service will not be considered in the

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feasibility study, except to the extent those units' permanent output will be considered in the studies of lower-queued customers in the normal course.

3.4 System Impact Study

- 3.4.1** A system impact study shall identify and detail the electric system impacts that would result if the proposed Small Generating Facility were interconnected without project modifications or electric system modifications, focusing on the adverse system impacts identified in the feasibility study, or to study potential impacts, including but not limited to those identified in the scoping meeting. A system impact study shall evaluate the impact of the proposed interconnection on the reliability of the electric system.
- 3.4.2** If no transmission system impact study is required, but potential electric power Distribution System adverse system impacts are identified in the scoping meeting or shown in the feasibility study, a distribution system impact study must be performed. The ITO shall send the Interconnection Customer a distribution system impact study agreement within 15 Business Days of transmittal of the feasibility study report, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, or following the scoping meeting if no feasibility study is to be performed.
- 3.4.3** In instances where the feasibility study or the distribution system impact study shows potential for transmission system adverse system impacts, within five Business Days following transmittal of the feasibility study report, the ITO shall send the Interconnection Customer a transmission system impact study agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, if such a study is required.
- 3.4.4** If a transmission system impact study is not required, but electric power Distribution System adverse system impacts are shown by the feasibility study to be possible and no distribution system impact study has been conducted, the ITO shall send the Interconnection Customer a distribution system impact study agreement.
- 3.4.5** If the feasibility study shows no potential for transmission system or Distribution System adverse system impacts, the ITO shall send the Interconnection Customer either a facilities study agreement (Appendix 8), including an outline of the scope of the study and a non-

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binding good faith estimate of the cost to perform the study, or an executable interconnection agreement, as applicable.

- 3.4.6 In order to remain under consideration for interconnection, the Interconnection Customer must return executed system impact study agreements, if applicable, within 30 Business Days.
- 3.4.7 A deposit of the good faith estimated costs for each system impact study may be required from the Interconnection Customer.
- 3.4.8 The scope of and cost responsibilities for a system impact study are described in the attached system impact study agreement.
- 3.4.9 Where transmission systems and Distribution Systems have separate owners, such as is the case with transmission-dependent utilities ("TDUs") - whether investor-owned or not - the Interconnection Customer may apply to the nearest public utility (Transmission Owner, Regional Transmission Operator, or Independent Transmission Provider) providing transmission service to the TDU to request project coordination. Affected Systems shall participate in the study and provide all information necessary to prepare the study.
- 3.4.10 Generators interconnected to the Transmission System pursuant to Interim Interconnection Service will not be considered in the Interconnection System Impact Study, except to the extent those units' permanent output will be considered in the studies of lower-queued customers in the normal course.

3.5 Facilities Study

- 3.5.1 Once the required system impact study(s) is completed, a system impact study report shall be prepared and transmitted to the Interconnection Customer along with a facilities study agreement within five Business Days, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the facilities study. In the case where one or both impact studies are determined to be unnecessary, a notice of the fact shall be transmitted to the Interconnection Customer within the same timeframe.
- 3.5.2 In order to remain under consideration for interconnection, or, as appropriate, in the Transmission Owner's Interconnection queue, the Interconnection Customer must return the executed facilities study agreement or a request for an extension of time within 30 Business Days.

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- 3.5.3 The facilities study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overheads) needed to implement the conclusions of the system impact study(s).
- 3.5.4 Design for any required Interconnection Facilities and/or Upgrades shall be performed under the facilities study agreement. The Transmission Owner may contract with consultants to perform activities required under the facilities study agreement. The Interconnection Customer and Transmission Owner may agree to allow the Interconnection Customer to separately arrange for the design of some of the Interconnection Facilities. In such cases, facilities design will be reviewed and/or modified prior to acceptance by the Transmission Owner, under the provisions of the facilities study agreement. If the Parties agree to separately arrange for design and construction, and provided security and confidentiality requirements can be met, the ITO and Transmission Owner shall make sufficient information available to the Interconnection Customer in accordance with confidentiality and critical infrastructure requirements to permit the Interconnection Customer to obtain an independent design and cost estimate for any necessary facilities.
- 3.5.5 A deposit of the good faith estimated costs for the facilities study may be required from the Interconnection Customer.
- 3.5.6 The scope of and cost responsibilities for the facilities study are described in the attached facilities study agreement.
- 3.5.7 Upon completion of the facilities study, and with the agreement of the Interconnection Customer to pay for Interconnection Facilities and Upgrades identified in the facilities study, the Transmission Owner through the ITO shall provide the Interconnection Customer an executable interconnection agreement within five Business Days.

Section 4. Interim Interconnection Service.

- 4.1 **Availability and Scope of Service.** Any Interconnection Customer will be eligible to request Interim Interconnection Service if (i) it has a valid and current Generator Interconnection Request; (ii) its Generating Facility, or the portion thereof that is the subject of the pending Generator Interconnection Request, is within one-hundred eighty (180) calendar days of testing or its anticipated Commercial Operation Date. Interim Interconnection Service is interconnection service that may be provided to an Interconnection Customer on a temporary and

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conditional basis while its Generator Interconnection Request is being processed through the SGIP, to the extent that the Generating Facility at issue will be completed and ready to interconnect before the SGIP study process has been completed or before required facility upgrades to accommodate the unit have been constructed. Interim Interconnection Service is limited to service that may be provided and supported by the transmission system in its current configuration without the need for Network Upgrades. Only the construction of Transmission Owner Interconnection Facilities will be considered to accommodate Interim Interconnection Service. Interim Interconnection Service is subject to the conditions and limitations of Section 4.7.

- 4.2 Request.** To request Interim Interconnection Service, an Interconnection Customer must submit an Interim Generator Interconnection Request to the ITO in the form of Appendix 2 to this SGIP.
- 4.3 Interim SGIP SIS Agreement.** Simultaneously with the acknowledgement of a valid Interim Generator Interconnection Request, Transmission Owner through the ITO, shall provide to Interconnection Customer an Interim SGIP SIS Agreement in the form of Appendix 10 to this SGIP. Interconnection Customer shall execute and deliver to ITO the Interim SGIP SIS Agreement along with any deposit specified therein no later than fifteen (15) Calendar Days after its receipt.
- 4.4 Interim Interconnection Study.**
- 4.4.1 Scope of Interim Interconnection System Impact Study.**
The Interconnection System Impact Study (“Interim SIS”) will consist of a short circuit analysis, a stability analysis, and a power flow analysis. The Interim SIS will state the assumptions upon which it is based; state the results of the analyses; and provide the requirements or potential impediments to providing the requested interconnection service. The Interim SIS will evaluate the adequacy of the transmission system in its current configuration to accommodate the Interim Generator Interconnection Service at the megawatt level specified in the Interim Generator Interconnection Request, which must be the same megawatt level as the megawatt level specified in the original Interconnection Request. As such, no higher-queued customers will be modeled in the Interim SIS. The ITO shall produce the results of the Interim SIS in a report to the Interconnection Customer.
- 4.4.2 Interim SIS Procedures.**
ITO shall utilize existing studies to the extent practicable when it performs the Interim SIS. ITO shall use Reasonable Efforts to complete the Interim SIS within ninety (90) Calendar Days after the

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receipt of the Interconnection System Impact Study Agreement or notification to proceed, study payment, and technical data.

At the request of Interconnection Customer or at any time ITO determines that it will not meet the required time frame for completing the Interim SIS, ITO shall notify Interconnection Customer as to the schedule status of the Interim SIS. If ITO is unable to complete the Interconnection System Impact Study within the time period, it shall notify Interconnection Customer and Transmission Owner and provide an estimated completion date with an explanation of the reasons why additional time is required. Upon request, ITO shall provide Interconnection Customer or Transmission Owner all supporting documentation, workpapers and relevant pre-Interim Generator Interconnection Request and post-Interim Generator Interconnection Request power flow, short circuit and stability databases for the Interim Interconnection System Impact Study, subject to confidentiality arrangements consistent with Section 5.5.

4.4.3 Meeting with ITO.

Within ten (10) Business Days of providing Interim SIS report to Interconnection Customer, ITO, Transmission Owner and Interconnection Customer shall meet to discuss the results of the Interim SIS.

4.5 Interim SGIA.

4.5.1 Tender. If the Interim SIS report concludes that the requested Interim Interconnection Service can be provided, the Transmission Owner through the ITO shall tender a draft Interim SGIA, together with draft appendices completed to the extent practicable, when it tenders the Interim SIS report. The draft Interim SGIA shall be in the form of Appendix 10 to this SGIP.

4.5.2 Execution and Filing. After receipt of a draft Interim SGIA, Interconnection Customer shall, within 30 days, either: (i) execute two originals of the tendered Interim SGIA and return them to ITO; or (ii) request in writing that Transmission Owner file with FERC an Interim SGIA in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of the tendered SGIA (if it does not conform with a FERC-approved standard form of interconnection agreement) or the request to file an unexecuted Interim SGIA, the Transmission Owner shall file the Interim SGIA with FERC, together with its explanation of any

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matters as to which Interconnection Customer and ITO and/or Transmission Owner disagree and support for the costs that ITO proposes to charge to Interconnection Customer under the Interim LGIA. An unexecuted Interim SGIA should contain terms and conditions deemed appropriate by ITO and the Transmission Owner for the Generator Interconnection Request.

- 4.6 Posting of Security.** Interconnection Customer must satisfy the requirements for the provision of financial security under the terms of the Interim SGIA.
- 4.7 Conditions of Interim Interconnection Service.** Interim Interconnection Service is governed by the terms of the Interim SGIA and is subject to the following limitations.
- 4.7.1 Output Limits.** The Interconnection Customer taking Interim Interconnection Service is limited to the output level specified in Appendix B of the Interim SGIA. That output level shall be subject to the demands of higher-queued customers pursuant to Section 4.7.2.
- 4.7.2 Subject to Demands of Higher-Queued Customers.** Interim Interconnection Service is limited by and subject to the requirements of higher-queued Interconnection Customers. Because Interim Interconnection Service will not be modeled in Feasibility Studies, System Impact Studies, or Facilities Studies for Interconnection Service requests of higher-queued customers, Interim Interconnection Service may be limited, terminated or otherwise curtailed in whole or in part by the ITO to accommodate Interconnection Service granted to a higher-queued Interconnection Customer. If such a limitation, termination, or curtailment of Interconnection Service is necessary, the ITO shall provide as much notice to the Interconnection Customer taking Interim Interconnection Service as is reasonably practicable. Any reduction pursuant to this Section will be based on the Queue Position priority of the Interconnection Customer's Generator Interconnection Request relative to the Queue Position priority of the Higher Queued Projects.
- 4.8 No Transmission Service.** The request for Interim Interconnection Service or the execution of an Interim SGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Owner's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery. A customer taking Interim Interconnection Service may qualify and operate its unit as a Designated Network Resource to the extent permitted by this OATT.

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Section 5. Provisions that Apply to All Generator Interconnection Requests

5.1 Reasonable Efforts

The ITO and Transmission Owner shall make reasonable efforts to meet all time frames provided in these procedures unless the ITO, Transmission Owner and the Interconnection Customer agree to a different schedule. If the ITO or Transmission Owner cannot meet a deadline provided herein, it shall notify the Interconnection Customer, explain the reason for the failure to meet the deadline, and provide an estimated time by which it will complete the applicable interconnection procedure in the process.

5.2 Disputes

5.2.1 The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this article.

5.2.2 In the event of a dispute, a Party shall provide the other Parties with a written Notice of Dispute. Such Notice shall describe in detail the nature of the dispute.

5.2.3 If the dispute has not been resolved within two Business Days after receipt of the Notice, a Party may contact FERC's Dispute Resolution Service (DRS) for assistance in resolving the dispute.

5.2.4 The DRS will assist the Parties in either resolving their dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the Parties in resolving their dispute. DRS can be reached at 1-877-337-2237 or via the internet at <http://www.ferc.gov/legal/adr.asp>.

5.2.5 Each Party agrees to conduct all negotiations in good faith and will be responsible for one-half of any costs paid to neutral third-parties.

5.2.6 If none of the Parties elects to seek assistance from the DRS, or if the attempted dispute resolution fails, then a Party may exercise, whatever rights and remedies it may have in equity or law consistent with the terms of this Agreement.

5.3 Interconnection Metering

Any metering necessitated by the use of the Small Generating Facility shall be installed at the Interconnection Customer's expense in accordance with Federal Energy Regulatory Commission, state or local regulatory requirements or the Transmission Owner's specifications.

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5.4 Commissioning

Commissioning tests of the Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards. The Transmission Owner must be given at least five Business Days written notice, or as otherwise mutually agreed to by the Parties, of the tests and may be present to witness the commissioning tests.

5.5 Confidentiality

5.5.1 Confidential information shall mean any confidential and/or proprietary information provided by one Party to another Party that is clearly marked or otherwise designated "Confidential." For purposes of this Agreement all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed confidential information regardless of whether it is clearly marked or otherwise designated as such.

5.5.2 Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Parties and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce this Agreement. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under this Agreement, or to fulfill legal or regulatory requirements.

5.5.2.1 Each Party shall employ at least the same standard of care to protect Confidential Information obtained from another Party as it employs to protect its own Confidential Information.

5.5.2.2 Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.

5.5.3 Notwithstanding anything in this article to the contrary, and pursuant to 18 CFR § 1b.20, if FERC, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to

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FERC, within the time provided for in the request for information. In providing the information to FERC, the Party may, consistent with 18 CFR § 388.112, request that the information be treated as confidential and non-public by FERC and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Parties to this Agreement prior to the release of the Confidential Information to FERC. The Party shall notify the other Parties to this Agreement when it is notified by FERC that a request to release Confidential Information has been received by FERC, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

5.6 Comparability

The ITO shall receive, process and analyze all Generator Interconnection Requests and Interim Generator Interconnection Requests in a timely manner as set forth in this document. The ITO shall use the same reasonable efforts in processing and analyzing Generator Interconnection Requests from all Interconnection Customers, whether the Small Generating Facility is owned or operated by the Transmission Owner, its subsidiaries or affiliates, or others.

5.7 Record Retention

The ITO and Transmission Owner shall maintain for three years records, subject to audit, of all Generator Interconnection Requests received under these procedures, the times required to complete Generator Interconnection Request approvals and disapprovals, and justification for the actions taken on the Generator Interconnection Requests.

5.8 Interconnection Agreement

After receiving an interconnection agreement from the ITO, the Interconnection Customer shall have 30 Business Days or another mutually agreeable timeframe to sign and return the interconnection agreement, or request that the Transmission Owner file an unexecuted interconnection agreement with the Federal Energy Regulatory Commission. If the Interconnection Customer does not sign the interconnection agreement, or ask that it be filed unexecuted by the Transmission Owner within 30 Business Days, the Generator Interconnection Request shall be deemed withdrawn. After the interconnection agreement is signed by the Parties, the interconnection of the Small Generating Facility shall proceed under the provisions of the interconnection agreement.

5.9 Coordination with Affected Systems

The ITO shall coordinate the conduct of any studies required to determine the

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impact of the Generator Interconnection Request on Affected Systems with Affected System operators and, if possible, include those results (if available) in its applicable interconnection study within the time frame specified in these procedures. The ITO will include such Affected System operators in all meetings held with the Interconnection Customer as required by these procedures. The Interconnection Customer will cooperate with the ITO in all matters related to the conduct of studies and the determination of modifications to Affected Systems. An ITO which may be an Affected System shall cooperate with the ITO with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems.

5.10 Capacity of the Small Generating Facility

- 5.10.1** If the Generator Interconnection Request or Interim Generator Interconnection Request is for an increase in capacity for an existing Small Generating Facility, the Generator Interconnection Request or Interim Generator Interconnection Request shall be evaluated on the basis of the new total capacity of the Small Generating Facility.
- 5.10.2** If the Generator Interconnection Request or Interim Generator Interconnection Request is for a Small Generating Facility that includes multiple energy production devices at a site for which the Interconnection Customer seeks a single Point of Interconnection, the Generator Interconnection Request shall be evaluated on the basis of the aggregate capacity of the multiple devices.
- 5.10.3** The Generator Interconnection Request or Interim Generator Interconnection Request shall be evaluated using the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission Owner's electric system. However, if the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission Owner's electric system is limited (e.g., through use of a control system, power relay(s), or other similar device settings or adjustments), then the Interconnection Customer must obtain the Transmission Owner's agreement, with such agreement not to be unreasonably withheld, that the manner in which the Interconnection Customer proposes to implement such a limit will not adversely affect the safety and reliability of the Transmission Owner's system. If the Transmission Owner does not so agree, then the Interconnection Request must be withdrawn or revised to specify the maximum capacity that the Small Generating Facility is capable of injecting into the Transmission Owner's electric system without such limitations. Furthermore, nothing in this section shall prevent a Transmission Owner from considering an output higher than the limited output, if

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appropriate, when evaluating system protection impacts.

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APPENDIX 1 TO SGIP
GLOSSARY OF TERMS

10 kW Inverter Process - The procedure for evaluating an Generator Interconnection Request for a certified inverter-based Small Generating Facility no larger than 10 kW that uses the section 2 screens. The application process uses an all-in-one document that includes a simplified Generator Interconnection Request, simplified procedures, and a brief set of terms and conditions. See SGIP Appendix 5.

Affected System - An electric system other than the Transmission Owner's Transmission System that may be affected by the proposed interconnection.

Business Day - Monday through Friday, excluding Federal Holidays.

Distribution System - The Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

Distribution Upgrades - The additions, modifications, and upgrades to the Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Small Generating Facility and render the transmission service necessary to effect the Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Fast Track Process - The procedure for evaluating an Generator Interconnection Request for a certified Small Generating Facility that meets the eligibility requirements of section 2.1 and includes the section 2 screens, customer options meeting, and optional supplemental review.

Generator Interconnection Request - The Interconnection Customer's request, in accordance with the Tariff, to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Small Generating Facility that is interconnected with the Transmission Owner's Transmission System.

Independent Transmission Organization - The entity (referred to herein as the "ITO") to which LG&E/KU have delegated the responsibility and authority to administer the Tariff.

Interconnection Customer - Any entity, including the Transmission Owner or any of its affiliates or subsidiaries that proposes to interconnect its Small Generating Facility with the Transmission Owner's Transmission System.

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Interconnection Facilities - The Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to the Transmission Owner's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

Interim Generator Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 2 to the Standard Small Generator Interconnection Procedures, for Interim Interconnection Service.

Interim Interconnection Service shall mean Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Owner's Transmission System and be eligible to deliver the Generating Facility's electric output on a temporary basis while the Interconnection Customer completes the interconnection process.

Interim Interconnection System Impact Study ("Interim SIS") shall mean the study conducted in response to a request by an Interconnection Customer for Interim Interconnection Service.

Interim SGIP SIS Agreement shall mean the form of agreement contained in Appendix 10 of the Standard Small Generator Interconnection Procedures for conducting the Interim Interconnection Study.

Interim SGIA shall mean the agreement that governs the provision of Interim Interconnection Service.

Material Modification - A modification that has a material impact on the cost or timing of any Generator Interconnection Request with a later queue priority date.

Network Resource - Any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service - An Interconnection Service that allows the Interconnection Customer to integrate its Generating Facility with the Transmission Owner's System (1) in a manner comparable to that in which the Transmission Owner integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

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Network Upgrades - Additions, modifications, and upgrades to the Transmission Owner's Transmission System required at or beyond the point at which the Small Generating Facility interconnects with the Transmission Owner's Transmission System to accommodate the interconnection with the Small Generating Facility to the Transmission Owner's Transmission System. Network Upgrades do not include Distribution Upgrades.

Party or Parties - The ITO, Transmission Owner, Interconnection Customer or any combination of the above.

Point of Interconnection - The point where the Interconnection Facilities connect with the Transmission Owner's Transmission System.

Queue Position - The order of a valid Generator Interconnection Request, relative to all other pending valid Generator Interconnection Requests that is established based upon the date and time of receipt of the valid Generator Interconnection Request by the ITO.

Reliability Coordinator - The party charged with providing reliability coordination service for the Transmission Owner's system in accordance with Attachment P hereto.

Small Generating Facility - The Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Generator Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Study Process - The procedure for evaluating an Generator Interconnection Request that includes the section 3 scoping meeting, feasibility study, system impact study, and facilities study.

Transmission Owner - LG&E/KU, the public utility operating companies which: (i) own the Transmission System; (ii) contract with the ITO to provide open access transmission service under the Tariff; (iii) conduct those functions specified herein necessary for the ITO to provide open access transmission service under the Tariff; and (iv) receive payment for Transmission Service as provided for in the Tariff.

Transmission System - The facilities owned and operated by the Transmission Owner, and controlled by the ITO to the extent and as provided for in this Tariff, that are used to provide transmission service under Part II and Part III of the Tariff.

Upgrades - The required additions and modifications to the Transmission Owner's Transmission System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

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APPENDIX 2 TO SGIP
SMALL GENERATOR INTERCONNECTION REQUEST

(Application Form)

ITO:

Designated Contact Person: _____

Address: _____

Telephone Number: _____

Fax: _____

E-Mail Address: _____

An Generator Interconnection Request is considered complete when it provides all applicable and correct information required below.

Preamble and Instructions

An Interconnection Customer who requests a Federal Energy Regulatory Commission jurisdictional interconnection must submit this Generator Interconnection Request by hand delivery or electronic notification to the ITO.

Processing Fee or Deposit:

If the Generator Interconnection Request is submitted under the Fast Track Process, the non-refundable processing fee is \$500.

If the Generator Interconnection Request is submitted under the Study Process, whether a new submission or an Generator Interconnection Request that did not pass the Fast Track Process, the Interconnection Customer shall submit to the ITO a deposit not to exceed \$1,000 towards the cost of the feasibility study.

Interconnection Customer Information

Legal Name of the Interconnection Customer (or, if an individual, individual's name)

Name:

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Contact Person:

Mailing Address:

City: State: Zip:

Facility Location (if different from above):

Telephone (Day): Telephone (Evening):

Fax: E-Mail Address:

Alternative Contact Information (if different from the Interconnection Customer)

Contact Name:

Title:

Address:

Telephone (Day): Telephone (Evening):

Fax: E-Mail Address:

Application is for: New Small Generating Facility
 Capacity addition to Existing Small Generating Facility

Indicate if request is for Interim Interconnection Service. Yes ___ No ___

If capacity addition to existing facility, please describe:

Will the Small Generating Facility be used for any of the following?

Net Metering? Yes ___ No ___

To Supply Power to the Interconnection Customer? Yes ___ No ___

To Supply Power to Others? Yes ___ No ___

For installations at locations with existing electric service to which the proposed Small
Generating Facility will interconnect, provide:

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(Local Electric Service Provider*) _____

(Existing Account Number*) _____

[*To be provided by the Interconnection Customer if the local electric service provider is
different from the Transmission Owner]

Contact Name: _____

Title: _____

Address: _____

Telephone (Day): _____ Telephone (Evening) _____

Fax: _____ E-Mail Address: _____

Requested Point of Interconnection: _____

Interconnection Customer's Requested In-Service Date: _____

Small Generating Facility Information

Data apply only to the Small Generating Facility, not the Interconnection Facilities.

Energy Source: ___ Solar ___ Wind ___ Hydro ___ Hydro Type (e.g. Run-of-
River): _____

Diesel ___ Natural Gas ___ Fuel Oil ___ Other (state type) _____

Prime Mover: ___ Fuel Cell ___ Recip Engine ___ Gas Turb ___ Steam Turb
___ Microturbine ___ PV ___ Other

Type of Generator: ___ Synchronous ___ Induction ___ Inverter

Generator Nameplate Rating: _____ kW (Typical) Generator Nameplate kVAR: _____

Interconnection Customer or Customer-Site Load: _____ kW (if none, so state)

Typical Reactive Load (if known): _____

Maximum Physical Export Capability Requested: _____ kW

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Primary Frequency Response Operating Range for Electric Storage Resources:

Minimum State of Charge: _____

Maximum State of Charge: _____

List components of the Small Generating Facility equipment package that are currently certified:

Equipment Type	Certifying Entity
1. _____	
2. _____	
3. _____	
4. _____	
5. _____	

Is the prime mover compatible with the certified protective relay package? Yes
 No

Generator (or solar collector)
Manufacturer, Model Name & Number: _____
Version Number: _____

Nameplate Output Power Rating in kW: (Summer) _____ (Winter) _____
Nameplate Output Power Rating in kVA: (Summer) _____ (Winter) _____

Individual Generator Power Factor
Rated Power Factor: Leading: _____ Lagging: _____

Total Number of Generators in wind farm to be interconnected pursuant to this Generator
Interconnection Request: _____ Elevation: _____ Single phase
 Three phase

Inverter Manufacturer, Model Name & Number (if used):

List of adjustable set points for the protective equipment or software:

Note: A completed Power Systems Load Flow data sheet must be supplied with the Generator Interconnection Request.

Small Generating Facility Characteristic Data (for inverter-based machines)

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Max design fault contribution current: _____ Instantaneous _____ or RMS?

Harmonics Characteristics: _____

Start-up requirements: _____

Small Generating Facility Characteristic Data (for rotating machines)

RPM Frequency: _____

(*) Neutral Grounding Resistor (If Applicable): _____

Synchronous Generators:

Direct Axis Synchronous Reactance, X_d : _____ P.U.

Direct Axis Transient Reactance, X'_d : _____ P.U.

Direct Axis Subtransient Reactance, X''_d : _____ P.U.

Negative Sequence Reactance, X_2 : _____ P.U.

Zero Sequence Reactance, X_0 : _____ P.U.

KVA Base: _____

Field Volts: _____

Field Amperes: _____

Induction Generators:

Motoring Power (kW): _____

I^2t or K (Heating Time Constant): _____

Rotor Resistance, R_r : _____

Stator Resistance, R_s : _____

Stator Reactance, X_s : _____

Rotor Reactance, X_r : _____

Magnetizing Reactance, X_m : _____

Short Circuit Reactance, X_d'' : _____

Exciting Current: _____

Temperature Rise: _____

Frame Size: _____

Design Letter: _____

Reactive Power Required In Vars (No Load): _____

Reactive Power Required In Vars (Full Load): _____

Total Rotating Inertia, H: _____ Per Unit on kVA Base

Note: Please contact the ITO prior to submitting the Generator Interconnection Request to

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determine if the specified information above is required.

Excitation and Governor System Data for Synchronous Generators Only

Provide appropriate IEEE model block diagram of excitation system, governor system and power system stabilizer (PSS) in accordance with the regional reliability council criteria. A PSS may be determined to be required by applicable studies. A copy of the manufacturer's block diagram may not be substituted.

Interconnection Facilities Information

Will a transformer be used between the generator and the point of common coupling? Yes
 No

Will the transformer be provided by the Interconnection Customer? Yes No

Transformer Data (If Applicable, for Interconnection Customer-Owned Transformer):

Is the transformer: single phase three phase? Size: _____ kVA
Transformer Impedance: _____ % on _____ kVA Base

If Three Phase:

Transformer Primary: _____ Volts Delta Wye Wye Grounded
Transformer Secondary: _____ Volts Delta Wye Wye Grounded
Transformer Tertiary: _____ Volts Delta Wye Wye Grounded

Transformer Fuse Data (If Applicable, for Interconnection Customer-Owned Fuse):

(Attach copy of fuse manufacturer's Minimum Melt and Total Clearing Time-Current Curves)

Manufacturer: _____ Type: _____ Size: _____ Speed: _____

Interconnecting Circuit Breaker (if applicable):

Manufacturer: _____ Type: _____

Load Rating (Amps): _____ Interrupting Rating (Amps): _____ Trip Speed (Cycles): _____

Interconnection Protective Relays (If Applicable):

If Microprocessor-Controlled:

List of Functions and Adjustable Setpoints for the protective equipment or software:

Setpoint Function	Minimum	Maximum
-------------------	---------	---------

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- | | | |
|----------|--|--|
| 1. _____ | | |
| 2. _____ | | |
| 3. _____ | | |
| 4. _____ | | |
| 5. _____ | | |
| 6. _____ | | |

If Discrete Components:

(Enclose Copy of any Proposed Time-Overcurrent Coordination Curves)

Manufacturer:	Type:	Style/Catalog No.:	Proposed Setting:
Manufacturer:	Type:	Style/Catalog No.:	Proposed Setting:
Manufacturer:	Type:	Style/Catalog No.:	Proposed Setting:
Manufacturer:	Type:	Style/Catalog No.:	Proposed Setting:
Manufacturer:	Type:	Style/Catalog No.:	Proposed Setting:

Current Transformer Data (If Applicable):

(Enclose Copy of Manufacturer's Excitation and Ratio Correction Curves)

Manufacturer:	Type:	Accuracy Class:	Proposed Ratio Connection: _____
Manufacturer:	Type:	Accuracy Class:	Proposed Ratio Connection: _____

Potential Transformer Data (If Applicable):

Manufacturer:	Type:	Accuracy Class:	Proposed Ratio Connection: _____
Manufacturer:	Type:	Accuracy Class:	Proposed Ratio Connection: _____

General Information

Enclose copy of site electrical one-line diagram showing the configuration of all Small
 Generating Facility equipment, current and potential circuits, and protection and control
 schemes. This one-line diagram must be signed and stamped by a licensed Professional Engineer
 if the Small Generating Facility is larger than 50 kW. Is One-Line Diagram Enclosed?

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Yes No

Enclose copy of any site documentation that indicates the precise physical location of the proposed Small Generating Facility (e.g., USGS topographic map or other diagram or documentation).

Proposed location of protective interface equipment on property (include address if different from the Interconnection Customer's address)

Enclose copy of any site documentation that describes and details the operation of the protection and control schemes. Is Available Documentation Enclosed? Yes No

Enclose copies of schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable).
Are Schematic Drawings Enclosed? Yes No

Applicant Signature

I hereby certify that, to the best of my knowledge, all the information provided in this Generator Interconnection Request is true and correct.

For Interconnection Customer: _____ Date: _____

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APPENDIX 3 TO SGIP
CERTIFICATION CODES AND STANDARDS

IEEE1547 Standard for Interconnecting Distributed Resources with Electric Power Systems
(including use of IEEE 1547.1 testing protocols to establish conformity)

UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems IEEE Std
929-2000

IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems

NFPA 70 (2002), National Electrical Code

IEEE Std C37.90.1-1989 (R1994), IEEE Standard Surge Withstand Capability (SWC) Tests for
Protective Relays and Relay Systems

IEEE Std C37.90.2 (1995), IEEE Standard Withstand Capability of Relay Systems to Radiated
Electromagnetic Interference from Transceivers

IEEE Std C37.108-1989 (R2002), IEEE Guide for the Protection of Network Transformers

IEEE Std C57.12.44-2000, IEEE Standard Requirements for Secondary Network Protectors

IEEE Std C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low
Voltage (1000V and Less) AC Power Circuits

IEEE Std C62.45-1992 (R2002), IEEE Recommended Practice on Surge Testing for Equipment
Connected to Low-Voltage (1000V and Less) AC Power Circuits

ANSI C84.1-1995 Electric Power Systems and Equipment - Voltage Ratings (60 Hertz)

IEEE Std 100-2000, IEEE Standard Dictionary of Electrical and Electronic Terms
NEMA MG 1-1998, Motors and Small Resources, Revision 3

IEEE Std 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in
Electrical Power Systems

NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1 Original Sheet No. 372

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APPENDIX 4 TO SGIP
CERTIFICATION OF SMALL GENERATOR EQUIPMENT PACKAGES

- 1.0 Small Generating Facility equipment proposed for use separately or packaged with other equipment in an interconnection system shall be considered certified for interconnected operation if (1) it has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in SGIP Appendix 3, (2) it has been labeled and is publicly listed by such NRTL at the time of the interconnection application, and (3) such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer's literature accompanying the equipment.
- 2.0 The Interconnection Customer must verify that the intended use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.
- 3.0 Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for an on-site commissioning test by the parties to the interconnection nor follow-up production testing by the NRTL.
- 4.0 If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.
- 5.0 Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL, and does not violate the interface components' labeling and listing performed by the NRTL, no further design review, testing or additional equipment on the customer side of the point of common coupling shall be required to meet the requirements of this interconnection procedure.
- 6.0 An equipment package does not include equipment provided by the utility.
- 7.0 Any equipment package approved and listed in a state by that state's regulatory body for interconnected operation in that state prior to the effective date of these small generator interconnection procedures shall be considered certified under these procedures for use in

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that state.

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APPENDIX 5 TO SGIP
APPLICATION, PROCEDURES, AND TERMS AND CONDITIONS FOR
INTERCONNECTING A CERTIFIED INVERTER-BASED SMALL GENERATING
FACILITY NO LARGER THAN 10 KW ("10 KW INVERTER PROCESS")

- 1.0 The Interconnection Customer ("Customer") completes the Generator Interconnection Request ("Application") and submits it to the ITO.
- 2.0 The ITO acknowledges to the Customer receipt of the Application within three Business Days of receipt.
- 3.0 The ITO evaluates the Application for completeness and notifies the Customer within ten Business Days of receipt that the Application is or is not complete and, if not, advises what material is missing.
- 4.0 The ITO in coordination with the Transmission Owner verifies that the Small Generating Facility can be interconnected safely and reliably using the screens contained in the Fast Track Process in the Small Generator Interconnection Procedures (SGIP). The ITO and Transmission Owner have 15 Business Days to complete this process. Unless the ITO and Transmission Owner determine and demonstrate that the Small Generating Facility cannot be interconnected safely and reliably, the ITO approves the Application and returns it to the Customer. Note to Customer: Please check with the ITO and Transmission Owner before submitting the Application if disconnection equipment is required.
- 5.0 After installation, the Customer returns the Certificate of Completion to the ITO. Prior to parallel operation, the Transmission Owner may inspect the Small Generating Facility for compliance with standards which may include a witness test, and may schedule appropriate metering replacement, if necessary.
- 6.0 The Transmission Owner notifies the Customer in writing that interconnection of the Small Generating Facility is authorized. If the witness test is not satisfactory, the Transmission Owner has the right to disconnect the Small Generating Facility. The Customer has no right to operate in parallel until a witness test has been performed, or previously waived on the Application. The Transmission Owner is obligated to complete this witness test within ten Business Days of the receipt of the Certificate of Completion. If the Transmission Owner does not inspect within ten Business Days or by mutual agreement of the Parties, the witness test is deemed waived.
- 7.0 Contact Information - The Customer must provide the contact information for the legal applicant (i.e., the Interconnection Customer). If another entity is responsible for interfacing with the ITO and Transmission Owner, that contact information must be provided on the Application.

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- 8.0 Ownership Information - Enter the legal names of the owner(s) of the Small Generating Facility. Include the percentage ownership (if any) by any utility or public utility holding company, or by any entity owned by either.
- 9.0 UL1741 Listed - This standard ("Inverters, Converters, and Controllers for Use in Independent Power Systems") addresses the electrical interconnection design of various forms of generating equipment. Many manufacturers submit their equipment to a Nationally Recognized Testing Laboratory (NRTL) that verifies compliance with UL1741. This "listing" is then marked on the equipment and supporting documentation.

Application for Interconnecting a Certified Inverter-Based Small Generating Facility No Larger than 10kW

This Application is considered complete when it provides all applicable and correct information required below. Additional information to evaluate the Application may be required.

Processing Fee

A non-refundable processing fee of \$100 must accompany this Application.

Interconnection Customer

Name: _____

Contact Person: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Contact (if different from Interconnection Customer)

Name: _____

Contact Person: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

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Owner of the facility (include % ownership by any electric utility): _____

35.1.1 Small Generating Facility Information

Location (if different from above): _____

Electric Service Company: _____

Account Number: _____

Inverter Manufacturer: _____ Model _____

Nameplate Rating: _____ (kW) _____ (kVA) _____ (AC Volts)

Single Phase _____ Three Phase _____
System Design Capacity: _____ (kW) _____ (kVA)

Prime Mover: Photovoltaic Reciprocating Engine Fuel Cell
 Turbine Other _____

Energy Source: Solar Wind Hydro Diesel Natural Gas
 Fuel Oil Other (describe) _____

Is the equipment UL1741 Listed? Yes _____ No _____
If Yes, attach manufacturer's cut-sheet showing UL1741 listing

Estimated Installation Date: _____ Estimated In-Service Date: _____

The 10 kW Inverter Process is available only for inverter-based Small Generating Facilities no larger than 10 kW that meet the codes, standards, and certification requirements of Appendices 3 and 4 of the Small Generator Interconnection Procedures (SGIP), or the Transmission Owner has reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

List components of the Small Generating Facility equipment package that are currently certified:

Equipment Type	Certifying Entity
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Interconnection Customer Signature

I hereby certify that, to the best of my knowledge, the information provided in this Application is

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true. I agree to abide by the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW and return the Certificate of Completion when the Small Generating Facility has been installed.

Signed: _____
Title: _____ Date: _____

Contingent Approval to Interconnect the Small Generating Facility

(For Transmission Owner use only)

Interconnection of the Small Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW and return of the Certificate of Completion.

Transmission Owner Signature: _____

Title: _____ Date: _____

Application ID number: _____

Company waives inspection/witness test? Yes ___ No ___

Small Generating Facility Certificate of Completion

Is the Small Generating Facility owner-installed? Yes _____ No _____

Interconnection Customer:

Contact Person: _____

Address: _____

Location of the Small Generating Facility (if different from above):

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Electrician:

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Contact (if different from Interconnection Customer)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

License number: _____

Date Approval to Install Facility granted by the Transmission Owner: _____

Application ID number: _____

Inspection:

The Small Generating Facility has been installed and inspected in compliance with the local
building/electrical code of _____

Signed (Local electrical wiring inspector, or attach signed electrical inspection):

Print Name: _____

Date: _____

As a condition of interconnection, you are required to send/fax a copy of this form along with a
copy of the signed electrical permit to (insert Company information below):

Name: _____

Company: _____

Address: _____

City, State ZIP: _____

Fax: _____

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Approval to Energize the Small Generating Facility (for Company use only)

Energizing the Small Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW

Company Signature: _____

Title: _____ Date: _____

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**Terms and Conditions for Interconnecting an Inverter-Based
Small Generating Facility No Larger than 10kW**

1.0 Construction of the Facility

The Interconnection Customer (the "Customer") may proceed to construct (including operational testing not to exceed two hours) the Small Generating Facility when the Transmission Owner approves the Generator Interconnection Request (the "Application") and the Transmission Owner returns it to the Customer.

2.0 Interconnection and Operation

The Customer may operate Small Generating Facility and interconnect with the Transmission Owner's electric system once all of the following have occurred:

- 2.1 Upon completing construction, the Customer will cause the Small Generating Facility to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction, and
- 2.2 The Customer returns the Certificate of Completion to the Company, and
- 2.3 The Transmission Owner has either:
 - 2.3.1 Completed its inspection of the Small Generating Facility to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes. All inspections must be conducted by the Transmission Owner, at its own expense, within ten Business Days after receipt of the Certificate of Completion and shall take place at a time agreeable to the Parties. The Transmission Owner shall provide a written statement that the Small Generating Facility has passed inspection or shall notify the Customer of what steps it must take to pass inspection as soon as practicable after the inspection takes place; or
 - 2.3.2 If the Transmission Owner does not schedule an inspection of the Small Generating Facility within ten business days after receiving the Certificate of Completion, the witness test is deemed waived (unless the Parties agree otherwise); or
 - 2.3.3 The Transmission Owner waives the right to inspect the Small Generating Facility.
- 2.4 The Transmission Owner has the right to disconnect the Small Generating Facility in the event of improper installation or failure to return the Certificate of Completion.

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2.5 Revenue quality metering equipment must be installed and tested in accordance with applicable ANSI standards.

3.0 Safe Operations and Maintenance

The Customer shall be fully responsible to operate, maintain, and repair the Small Generating Facility as required to ensure that it complies at all times with the interconnection standards to which it has been certified.

4.0 Access

The Transmission Owner shall have access to the disconnect switch (if the disconnect switch is required) and metering equipment of the Small Generating Facility at all times. The Transmission Owner shall provide reasonable notice to the Customer when possible prior to using its right of access.

5.0 Disconnection

The Transmission Owner may temporarily disconnect the Small Generating Facility upon the following conditions:

5.1 For scheduled outages upon reasonable notice.

5.2 For unscheduled outages or emergency conditions.

5.3 If the Small Generating Facility does not operate in the manner consistent with these Terms and Conditions.

5.4 The Transmission Owner shall inform the Customer in advance of any scheduled disconnection, or as is reasonable after an unscheduled disconnection.

6.0 Indemnification

The Parties shall at all times indemnify, defend, and save the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

7.0 Insurance

The Parties each agree to maintain commercially reasonable amounts of insurance.

8.0 Limitation of Liability

Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or

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omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever, except as allowed under paragraph 6.0.

9.0 Termination

The agreement to operate in parallel may be terminated under the following conditions:

9.1 By the Customer

By providing written notice to the Transmission Owner.

9.2 By the Company

If the Small Generating Facility fails to operate for any consecutive 12 month period or the Customer fails to remedy a violation of these Terms and Conditions.

9.3 Permanent Disconnection

In the event this Agreement is terminated, the Transmission Owner shall have the right to disconnect its facilities or direct the Customer to disconnect its Small Generating Facility.

9.4 Survival Rights

This Agreement shall continue in effect after termination to the extent necessary to allow or require either Party to fulfill rights or obligations that arose under the Agreement.

10.0 Assignment/Transfer of Ownership of the Facility

This Agreement shall survive the transfer of ownership of the Small Generating Facility to a new owner when the new owner agrees in writing to comply with the terms of this Agreement and so notifies the Transmission Owner.

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APPENDIX 6 TO SGIP
FEASIBILITY STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") _____ a _____ organized and existing under the laws of the State of _____, ("Transmission Owner") and by and between _____ a _____ organized and existing under the laws of the State of _____ ("ITO"). Interconnection Customer, Transmission Owner and ITO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Generator Interconnection Request completed by Interconnection Customer on _____; and

WHEREAS, Interconnection Customer desires to interconnect the Small Generating Facility with the Transmission Owner's Transmission System; and

WHEREAS, Interconnection Customer has requested the ITO in coordination with the Transmission Owner to perform a feasibility study to assess the feasibility of interconnecting the proposed Small Generating Facility with the Transmission Owner's Transmission System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Small Generator Interconnection Procedures.
- 2.0 The Interconnection Customer elects and the ITO and Transmission Owner shall cause to be performed an interconnection feasibility study consistent the standard Small Generator Interconnection Procedures in accordance with the Open Access Transmission Tariff.
- 3.0 The scope of the feasibility study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The feasibility study shall be based on the technical information provided by the Interconnection Customer in the Generator Interconnection Request, as may be modified

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as the result of the scoping meeting. The ITO reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the feasibility study and as designated in accordance with the standard Small Generator Interconnection Procedures. If the Interconnection Customer modifies its Generator Interconnection Request, the time to complete the feasibility study may be extended by agreement of the Parties.

- 5.0 In performing the study, the ITO shall rely, to the extent reasonably practicable, on existing studies of recent vintage. The Interconnection Customer shall not be charged for such existing studies; however, the Interconnection Customer shall be responsible for charges associated with any new study or modifications to existing studies that are reasonably necessary to perform the feasibility study.
- 6.0 The feasibility study report shall provide the following analyses for the purpose of identifying any potential adverse system impacts that would result from the interconnection of the Small Generating Facility as proposed:
 - 6.1 Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
 - 6.2 Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;
 - 6.3 Initial review of grounding requirements and electric system protection; and
 - 6.4 Description and non-bonding estimated cost of facilities required to interconnect the proposed Small Generating Facility and to address the identified short circuit and power flow issues.
- 7.0 The feasibility study shall model the impact of the Small Generating Facility regardless of purpose in order to avoid the further expense and interruption of operation for reexamination of feasibility and impacts if the Interconnection Customer later changes the purpose for which the Small Generating Facility is being installed.
- 8.0 The study shall include the feasibility of any interconnection at a proposed project site where there could be multiple potential Points of Interconnection, as requested by the Interconnection Customer and at the Interconnection Customer's cost.
- 9.0 A deposit of the lesser of 50 percent of good faith estimated feasibility study costs or earnest money of \$1,000 may be required from the Interconnection Customer.
- 10.0 Once the feasibility study is completed, a feasibility study report shall be prepared and transmitted to the Interconnection Customer. Barring unusual circumstances, the feasibility study must be completed and the feasibility study report transmitted within 30

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Business Days of the Interconnection Customer's agreement to conduct a feasibility study.

- 11.0 Any study fees shall be based on the ITO's actual costs, including any costs incurred by ITO or Transmission Owner with performing their respective functions for the study, and will be invoiced to the Interconnection Customer after the study is completed and delivered and will include a summary of professional time.
- 12.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 30 calendar days on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the ITO shall refund such excess within 30 calendar days of the invoice without interest.
- 13.0 Governing Law, Regulatory Authority, and Rules
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.
- 14.0 Amendment
The Parties may amend this Agreement by a written instrument duly executed by both Parties.
- 15.0 No Third-Party Beneficiaries
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.
- 16.0 Waiver
 - 16.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.
 - 16.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Transmission Owner. Any waiver of this Agreement shall, if requested, be provided in writing.

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17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

20.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Transmission Owner be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

The Transmission Owner shall have the right to make a unilateral filing with FERC to

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modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and the Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of ITO]

[Insert name of Transmission Owner]

Signed:_____

Signed:_____

Name (Printed):

Name (Printed):

Title:_____

Title:_____

[Insert name of Interconnection Customer]

Signed:_____

Name (Printed):

Title:_____

Attachment A to

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Feasibility Study Agreement

Assumptions Used in Conducting the Feasibility Study

The feasibility study will be based upon the information set forth in the Generator Interconnection Request and agreed upon in the scoping meeting held on _____:

- 1) Designation of Point of Interconnection and configuration to be studied.

- 2) Designation of alternative Points of Interconnection and configuration.

1) and 2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and the ITO and Transmission Owner.

APPENDIX 7 TO SGIP SYSTEM IMPACT STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Owner") and _____ a _____ existing under the laws of the State of _____, ("ITO"). Interconnection Customer, Transmission Owner and ITO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Generator Interconnection Request completed by the Interconnection Customer on _____; and

WHEREAS, the Interconnection Customer desires to interconnect the Small Generating Facility

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with the Transmission Owner's Transmission System;

WHEREAS, the ITO has completed a feasibility study and provided the results of said study to the Interconnection Customer (This recital to be omitted if the Parties have agreed to forego the feasibility study.) and Transmission Owner; and

WHEREAS, the Interconnection Customer has requested the ITO to perform a system impact study(s) to assess the impact of interconnecting the Small Generating Facility with the Transmission Owner's Transmission System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Small Generator Interconnection Procedures.
- 2.0 The Interconnection Customer elects and the ITO shall cause to be performed a system impact study(s) consistent with the standard Small Generator Interconnection Procedures in accordance with the Open Access Transmission Tariff.
- 3.0 The scope of a system impact study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 A system impact study will be based upon the results of the feasibility study and the technical information provided by Interconnection Customer in the Generator Interconnection Request. The ITO reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the system impact study. If the Interconnection Customer modifies its designated Point of Interconnection, Generator Interconnection Request, or the technical information provided therein is modified, the time to complete the system impact study may be extended.
- 5.0 A system impact study shall consist of a short circuit analysis, a stability analysis, a power flow analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews, as necessary. A system impact study shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. A system impact study shall provide a list of facilities that are required as a result of the Generator Interconnection Request and non-binding good faith estimates of cost responsibility and time to construct.
- 6.0 A distribution system impact study shall incorporate a distribution load flow study, an

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analysis of equipment interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, grounding reviews, and the impact on electric system operation, as necessary.

- 7.0 Affected Systems may participate in the preparation of a system impact study, with a division of costs among such entities as they may agree. All Affected Systems shall be afforded an opportunity to review and comment upon a system impact study that covers potential adverse system impacts on their electric systems, and the ITO has 20 additional Business Days to complete a system impact study requiring review by Affected Systems.
- 8.0 If the ITO uses a queuing procedure for sorting or prioritizing projects and their associated cost responsibilities for any required Network Upgrades, the system impact study shall consider all generating facilities (and with respect to paragraph 8.3 below, any identified Upgrades associated with such higher queued interconnection) that, on the date the system impact study is commenced -
 - 8.1 Are directly interconnected with the Transmission Owner's electric system; or
 - 8.2 Are interconnected with Affected Systems and may have an impact on the proposed interconnection; and
 - 8.3 Have a pending higher queued Generator Interconnection Request to interconnect with the Transmission Owner's electric system.
- 9.0 A distribution system impact study, if required, shall be completed and the results transmitted to the Interconnection Customer within 30 Business Days after this Agreement is signed by the Parties. A transmission system impact study, if required, shall be completed and the results transmitted to the Interconnection Customer within 45 Business Days after this Agreement is signed by the Parties, or in accordance with the ITO's queuing procedures.
- 10.0 A deposit of the equivalent of the good faith estimated cost of a distribution system impact study and the one half the good faith estimated cost of a transmission system impact study may be required from the Interconnection Customer.
- 11.0 Any study fees shall be based on the ITO's actual costs, including any costs incurred by ITO or Transmission Owner with performing their functions for the study, and will be invoiced to the Interconnection Customer after the study is completed and delivered and will include a summary of professional time.
- 12.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 30 calendar days on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the ITO shall refund such excess within 30 calendar days of the invoice without interest.

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13.0 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

14.0 Amendment

The Parties may amend this Agreement by a written instrument duly executed by both Parties.

15.0 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

16.0 Waiver

16.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

16.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Transmission Owner. Any waiver of this Agreement shall, if requested, be provided in writing.

17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

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19.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

20.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Transmission Owner be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

The Transmission Owner shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and the Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

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[Insert name of ITO]

[Insert name of Transmission Owner]

Signed: _____

Signed: _____

Name (Printed):

Name (Printed):

Title: _____

Title: _____

[Insert name of Interconnection Customer]

Signed: _____

Name (Printed):

Title: _____

**Attachment A to System
Impact Study Agreement**

Assumptions Used in Conducting the System Impact Study

The system impact study shall be based upon the results of the feasibility study, subject to any modifications in accordance with the standard Small Generator Interconnection Procedures, and the following assumptions:

- 1) Designation of Point of Interconnection and configuration to be studied.

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- 2) Designation of alternative Points of Interconnection and configuration.

1) and 2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and the ITO and Transmission Owner.

APPENDIX 7A TO SGIP
INTERIM INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT
("INTERIM SGIP SIS AGREEMENT")

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Owner") and _____ a _____ existing under the laws of the State of _____, ("ITO"). Interconnection Customer and ITO and Transmission Owner each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Generator Interconnection Request completed by the Interconnection Customer on _____; and

WHEREAS, Interconnection Customer has satisfied the requirements for requesting Interim Interconnection Service;

WHEREAS, Interconnection Customer desires to interconnect the Small Generating Facility with the Transmission System on an interim basis before all such required studies under the SGIP process can be completed;

WHEREAS, the Interconnection Customer has requested the ITO to perform an Interim Interconnection SIS to assess the impact of interconnecting the Small Generating Facility with the Transmission Owner's Transmission System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

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- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Small Generator Interconnection Procedures.
- 2.0 The Interconnection Customer elects and the ITO shall cause to be performed an Interim SIS consistent with the standard Small Generator Interconnection Procedures in accordance with the Open Access Transmission Tariff.
- 3.0 The scope of an Interim SIS shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 An Interim SIS will be based upon the results of the feasibility study and the technical information provided by Interconnection Customer in the Generator Interconnection Request. The ITO reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interim SIS. If the Interconnection Customer modifies its designated Point of Interconnection, Interim Generator Interconnection Request, or the technical information provided therein is modified, the time to complete the Interim SIS may be extended.
- 5.0 An Interim SIS shall consist of a short circuit analysis, a stability analysis, a power flow analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews, as necessary. An Interim SIS shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. An Interim SIS shall provide a list of facilities that are required as a result of the Interim Generator Interconnection Request and non-binding good faith estimates of cost responsibility and time to construct.
- 6.0 A distribution system impact study shall incorporate a distribution load flow study, an analysis of equipment interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, grounding reviews, and the impact on electric system operation, as necessary.
- 7.0 Affected Systems may participate in the preparation of an Interim SIS, with a division of costs among such entities as they may agree. All Affected Systems shall be afforded an opportunity to review and comment upon an Interim SIS that covers potential adverse system impacts on their electric systems, and the ITO has 20 additional Business Days to complete an Interim SIS requiring review by Affected Systems.
- 8.0 The scope of the Interim SIS shall be determined in accordance with Section 4.4.1 of the SGIP.

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- 9.0 A distribution system impact study, if required, shall be completed and the results transmitted to the Interconnection Customer within 30 Business Days after this Agreement is signed by the Parties. A transmission system impact study, if required, shall be completed and the results transmitted to the Interconnection Customer within 45 Business Days after this Agreement is signed by the Parties, or in accordance with the ITO's queuing procedures.
- 10.0 A deposit of the equivalent of the good faith estimated cost of a distribution system impact study and the one half the good faith estimated cost of a transmission system impact study may be required from the Interconnection Customer.
- 11.0 Any study fees shall be based on the ITO's actual costs, including any costs incurred by ITO or Transmission Owner with performing their functions for the study, and will be invoiced to the Interconnection Customer after the study is completed and delivered and will include a summary of professional time.
- 12.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 30 calendar days on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the ITO shall refund such excess within 30 calendar days of the invoice without interest.
- 13.0 Governing Law, Regulatory Authority, and Rules
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.
- 14.0 Amendment
The Parties may amend this Agreement by a written instrument duly executed by both Parties.
- 15.0 No Third-Party Beneficiaries
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.
- 16.0 Waiver
- 16.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

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16.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Transmission Owner. Any waiver of this Agreement shall, if requested, be provided in writing.

17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

20.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Transmission Owner be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of

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the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

The Transmission Owner shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and the Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of ITO]

[Insert name of Transmission Owner]

Signed: _____

Signed: _____

Name (Printed):

Name (Printed):

Title: _____

Title: _____

[Insert name of Interim Interconnection Customer]

Signed: _____

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Name (Printed):

Title: _____

Attachment A to Interim SGIP SIS Agreement

Assumptions Used in Conducting the Interim SIS

The Interim SIS will be based upon the information set forth in the Interim Generator Interconnection Request and the underlying Generator Interconnection Request and results of applicable prior studies, subject to any modifications in accordance with Section 4 of the SGIP, the assumptions regarding higher-queued interconnection customers detailed in Section 4 of the SGIP, and the following assumptions:

- 1) Designation of Point of Interconnection and configuration to be studied.

- 2) Designation of alternative Points of Interconnection and configuration.

1) and 2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and the ITO and Transmission Owner.

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APPENDIX 8 TO SGIP
FACILITIES STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Owner") and _____ a _____ existing under the laws of the State of _____, ("ITO"). Interconnection Customer, Transmission Owner and ITO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Generator Interconnection Request completed by the Interconnection Customer on _____; and

WHEREAS, the Interconnection Customer desires to interconnect the Small Generating Facility with the Transmission Owner's Transmission System;

WHEREAS, the ITO has completed a system impact study and provided the results of said study to the Interconnection Customer and Transmission Owner; and

WHEREAS, the Interconnection Customer has requested the Transmission Owner to perform a facilities study, subject to review by the ITO, to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the system impact study in accordance with Good Utility Practice to physically and electrically connect the Small Generating Facility with the Transmission Owner's Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Small Generator Interconnection Procedures.
- 2.0 The Interconnection Customer elects and the Transmission Owner shall cause a facilities study consistent with the standard Small Generator Interconnection Procedures to be performed in accordance with the Open Access Transmission Tariff.

Effective On: May 15, 2018

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- 3.0 The scope of the facilities study shall be subject to data provided in Attachment A to this Agreement.
- 4.0 The facilities study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overheads) needed to implement the conclusions of the system impact study(s). The facilities study shall also identify (1) the electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment, (2) the nature and estimated cost of the Transmission Owner's Interconnection Facilities and Upgrades necessary to accomplish the interconnection, and (3) an estimate of the time required to complete the construction and installation of such facilities.
- 5.0 The Transmission Owner may propose to group facilities required for more than one Interconnection Customer in order to minimize facilities costs through economies of scale, but any Interconnection Customer may require the installation of facilities required for its own Small Generating Facility if it is willing to pay the costs of those facilities.
- 6.0 A deposit of the good faith estimated facilities study costs may be required from the Interconnection Customer.
- 7.0 In cases where Upgrades are required, the facilities study must be completed within 45 Business Days of the receipt of this Agreement. In cases where no Upgrades are necessary, and the required facilities are limited to Interconnection Facilities, the facilities study must be completed within 30 Business Days.
- 8.0 Once the facilities study is completed, a facilities study report shall be prepared and transmitted to the Interconnection Customer. Barring unusual circumstances, the facilities study must be completed and the facilities study report transmitted within 30 Business Days of the Interconnection Customer's agreement to conduct a facilities study.
- 9.0 Interconnection Customer may, within 30 Calendar Days after receipt of the draft report, provide written comments to the ITO, which the Transmission Owner shall include in the final report. ITO shall issue the final Interconnection Facilities Study report within 15 Business Days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. ITO may reasonably extend such fifteen-day period upon notice to Interconnection Customer if Interconnection Customer's comments require Transmission Owner to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Report. Upon request, ITO shall provide Interconnection Customer supporting documentation, workpapers, and databases or data developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section 4.5 of the standard Small Generator Interconnection Procedures.
- 10.0 Within ten 10 Business Days of providing a draft Interconnection Facilities Study report

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to Interconnection Customer, Transmission Owner and ITO shall meet to discuss the results of the Interconnection Facilities Study.

- 11.0 Any study fees shall be based on the ITO's actual costs, including any costs incurred by ITO or Transmission Owner with performing their respective functions for the study, and will be invoiced to the Interconnection Customer after the study is completed and delivered and will include a summary of professional time.
- 12.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 30 calendar days on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the ITO shall refund such excess within 30 calendar days of the invoice without interest.
- 13.0 Governing Law, Regulatory Authority, and Rules
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.
- 14.0 Amendment
The Parties may amend this Agreement by a written instrument duly executed by both Parties.
- 15.0 No Third-Party Beneficiaries
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.
- 16.0 Waiver
- 16.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.
- 16.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Transmission Owner. Any waiver of this Agreement shall, if requested, be provided in writing.

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17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

20.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Transmission Owner be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

The Transmission Owner shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges,

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classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and the Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of ITO]

[Insert name of Transmission Owner]

Signed: _____

Signed: _____

Name (Printed):

Name (Printed):

Title: _____

Title: _____

[Insert name of Interconnection Customer]

Signed: _____

Name (Printed):

Title: _____

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**Attachment A to
Facilities Study Agreement**

**Data to Be Provided by the Interconnection Customer
with the Facilities Study Agreement**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

On the one-line diagram, indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one-line diagram, indicate the location of auxiliary power. (Minimum load on CT/PT) Amps

One set of metering is required for each generation connection to the new ring bus or existing Transmission Owner station. Number of generation connections: _____

Will an alternate source of auxiliary power be available during CT/PT maintenance?
Yes _____ No _____

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? Yes _____ No _____
(Please indicate on the one-line diagram).

What type of control system or PLC will be located at the Small Generating Facility?

What protocol does the control system or PLC use?

Please provide a 7.5-minute quadrangle map of the site. Indicate the plant, station, transmission line, and property lines.

Physical dimensions of the proposed interconnection station:

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Bus length from generation to interconnection station:

Line length from interconnection station to Transmission Owner's Transmission System.

Tower number observed in the field. (Painted on tower leg)*:

Number of third party easements required for transmission lines*:

* To be completed in coordination with ITO.

Is the Small Generating Facility located in Transmission Owner's service area?

Yes _____ No _____ If No, please provide name of local provider:

Please provide the following proposed schedule dates:

Begin Construction Date: _____

Generator step-up transformers
receive back feed power Date: _____

Generation Testing Date: _____

Commercial Operation Date: _____

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APPENDIX 9 TO SGIP
SMALL GENERATOR INTERCONNECTION AGREEMENT (SGIA)

(For Generating Facilities No Larger Than 20 MW)

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This Interconnection Agreement ("Agreement") is made and entered into this _____ day of _____, 20__, by _____ ("Transmission Owner") and _____ ("Interconnection Customer") each hereinafter sometimes referred to individually as "Party" or both referred to collectively as the "Parties."

Transmission Owner Information

Transmission Owner: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

Interconnection Customer Information

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

Interconnection Customer Application No: _____

In consideration of the mutual covenants set forth herein, the Parties agree as follows:

Article 1.

Scope and Limitations of Agreement

- 1.1 This Agreement shall be used for all Generator Interconnection Requests submitted under the Small Generator Interconnection Procedures (SGIP) except for those submitted under the 10 kW Inverter Process contained in SGIP Appendix 5.
- 1.2 This Agreement governs the terms and conditions under which the Interconnection Customer's Small Generating Facility will interconnect with, and operate in parallel with, the Transmission Owner's Transmission System.
- 1.3 This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power. The purchase or delivery of power and other services that the Interconnection Customer may require will be covered under

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separate agreements. The Interconnection Customer will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity with the applicable Transmission Owner.

1.4 Nothing in this Agreement is intended to affect any other agreement between the Transmission Owner and the Interconnection Customer.

1.5 Responsibilities of the Parties

1.5.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice.

1.5.2 The Interconnection Customer shall construct, interconnect, operate and maintain its Small Generating Facility and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, in accordance with this Agreement, and with Good Utility Practice.

1.5.3 The Transmission Owner shall construct, operate, and maintain its Transmission System and Interconnection Facilities in accordance with this Agreement, and with Good Utility Practice.

1.5.4 The Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. The Interconnection Customer agrees to design, install, maintain, and operate its Small Generating Facility so as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the system or equipment of the Transmission Owner or Affected Systems.

1.5.5 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Appendices to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the point of change of ownership. The Transmission Owner and the Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect the Transmission Owner's Transmission System, personnel, and other persons from damage and injury. The allocation of

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responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities shall be delineated in the Appendices to this Agreement.

- 1.5.6** The ITO shall coordinate with all Affected Systems to support the interconnection.
- 1.5.7** The Interconnection Customer shall ensure “frequency ride through” capability and “voltage ride through” capability of its Small Generating Facility. The Interconnection Customer shall enable these capabilities such that its Small Generating Facility shall not disconnect automatically or instantaneously from the system or equipment of the Transmission Owner and any Affected Systems for a defined under-frequency or over-frequency condition, or an under-voltage or over-voltage condition, as tested pursuant to section 2.1 of this agreement. The defined conditions shall be in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a comparable basis. The Small Generating Facility’s protective equipment settings shall comply with the Transmission Owner’s automatic load-shed program. The Transmission Owner shall review the protective equipment settings to confirm compliance with the automatic load-shed program. The term “ride through” as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Owner and any Affected Systems during system disturbances within a range of conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority on a comparable basis. The term “frequency ride through” as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Owner and any Affected Systems during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a comparable basis. The term “voltage ride through” as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Owner and any Affected Systems during system disturbances within a range of under-voltage and over-voltage conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a

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comparable basis.

1.6 Parallel Operation Obligations

Once the Small Generating Facility has been authorized to commence parallel operation, the Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Small Generating Facility in the applicable control area, including, but not limited to; 1) the rules and procedures concerning the operation of generation set forth in the Tariff or by the system operator for the Transmission Owner's Transmission System and; 2) the Operating Requirements set forth in Appendix E of this Agreement.

1.7 Metering

The Interconnection Customer shall be responsible for the Transmission Owner's reasonable and necessary cost for the purchase, installation, operation, maintenance, testing, repair, and replacement of metering and data acquisition equipment specified in Appendices B and C of this Agreement. The Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable industry rules and Operating Requirements.

1.8 Reactive Power and Primary Frequency Response

1.8.1 Power Factor Design Criteria

1.8.1.1 Synchronous Generation

The Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Owner has established different requirements that apply to all similarly situated synchronous generators in the control area on a comparable basis.

1.8.1.2 Non-Synchronous Generation

The Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Owner has established a different power factor range that

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applies to all similarly situated non-synchronous generators in the control area on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting non-synchronous generators that have not yet executed a Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).

- 1.8.2** The Transmission Owner is required to pay the Interconnection Customer for reactive power that the Interconnection Customer provides or absorbs from the Small Generating Facility when the Transmission Owner requests the Interconnection Customer to operate its Small Generating Facility outside the range specified in article 1.8.1. In addition, if the Transmission Owner pays its own or affiliated generators for reactive power service within the specified range, it must also pay the Interconnection Customer.
- 1.8.3** Payments shall be in accordance with the Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to a regional transmission organization or independent system operator FERC-approved rate schedule. To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb reactive power under this Agreement, the Parties agree to expeditiously file such rate schedule and agree to support any request for waiver of the Commission's prior notice requirement in order to compensate the Interconnection Customer from the time service commenced.
- 1.8.4** **Primary Frequency Response.** Interconnection Customer shall ensure the primary frequency response capability of its Small Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term "functioning governor or equivalent controls" as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Small Generating Facility's real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a

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maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Small Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Small Generating Facility's real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Small Generating Facility's real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Owner that the primary frequency response capability of the Small Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Small Generating Facility with the Transmission System, Interconnection Customer shall operate the Small Generating Facility consistent with the provisions specified in Sections 1.8.4.1 and 1.8.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Small Generating Facilities.

1.8.4.1 Governor or Equivalent Controls. Whenever the Small Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Small Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with Transmission Owner and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection

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Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Owner and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Small Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Owner and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Small Generating Facility's governor or equivalent controls to a minimum whenever the Small Generating Facility is operated in parallel with the Transmission System.

1.8.4.2 Timely and Sustained Response. Interconnection Customer shall ensure that the Small Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Small Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Small Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

1.8.4.3 Exemptions. Small Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Sections 1.8.4, 1.8.4.1, and 1.8.4.2 of this

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Agreement. Small Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Section 1.8.4, but shall be otherwise exempt from the operating requirements in Sections 1.8.4, 1.8.4.1, 1.8.4.2, and 1.8.4.4 of this Agreement.

1.8.4.4 Electric Storage Resources. Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Attachment 5 of its SGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Sections 1.8.4, 1.8.4.1, 1.8.4.2 and 1.8.4.3 of this Agreement. Attachment 5 shall specify whether the operating range is static or dynamic, and shall consider: (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Owner and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Attachment 5 must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Section 1.8.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to

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the Transmission System and/or dispatched to receive electricity from the Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

- 1.9 Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Appendix A or the body of this Agreement.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection

2.1.1 The Interconnection Customer shall test and inspect its Small Generating Facility and Interconnection Facilities prior to interconnection. The Interconnection Customer shall notify the Transmission Owner of such activities no fewer than five Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. Testing and inspection shall occur on a Business Day. The Transmission Owner may, at its own expense, send qualified personnel to the Small Generating Facility site to inspect the interconnection and observe the testing. The Interconnection Customer shall provide the Transmission Owner a written test report when such testing and inspection is completed.

2.1.2 The Transmission Owner shall provide the Interconnection Customer written acknowledgment that it has received the Interconnection Customer's written test report. Such written acknowledgment shall not be deemed to be or construed as any representation, assurance, guarantee, or warranty by the Transmission Owner of the safety, durability, suitability, or reliability of the Small Generating Facility or any associated control, protective, and safety devices owned or controlled by the Interconnection Customer or the quality of power produced by the Small Generating Facility.

2.2 Authorization Required Prior to Parallel Operation

2.2.1 The Transmission Owner shall use Reasonable Efforts to list applicable parallel operation requirements in Appendix E of this

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Agreement. Additionally, the Transmission Owner shall notify the Interconnection Customer of any changes to these requirements as soon as they are known. The Transmission Owner shall make Reasonable Efforts to cooperate with the Interconnection Customer in meeting requirements necessary for the Interconnection Customer to commence parallel operations by the in-service date.

- 2.2.2** The Interconnection Customer shall not operate its Small Generating Facility in parallel with the Transmission Owner's Transmission System without prior written authorization of the Transmission Owner. The Transmission Owner will provide such authorization once the Transmission Owner receives notification that the Interconnection Customer has complied with all applicable parallel operation requirements. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

2.3 Right of Access

- 2.3.1** Upon reasonable notice, the Transmission Owner may send a qualified person to the premises of the Interconnection Customer at or immediately before the time the Small Generating Facility first produces energy to inspect the interconnection, and observe the commissioning of the Small Generating Facility (including any required testing), startup, and operation for a period of up to three Business Days after initial start-up of the unit. In addition, the Interconnection Customer shall notify the Transmission Owner at least five Business Days prior to conducting any on-site verification testing of the Small Generating Facility.
- 2.3.2** Following the initial inspection process described above, at reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, the Transmission Owner shall have access to the Interconnection Customer's premises for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its customers.
- 2.3.3** Each Party shall be responsible for its own costs associated with following this article.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date

This Agreement shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date

Effective On: May 15, 2018

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specified by the FERC. The Transmission Owner shall promptly file this Agreement with the FERC upon execution, if required.

3.2 Term of Agreement

This Agreement shall become effective on the Effective Date and shall remain in effect for a period of ten years from the Effective Date or such other longer period as the Interconnection Customer may request and shall be automatically renewed for each successive one-year period thereafter, unless terminated earlier in accordance with article 3.3 of this Agreement.

3.3 Termination

No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this Agreement (if required), which notice has been accepted for filing by FERC.

3.3.1 The Interconnection Customer may terminate this Agreement at any time by giving the Transmission Owner 20 Business Days written notice.

3.3.2 Any Party may terminate this Agreement after Default pursuant to article 7.6.

3.3.3 Upon termination of this Agreement, the Small Generating Facility will be disconnected from the Transmission Owner's Transmission System. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this SGIA or such non-terminating Party otherwise is responsible for these costs under this SGIA.

3.3.4 The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.5 The provisions of this article shall survive termination or expiration of this Agreement.

3.4 Temporary Disconnection

Temporary disconnection shall continue only for so long as reasonably necessary under Good Utility Practice.

3.4.1 Emergency Conditions

"Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to

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endanger life or property; or (2) that, in the case of the Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, the Transmission Owner's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (3) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Small Generating Facility or the Interconnection Customer's Interconnection Facilities. Under Emergency Conditions, the Reliability Coordinator may immediately suspend interconnection service and temporarily disconnect the Small Generating Facility. The Transmission Owner shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer's operation of the Small Generating Facility. The Interconnection Customer shall notify the Transmission Owner promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Transmission Owner's Transmission System or other Affected Systems. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of the Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 Routine Maintenance, Construction, and Repair

The Transmission Owner may interrupt interconnection service or curtail the output of the Small Generating Facility and temporarily disconnect the Small Generating Facility from the Transmission Owner's Transmission System when necessary for routine maintenance, construction, and repairs on the Transmission Owner's Transmission System. The Transmission Owner shall provide the Interconnection Customer with five Business Days notice prior to such interruption. The Transmission Owner shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

3.4.3 Forced Outages

During any forced outage, the Transmission Owner may suspend interconnection service to effect immediate repairs on the Transmission Owner's Transmission System. The Transmission Owner shall use Reasonable Efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, the Transmission Owner

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shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 Adverse Operating Effects

The Transmission Owner shall notify the Interconnection Customer as soon as practicable if, based on Good Utility Practice, operation of the Small Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generating Facility could cause damage to the Transmission Owner's Transmission System or Affected Systems. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. If, after notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, the Transmission Owner may disconnect the Small Generating Facility. The Transmission Owner shall provide the Interconnection Customer with five Business Day notice of such disconnection, unless the provisions of article 3.4.1 apply.

3.4.5 Modification of the Small Generating Facility

The Interconnection Customer must receive written authorization from the Transmission Owner before making any change to the Small Generating Facility that may have a material impact on the safety or reliability of the Transmission System. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If the Interconnection Customer makes such modification without the Transmission Owner's prior written authorization, the latter shall have the right to temporarily disconnect the Small Generating Facility.

3.4.6 Reconnection

The Parties shall cooperate with each other to restore the Small Generating Facility, Interconnection Facilities, and the Transmission Owner's Transmission System to their normal operating state as soon as reasonably practicable following a temporary disconnection.

Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades

4.1 Interconnection Facilities

4.1.1 The Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in Appendix B of this Agreement. The Transmission Owner shall provide a best estimate cost, including

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overheads, for the purchase and construction of its Interconnection Facilities and provide a detailed itemization of such costs. Costs associated with Interconnection Facilities may be shared with other entities that may benefit from such facilities by agreement of the Interconnection Customer, such other entities, and the Transmission Owner .

- 4.1.2** The Interconnection Customer shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its own Interconnection Facilities, and (2) operating, maintaining, repairing, and replacing the Transmission Owner's Interconnection Facilities.

4.2 Distribution Upgrades

The Transmission Owner shall design, procure, construct, install, and own the Distribution Upgrades described in Appendix F of this Agreement. If the Transmission Owner and the Interconnection Customer agree, the Interconnection Customer may construct Distribution Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to the Interconnection Customer.

Article 5. Cost Responsibility for Network Upgrades

5.1 Applicability

No portion of this article 5 shall apply unless the interconnection of the Small Generating Facility requires Network Upgrades.

5.2 Network Upgrades

The Transmission Owner shall design, procure, construct, install, and own the Network Upgrades described in Appendix F of this Agreement. If the Transmission Owner and the Interconnection Customer agree, the Interconnection Customer may construct Network Upgrades that are located on land owned by the Interconnection Customer. Unless the Transmission Owner elects to pay for Network Upgrades, the actual cost of the Network Upgrades, including overheads, shall be borne initially by the Interconnection Customer.

5.2.1 Repayment of Amounts Advanced for Network Upgrades

The Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to the Transmission Owner and Affected System operator, if any, for Network Upgrades, including any tax gross-up or other tax-related payments associated with the Network Upgrades, and not otherwise refunded to the Interconnection Customer, to be paid to the Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission

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charges, as payments are made under the Transmission Owner's Tariff and Affected System's Tariff for transmission services with respect to the Small Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii) from the date of any payment for Network Upgrades through the date on which the Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. The Interconnection Customer may assign such repayment rights to any person.

5.2.1.1 Notwithstanding the foregoing, the Interconnection Customer, the Transmission Owner, and Affected System operator may adopt any alternative payment schedule that is mutually agreeable so long as the Transmission Owner and Affected System operator take one of the following actions no later than five years from the Commercial Operation Date: (1) return to the Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that the Transmission Owner or Affected System operator will continue to provide payments to the Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the commercial operation date.

5.2.1.2 If the Small Generating Facility fails to achieve commercial operation, but it or another generating facility is later constructed and requires use of the Network Upgrades, the Transmission Owner and Affected System operator shall at that time reimburse the Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, the Interconnection Customer, or the entity that ultimately constructs the generating facility, if different, is responsible for identifying the entity to which reimbursement must be made.

5.3 Special Provisions for Affected Systems

Unless the Transmission Owner provides, under this Agreement, for the repayment of amounts advanced to Affected System operator for Network

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Upgrades, the Interconnection Customer and Affected System operator shall enter into an agreement that provides for such repayment. The agreement shall specify the terms governing payments to be made by the Interconnection Customer to Affected System operator as well as the repayment by Affected System operator.

5.4 Rights Under Other Agreements

Notwithstanding any other provision of this Agreement, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that the Interconnection Customer shall be entitled to, now or in the future, under any other agreement or tariff as a result of, or otherwise associated with, the transfer capability, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Small Generating Facility.

Article 6. Billing, Payment, Milestones, and Financial Security

6.1 Billing and Payment Procedures and Final Accounting

- 6.1.1** The Transmission Owner shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs of Interconnection Facilities and Upgrades contemplated by this Agreement on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within 30 calendar days of receipt, or as otherwise agreed to by the Parties.
- 6.1.2** Within three months of completing the construction and installation of the Transmission Owner's Interconnection Facilities and/or Upgrades described in the Appendices to this Agreement, the Transmission Owner shall provide the Interconnection Customer with a final accounting report of any difference between (1) the Interconnection Customer's cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection Customer's previous aggregate payments to the Transmission Owner for such facilities or Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous aggregate payments, the Transmission Owner shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to the Transmission Owner within 30 calendar days. If the Interconnection Customer's previous aggregate payments exceed its cost responsibility under this Agreement, the Transmission Owner shall refund to the Interconnection Customer an amount equal to the difference within 30 calendar days of the final accounting report.

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6.2 Milestones

The Parties shall agree on milestones for which each Party is responsible and list them in Appendix D of this Agreement. A Party's obligations under this provision may be extended by agreement. If a Party anticipates that it will be unable to meet a milestone for any reason other than a Force Majeure Event, it shall immediately notify the other Parties of the reason(s) for not meeting the milestone and (1) propose the earliest reasonable alternate date by which it can attain this and future milestones, and (2) requesting appropriate amendments to Appendix D. A Party affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless it will suffer significant uncompensated economic or operational harm from the delay, (2) attainment of the same milestone has previously been delayed, or (3) it has reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

6.3 Financial Security Arrangements

At least 20 Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of the Transmission Owner's Interconnection Facilities and Upgrades, the Interconnection Customer shall provide the Transmission Owner, at the Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to the Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction where the Point of Interconnection is located. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the Transmission Owner's Interconnection Facilities and Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to the Transmission Owner under this Agreement during its term. In addition:

6.3.1 The guarantee must be made by an entity that meets the creditworthiness requirements of the Transmission Owner, and contain terms and conditions that guarantee payment of any amount that may be due from the Interconnection Customer, up to an agreed-to maximum amount.

6.3.2 The letter of credit or surety bond must be issued by a financial institution or insured reasonably acceptable to the Transmission Owner and must specify a reasonable expiration date.

Article 7. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

7.1 Assignment

This Agreement may be assigned by either Party upon 15 Business Days prior

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written notice and opportunity to object by the other Party; provided that:

7.1.1 Any Party may assign this Agreement without the consent of the other Parties to any affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement;

7.1.2 The Interconnection Customer shall have the right to assign this Agreement, without the consent of the Transmission Owner or Transmission Owner, for collateral security purposes to aid in providing financing for the Small Generating Facility, provided that the Interconnection Customer will promptly notify the Transmission Owner of any such assignment.

7.1.3 Any attempted assignment that violates this article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same financial, credit, and insurance obligations as the Interconnection Customer. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

7.2 Limitation of Liability

Each Party's liability to another Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall a Party be liable to another Party for any indirect, special, consequential, or punitive damages, except as authorized by this Agreement.

7.3 Indemnity

7.3.1 This provision protects each Party from liability incurred to third parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in article 7.2.

7.3.2 The Parties shall at all times indemnify, defend, and hold another Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the

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indemnified Party.

- 7.3.3** If an indemnified person is entitled to indemnification under this article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this article, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.
- 7.3.4** If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.
- 7.3.5** Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

7.4 Consequential Damages

Other than as expressly provided for in this Agreement, neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

7.5 Force Majeure

- 7.5.1** As used in this article, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

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7.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Parties, either in writing or via the telephone, of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance. The Affected Party shall keep the other Parties informed on a continuing basis of developments relating to the Force Majeure Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of Reasonable Efforts. The Affected Party will use Reasonable Efforts to resume its performance as soon as possible.

7.6 Default

7.6.1 No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except as provided in article 7.6.2, the defaulting Party shall have 60 calendar days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 60 calendar days, the defaulting Party shall commence such cure within 20 calendar days after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.

7.6.2 If a Default is not cured as provided in this article, or if a Default is not capable of being cured within the period provided for herein, a nondefaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this Agreement.

Article 8. Insurance

8.1 The Interconnection Customer shall, at its own expense, maintain in force general

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liability insurance without any exclusion for liabilities related to the interconnection undertaken pursuant to this Agreement. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. The Interconnection Customer shall obtain additional insurance only if necessary as a function of owning and operating a generating facility. Such insurance shall be obtained from an insurance provider authorized to do business in the State where the interconnection is located. Certification that such insurance is in effect shall be provided upon request of the Transmission Owner, except that the Interconnection Customer shall show proof of insurance to the Transmission Owner no later than ten Business Days prior to the anticipated commercial operation date. An Interconnection Customer of sufficient credit-worthiness may propose to self-insure for such liabilities, and such a proposal shall not be unreasonably rejected.

- 8.2** The Transmission Owner agrees to maintain general liability insurance or selfinsurance consistent with the Transmission Owner's commercial practice. Such insurance or self-insurance shall not exclude coverage for the Transmission Owner's liabilities undertaken pursuant to this Agreement.
- 8.3** The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

Article 9. Confidentiality

- 9.1** Confidential Information shall mean any confidential and/or proprietary information provided by one Party to another Party that is clearly marked or otherwise designated "Confidential." For purposes of this Agreement all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such.
- 9.2** Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to another Party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce this Agreement. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under this Agreement, or to fulfill legal or regulatory requirements.
- 9.2.1** Each Party shall employ at least the same standard of care to protect

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Confidential Information obtained from another Party as it employs to protect its own Confidential Information.

- 9.2.2** Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.
- 9.3** Notwithstanding anything in this article to the contrary, and pursuant to 18 CFR § 1b.20, if FERC, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to FERC, within the time provided for in the request for information. In providing the information to FERC, the Party may, consistent with 18 CFR § 388.112, request that the information be treated as confidential and non-public by FERC and that the information be withheld from public disclosure. Parties are prohibited from notifying another Party to this Agreement prior to the release of the Confidential Information to FERC. The Party shall notify the other Parties to this Agreement when it is notified by FERC that a request to release Confidential Information has been received by FERC, at which time the Parties may respond before such information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

Article 10. Disputes

- 10.1** The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this article.
- 10.2** In the event of a dispute, any Party shall provide another Party with a written Notice of Dispute. Such Notice shall describe in detail the nature of the dispute.
- 10.3** If the dispute has not been resolved within two Business Days after receipt of the Notice, either Party may contact FERC's Dispute Resolution Service (DRS) for assistance in resolving the dispute.
- 10.4** The DRS will assist the Parties in either resolving their dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the Parties in resolving their dispute. DRS can be reached at 1-877-337-2237 or via the internet at <http://www.ferc.gov/legal/adr.asp>.
- 10.5** Each Party agrees to conduct all negotiations in good faith and will be responsible

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for one-half of any costs paid to neutral third-parties.

- 10.6** If none of the Parties elects to seek assistance from the DRS, or if the attempted dispute resolution fails, then any Party may exercise whatever rights and remedies it may have in equity or law consistent with the terms of this Agreement.

Article 11. Taxes

- 11.1** The Parties agree to follow all applicable tax laws and regulations, consistent with FERC policy and Internal Revenue Service requirements.
- 11.2** Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this Agreement is intended to adversely affect the Transmission Owner's tax exempt status with respect to the issuance of bonds including, but not limited to, local furnishing bonds.

Article 12. Miscellaneous

12.1 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

12.2 Amendment

The Parties may amend this Agreement by a written instrument duly executed by both Parties.

12.3 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

12.4 Waiver

12.4.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

12.4.2 Any waiver at any time by any Party of its rights with respect to this

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Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Transmission Owner . Any waiver of this Agreement shall, if requested, be provided in writing.

12.5 Entire Agreement

This Agreement, including all Appendices, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.

12.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

12.7 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. The Parties shall not have a right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

12.8 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

12.9 Security Arrangements

Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. FERC expects all public utilities, market participants, and Interconnection Customers interconnected to electric systems to comply with the recommendations offered by the President's Critical Infrastructure Protection

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Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cybersecurity practices.

12.10 Environmental Releases

Each Party shall notify the other Parties, first orally and then in writing, of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Small Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Parties. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Parties copies of any publicly available reports filed with any governmental authorities addressing such events.

12.11 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Parties for the performance of such subcontractor.

12.11.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Transmission Owner be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

12.11.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

12.12 Reservation of Rights

The Transmission Owner shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and

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regulations thereunder, and the Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by another Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

Article 13. Notices

13.1 General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified below:

If to the Interconnection Customer:
Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

If to the Transmission Owner:
Transmission Owner: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

13.2 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____

Transmission Owner: _____
Attention: _____

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Address: _____
City: _____ State: _____ Zip: _____

13.3 Alternative Forms of Notice

Any notice or request required or permitted to be given by a Party to the other Parties and not required by this Agreement to be given in writing may be so given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out below:

If to the Interconnection Customer:

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

If to the Transmission Owner:

Transmission Owner: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

13.4 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

Interconnection Customer's Operating Representative:

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

Transmission Owner :

Transmission Owner : _____

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Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

13.5 Changes to the Notice Information

A Party may change this information by giving five Business Days written notice prior to the effective date of the change.

Article 14. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Transmission Owner

Name: _____

Title: _____

Date: _____

For the Interconnection Customer

Name: _____

Title: _____

Date: _____

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Appendix A to SGIA Glossary of Terms

Affected System - An electric system other than the Transmission Owner's Transmission System that may be affected by the proposed interconnection.

Applicable Laws and Regulations - All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Business Day - Monday through Friday, excluding Federal Holidays.

Default - The failure of a breaching Party to cure its Breach under the Small Generator Interconnection Agreement.

Distribution System - The Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

Distribution Upgrades - The additions, modifications, and upgrades to the Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Small Generating Facility and render the transmission service necessary to effect the Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Good Utility Practice - Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority - Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, the Interconnection Provider, or any Affiliate thereof.

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Independent Transmission Organization - The entity to which LG&E and KU have delegated the responsibility and authority to administer the Tariff, serve as ITO thereunder.

Interconnection Customer - Any entity, including the Transmission Owner or any of its affiliates or subsidiaries that proposes to interconnect its Small Generating Facility with the Transmission Owner's Transmission System.

Interconnection Facilities - The Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to the Transmission Owner's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

Generator Interconnection Request - The Interconnection Customer's request, in accordance with the Tariff, to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Small Generating Facility that is interconnected with the Transmission Owner's Transmission System.

Material Modification - A modification that has a material impact on the cost or timing of any Generator Interconnection Request with a later queue priority date.

Network Upgrades - Additions, modifications, and upgrades to the Transmission Owner's Transmission System required at or beyond the point at which the Small Generating Facility interconnects with the Transmission Owner's Transmission System to accommodate the interconnection of the Small Generating Facility with the Transmission Owner's Transmission System. Network Upgrades do not include Distribution Upgrades.

Operating Requirements - Any operating and technical requirements that may be applicable due to Regional Transmission Organization, Independent System Operator, control area, or the Transmission Owner's requirements, including those set forth in the Small Generator Interconnection Agreement.

Party or Parties - The Transmission Owner, Interconnection Customer or any combination of the above.

Point of Interconnection - The point where the Interconnection Facilities connect with the Transmission Owner's Transmission System.

Reasonable Efforts - With respect to an action required to be attempted or taken by a Party under the Small Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

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Reliability Coordinator - The party charged with providing reliability coordination service for the Transmission Owner's system in accordance with Attachment P hereto.

Small Generating Facility - The Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Generator Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Tariff - The Transmission Owner or Affected System's Tariff through which open access transmission service and Interconnection Service are offered, as filed with the FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner - LG&E/KU, the public utility operating companies which: (i) own the Transmission System; (ii) contract with the ITO to provide open access transmission service under the Tariff; (iii) conduct those functions specified herein necessary for the ITO to provide open access transmission service under the Tariff; and (iv) receive payment for Transmission Service as provided for in the Tariff.

Transmission System - The facilities owned and operated by the Transmission Owner, and administered by the ITO to the extent and as provided for in this Tariff, that are used to provide transmission service under Part II and Part III of the Tariff.

Upgrades - The required additions and modifications to the Transmission Owner's Transmission System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

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Appendix B to SGIA
Description and Costs of the Small Generating Facility,
Interconnection Facilities, and Metering Equipment

Equipment, including the Small Generating Facility, Interconnection Facilities, and metering equipment shall be itemized and identified as being owned by the Interconnection Customer or the Transmission Owner. The Transmission Owner will provide a best estimate itemized cost, including overheads, of its Interconnection Facilities and metering equipment, and a best estimate itemized cost of the annual operation and maintenance expenses associated with its Interconnection Facilities and metering equipment.

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Appendix C to SGIA
One-line Diagram Depicting the Small Generating Facility, Interconnection
Facilities, Metering Equipment, and Upgrades

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**Appendix D to SGIA
Milestones**

In-Service Date: _____

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	Responsible Party
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____
(4)	_____	_____
(5)	_____	_____
(6)	_____	_____
(7)	_____	_____
(8)	_____	_____
(9)	_____	_____
(10)	_____	_____

Agreed to by:

For the Transmission Owner _____ Date _____

For the Interconnection Customer _____ Date _____

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Appendix E to SGIA
Additional Operating Requirements for the Transmission Owner's
Transmission System and Affected Systems Needed to Support
the Interconnection Customer's Needs

The Transmission Owner shall also provide requirements that must be met by the Interconnection Customer prior to initiating parallel operation with the Transmission Owner's Transmission System.

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Appendix F to SGIA
Transmission Owner's Description of its Upgrades
and Best Estimate of Upgrade Costs

The Transmission Owner shall describe Upgrades and provide an itemized best estimate of the cost, including overheads, of the Upgrades and annual operation and maintenance expenses associated with such Upgrades. The Transmission Owner shall functionalize Upgrade costs and annual expenses as either transmission or distribution related.

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APPENDIX 10 TO SGIP

INTERIM SGIA

(For Generating Facilities No Larger Than 20 MW)

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INTERIM SMALL GENERATOR INTERCONNECTION AGREEMENT

This Interconnection Agreement ("Agreement") is made and entered into this _____ day of _____, 20__, by _____ ("Transmission Owner") and _____ ("Interconnection Customer") each hereinafter sometimes referred to individually as "Party" or both referred to collectively as the "Parties."

Transmission Owner Information

Transmission Owner: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

Interconnection Customer Information

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

Interconnection Customer Application No: _____

In consideration of the mutual covenants set forth herein, the Parties agree as follows:

Article 1.

Scope and Limitations of Agreement

- 1.1. This Agreement shall be used for all Interim Interconnection Requests submitted under the Small Generator Interconnection Procedures (SGIP) except for those submitted under the 10 kW Inverter Process contained in SGIP Appendix 5.
- 1.2. This Agreement governs the terms and conditions under which the Interconnection Customer's Small Generating Facility will interconnect with, and operate in parallel with, the Transmission Owner's Transmission System, on an interim basis.

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- 1.3.** This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power. The purchase or delivery of power and other services that the Interconnection Customer may require will be covered under separate agreements. The Interconnection Customer will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity with the applicable Transmission Owner.
- 1.4.** Nothing in this Agreement is intended to affect any other agreement between the Transmission Owner and the Interconnection Customer.
- 1.5.** Responsibilities of the Parties
 - 1.5.1.** The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice.
 - 1.5.2.** The Interconnection Customer shall construct, interconnect, operate and maintain its Small Generating Facility and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, in accordance with this Agreement, and with Good Utility Practice.
 - 1.5.3.** The Transmission Owner shall construct, operate, and maintain its Transmission System and Interconnection Facilities in accordance with this Agreement, and with Good Utility Practice.
 - 1.5.4.** The Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. The Interconnection Customer agrees to design, install, maintain, and operate its Small Generating Facility so as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the system or equipment of the Transmission Owner or Affected Systems.
 - 1.5.5.** Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Appendices to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the point of change of ownership. The

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Transmission Owner and the Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect the Transmission Owner's Transmission System, personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities shall be delineated in the Appendices to this Agreement.

- 1.5.6.** The ITO and Transmission Owner shall coordinate with all Affected Systems to support the interconnection.
- 1.5.7** The Interconnection Customer shall ensure “frequency ride through” capability and “voltage ride through” capability of its Small Generating Facility. The Interconnection Customer shall enable these capabilities such that its Small Generating Facility shall not disconnect automatically or instantaneously from the system or equipment of the Transmission Owner and any Affected Systems for a defined under-frequency or over-frequency condition, or an under-voltage or over-voltage condition, as tested pursuant to section 2.1 of this agreement. The defined conditions shall be in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a comparable basis. The Small Generating Facility’s protective equipment settings shall comply with the Transmission Owner’s automatic load-shed program. The Transmission Owner shall review the protective equipment settings to confirm compliance with the automatic load-shed program. The term “ride through” as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Owner and any Affected Systems during system disturbances within a range of conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority on a comparable basis. The term “frequency ride through” as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Owner and any Affected Systems during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a comparable basis. The term “voltage ride through” as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Owner and any Affected

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Systems during system disturbances within a range of under-voltage and over-voltage conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a comparable basis.

1.6. Parallel Operation Obligations

Once the Small Generating Facility has been authorized to commence parallel operation, the Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Small Generating Facility in the applicable control area, including, but not limited to; 1) the rules and procedures concerning the operation of generation set forth in the Tariff or by the system operator for the Transmission Owner's Transmission System and; 2) the Operating Requirements set forth in Appendix E of this Agreement.

1.7. Metering

The Interconnection Customer shall be responsible for the Transmission Owner's reasonable and necessary cost for the purchase, installation, operation, maintenance, testing, repair, and replacement of metering and data acquisition equipment specified in Appendices B and C of this Agreement. The Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable industry rules and Operating Requirements.

1.8. Reactive Power and Primary Frequency Response

1.8.1. Power Factor Design Criteria

1.8.1.1 Synchronous Generation

The Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Owner has established different requirements that apply to all similarly situated synchronous generators in the control area on a comparable basis.

1.8.1.2 Non-Synchronous Generation

The Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission

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Owner has established a different power factor range that applies to all similarly situated non-synchronous generators in the control area on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting non-synchronous generators that have not yet executed a Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).

- 1.8.2.** The Transmission Owner is required to pay the Interconnection Customer for reactive power that the Interconnection Customer provides or absorbs from the Small Generating Facility when the Transmission Owner requests the Interconnection Customer to operate its Small Generating Facility outside the range specified in article 1.8.1. In addition, if the Transmission Owner pays its own or affiliated generators for reactive power service within the specified range, it must also pay the Interconnection Customer.
- 1.8.3.** Payments shall be in accordance with the Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to a regional transmission organization or independent system operator FERC-approved rate schedule. To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb reactive power under this Agreement, the Parties agree to expeditiously file such rate schedule and agree to support any request for waiver of the Commission's prior notice requirement in order to compensate the Interconnection Customer from the time service commenced.
- 1.8.4** **Primary Frequency Response.** Interconnection Customer shall ensure the primary frequency response capability of its Small Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term "functioning governor or equivalent controls" as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Small Generating Facility's real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or

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equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Small Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Small Generating Facility's real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Small Generating Facility's real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Owner that the primary frequency response capability of the Small Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Small Generating Facility with the Transmission System, Interconnection Customer shall operate the Small Generating Facility consistent with the provisions specified in Sections 1.8.4.1 and 1.8.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Small Generating Facilities.

1.8.4.1 Governor or Equivalent Controls. Whenever the Small Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Small Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with Transmission Owner and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that

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provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Owner and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Small Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Owner and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Small Generating Facility's governor or equivalent controls to a minimum whenever the Small Generating Facility is operated in parallel with the Transmission System.

1.8.4.2 Timely and Sustained Response. Interconnection Customer shall ensure that the Small Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Small Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Small Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

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1.8.4.3 Exemptions. Small Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Sections 1.8.4, 1.8.4.1, and 1.8.4.2 of this Agreement. Small Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Section 1.8.4, but shall be otherwise exempt from the operating requirements in Sections 1.8.4, 1.8.4.1, 1.8.4.2, and 1.8.4.4 of this Agreement.

1.8.4.4 Electric Storage Resources. Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Attachment 5 of its SGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Sections 1.8.4, 1.8.4.1, 1.8.4.2 and 1.8.4.3 of this Agreement. Attachment 5 shall specify whether the operating range is static or dynamic, and shall consider: (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Owner and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Attachment 5 must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is

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required to provide timely and sustained primary frequency response consistent with Section 1.8.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

- 1.9.** Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Appendix A or the body of this Agreement.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1. Equipment Testing and Inspection

- 2.1.1.** The Interconnection Customer shall test and inspect its Small Generating Facility and Interconnection Facilities prior to interconnection. The Interconnection Customer shall notify the Transmission Owner of such activities no fewer than five Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. Testing and inspection shall occur on a Business Day. The Transmission Owner may, at its own expense, send qualified personnel to the Small Generating Facility site to inspect the interconnection and observe the testing. The Interconnection Customer shall provide the Transmission Owner a written test report when such testing and inspection is completed.
- 2.1.2.** The Transmission Owner shall provide the Interconnection Customer written acknowledgment that it has received the Interconnection Customer's written test report. Such written acknowledgment shall not be deemed to be or construed as any representation, assurance,

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guarantee, or warranty by the Transmission Owner of the safety, durability, suitability, or reliability of the Small Generating Facility or any associated control, protective, and safety devices owned or controlled by the Interconnection Customer or the quality of power produced by the Small Generating Facility.

2.2. Authorization Required Prior to Parallel Operation

2.2.1. The Transmission Owner shall use Reasonable Efforts to list applicable parallel operation requirements in Appendix E of this Agreement. Additionally, the Transmission Owner shall notify the Interconnection Customer of any changes to these requirements as soon as they are known. The Transmission Owner shall make Reasonable Efforts to cooperate with the Interconnection Customer in meeting requirements necessary for the Interconnection Customer to commence parallel operations by the in-service date.

2.2.2. The Interconnection Customer shall not operate its Small Generating Facility in parallel with the Transmission Owner's Transmission System without prior written authorization of the Transmission Owner. The Transmission Owner will provide such authorization once the Transmission Owner receives notification that the Interconnection Customer has complied with all applicable parallel operation requirements. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

2.3. Right of Access

2.3.1. Upon reasonable notice, the Transmission Owner may send a qualified person to the premises of the Interconnection Customer at or immediately before the time the Small Generating Facility first produces energy to inspect the interconnection, and observe the commissioning of the Small Generating Facility (including any required testing), startup, and operation for a period of up to three Business Days after initial start-up of the unit. In addition, the Interconnection Customer shall notify the Transmission Owner at least five Business Days prior to conducting any on-site verification testing of the Small Generating Facility.

2.3.2. Following the initial inspection process described above, at reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, the Transmission Owner shall have access to the Interconnection Customer's premises for any reasonable purpose in connection with the performance of the

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obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its customers.

- 2.3.3. Each Party shall be responsible for its own costs associated with following this article.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1. Effective Date

This Agreement shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by the FERC. The Transmission Owner shall promptly file this Agreement with the FERC upon execution, if required.

3.2. Term of Agreement

This Agreement shall become effective on the Effective Date and shall remain in effect for a period of ten years from the Effective Date or such other longer period as the Interconnection Customer may request and shall be automatically renewed for each successive one-year period thereafter, unless terminated earlier in accordance with article 3.3 of this Agreement.

3.3. Termination

- 3.3.1. This Interim SGIA shall terminate upon occurrence of one or more of the following events:

- (a) The Effective Date of a SGIA regarding the Generating Facility that is the subject of this Interim SGIA that has been accepted by FERC and/or reported in Transmission Owner's Electric Quarterly Report;
- (b) The date of a FERC order rejecting an unexecuted SGIA regarding the Generating Facility that is the subject of this Interim SGIA;
- (c) The date the Interconnection Customer's Generator Interconnection Request is deemed ithdrawn pursuant to the SGIP;
- (d) The Interconnection Customer's failure to pay part or all of the required security; or
- (e) A determination in accordance with Section [] of this Interim SGIA, that the level of Interim Interconnection Service pursuant to this Interim SGIA is reduced to zero.

- 3.3.2. The Interconnection Customer may terminate this Agreement at any

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time by giving the Transmission Owner 20 Business Days written notice.

- 3.3.3. Any Party may terminate this Agreement after Default pursuant to article 7.6.
- 3.3.4. Upon termination of this Agreement, the Small Generating Facility will be disconnected from the Transmission Owner's Transmission System. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.
- 3.3.5. This provisions of this article shall survive termination or expiration of this Agreement.

3.4. Temporary Disconnection

Temporary disconnection shall continue only for so long as reasonably necessary under Good Utility Practice.

3.4.1. Emergency Conditions

"Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of the Transmission Owner, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, the Transmission Owner's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (3) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Small Generating Facility or the Interconnection Customer's Interconnection Facilities. Under Emergency Conditions, the Reliability Coordinator may immediately suspend interconnection service and temporarily disconnect the Small Generating Facility. The Transmission Owner shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer's operation of the Small Generating Facility. The Interconnection Customer shall notify the Transmission Owner promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Transmission Owner's Transmission System or other Affected Systems. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or

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deficiency, the expected effect on the operation of the Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2. Routine Maintenance, Construction, and Repair

The Transmission Owner may interrupt interconnection service or curtail the output of the Small Generating Facility and temporarily disconnect the Small Generating Facility from the Transmission Owner's Transmission System when necessary for routine maintenance, construction, and repairs on the Transmission Owner's Transmission System. The Transmission Owner shall provide the Interconnection Customer with five Business Days notice prior to such interruption. The Transmission Owner shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

3.4.3. Forced Outages

During any forced outage, the Transmission Owner may suspend interconnection service to effect immediate repairs on the Transmission Owner's Transmission System. The Transmission Owner shall use Reasonable Efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, the Transmission Owner shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

3.4.4. Adverse Operating Effects

The Transmission Owner shall notify the Interconnection Customer as soon as practicable if, based on Good Utility Practice, operation of the Small Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generating Facility could cause damage to the Transmission Owner's Transmission System or Affected Systems. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. If, after notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, the Transmission Owner may disconnect the Small Generating Facility. The Transmission Owner shall provide the Interconnection Customer with five Business Day notice of such disconnection, unless the provisions of article 3.4.1 apply.

3.4.5. Modification of the Small Generating Facility

The Interconnection Customer must receive written authorization from

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the Transmission Owner before making any change to the Small Generating Facility that may have a material impact on the safety or reliability of the Transmission System. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If the Interconnection Customer makes such modification without the Transmission Owner's prior written authorization, the latter shall have the right to temporarily disconnect the Small Generating Facility.

3.4.6. Reconnection

The Parties shall cooperate with each other to restore the Small Generating Facility, Interconnection Facilities, and the Transmission Owner's Transmission System to their normal operating state as soon as reasonably practicable following a temporary disconnection.

3.4.7. Disconnection or Limitation of Output

If this Interim SGIA is terminated pursuant to Section 3 and disconnection or limitation in generation output is required, then the Parties will take all appropriate steps to either disconnect the Small Generating Facility from the Transmission System or limit the amount of generation output that can be injected into the transmission system, whichever is applicable.

Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades

4.1. Interconnection Facilities

4.1.1. The Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in Appendix B of this Agreement. The Transmission Owner shall provide a best estimate cost, including overheads, for the purchase and construction of its Interconnection Facilities and provide a detailed itemization of such costs. Costs associated with Interconnection Facilities may be shared with other entities that may benefit from such facilities by agreement of the Interconnection Customer, such other entities, and the Transmission Owner .

4.1.2. The Interconnection Customer shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its own Interconnection Facilities, and (2) operating, maintaining, repairing, and replacing the Transmission Owner's Interconnection Facilities.

4.2. Distribution Upgrades

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The Transmission Owner shall design, procure, construct, install, and own the Distribution Upgrades described in Appendix F of this Agreement. If the Transmission Owner and the Interconnection Customer agree, the Interconnection Customer may construct Distribution Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to the Interconnection Customer.

Article 5. Scope of Service

5.1. Interim Interconnection Service

Interim Interconnection Service is interconnection service that may be provided to an Interconnection Customer on a temporary and conditional basis while its Generator Interconnection Request is being processed through the SGIP, to the extent that the Small Generating Facility at issue will be completed and ready to interconnect before the SGIP study process has been completed or before required facility upgrades to accommodate the unit have been constructed. Interim Interconnection Service is limited to service that may be provided and supported by the transmission system in its current configuration without the need for Network Upgrades. Only the construction of Transmission Owner Interconnection Facilities will be considered to accommodate Interim Interconnection Service. Interim Interconnection Service is subject to the conditions and limitations of Section 4.7 of the SGIP and Section 4.3 of this Interim SGIA.

5.2. Transmission Delivery Service Implications

The execution of this Interim SGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Owner's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery. A customer taking Interim Interconnection Service may qualify and operate its unit as a Designated Network Resource to the extent permitted by the Transmission Owner's Tariff.

5.3. Conditions of Interim Interconnection Service.

Interim Interconnection Service is subject to the following limitations.

5.3.1. Output Limits. The Interconnection Customer taking Interim Interconnection Service is limited to the output level specified in Appendix B of the Interim SGIA. That output level shall be subject to the demands of higher-queued customers pursuant to Section 5.3.2.

5.3.2. Subject to Demands of Higher-Queued Customers. Interim Interconnection Service is limited by and subject to the requirements of higher-queued Interconnection Customers. Because Interim Interconnection Service will not be modeled in Feasibility Studies,

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System Impact Studies, or Facilities Studies for Interconnection Service requests of higher-queued customers, Interim Interconnection Service may be limited, terminated or otherwise curtailed in whole or in part by the ITO to accommodate Interconnection Service granted to a higher-queued Interconnection Customer. If such a limitation, termination, or curtailment of Interconnection Service is necessary, the ITO shall provide as much notice to the Interconnection Customer taking Interim Interconnection Service as is reasonably practicable. Any reduction pursuant to this Section 5.3 will be based on the Queue Position priority of the Interconnection Customer's Interconnection Request relative to the Queue Position priority of the Higher Queued Projects.

Article 6. Billing, Payment, Milestones, and Financial Security

6.1. Billing and Payment Procedures and Final Accounting

- 6.1.1.** The Transmission Owner shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs of Interconnection Facilities and Upgrades contemplated by this Agreement on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within 30 calendar days of receipt, or as otherwise agreed to by the Parties.
- 6.1.2.** Within three months of completing the construction and installation of the Transmission Owner's Interconnection Facilities and/or Upgrades described in the Appendices to this Agreement, the Transmission Owner shall provide the Interconnection Customer with a final accounting report of any difference between (1) the Interconnection Customer's cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection Customer's previous aggregate payments to the Transmission Owner for such facilities or Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous aggregate payments, the Transmission Owner shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to the Transmission Owner within 30 calendar days. If the Interconnection Customer's previous aggregate payments exceed its cost responsibility under this Agreement, the Transmission Owner shall refund to the Interconnection Customer an amount equal to the difference within 30 calendar days of the final accounting report.

6.2. Milestones

The Parties shall agree on milestones for which each Party is responsible and list

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them in Appendix D of this Agreement. A Party's obligations under this provision may be extended by agreement. If a Party anticipates that it will be unable to meet a milestone for any reason other than a Force Majeure Event, it shall immediately notify the other Parties of the reason(s) for not meeting the milestone and (1) propose the earliest reasonable alternate date by which it can attain this and future milestones, and (2) requesting appropriate amendments to Appendix D. A Party affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless it will suffer significant uncompensated economic or operational harm from the delay, (2) attainment of the same milestone has previously been delayed, or (3) it has reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

6.3. Financial Security Arrangements

At least 20 Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of the Transmission Owner's Interconnection Facilities and Upgrades, the Interconnection Customer shall provide the Transmission Owner, at the Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to the Transmission Owner and is consistent with the Uniform Commercial Code of the jurisdiction where the Point of Interconnection is located. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the Transmission Owner's Interconnection Facilities and Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to the Transmission Owner under this Agreement during its term. In addition:

- 6.3.1.** The guarantee must be made by an entity that meets the creditworthiness requirements of the Transmission Owner, and contain terms and conditions that guarantee payment of any amount that may be due from the Interconnection Customer, up to an agreed-to maximum amount.
- 6.3.2.** The letter of credit or surety bond must be issued by a financial institution or insured reasonably acceptable to the Transmission Owner and must specify a reasonable expiration date.

Article 7. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

7.1. Assignment

This Agreement may be assigned by either Party upon 15 Business Days prior written notice and opportunity to object by the other Party; provided that:

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- 7.1.1.** Any Party may assign this Agreement without the consent of the other Parties to any affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement;
- 7.1.2.** The Interconnection Customer shall have the right to assign this Agreement, without the consent of the Transmission Owner or Transmission Owner, for collateral security purposes to aid in providing financing for the Small Generating Facility, provided that the Interconnection Customer will promptly notify the Transmission Owner of any such assignment.
- 7.1.3.** Any attempted assignment that violates this article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same financial, credit, and insurance obligations as the Interconnection Customer. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.
- 7.1.4.** Any assignment under this article not solely for collateral security purposes shall be conditioned on the simultaneous assignment of Interconnection Customer's Queue Position to assignee and assignee demonstrating the ability to enter into and fulfill the obligations of a final SGIA.
- 7.2. Limitation of Liability**
Each Party's liability to another Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall a Party be liable to another Party for any indirect, special, consequential, or punitive damages, except as authorized by this Agreement.
- 7.3. Indemnity**
- 7.3.1.** This provision protects each Party from liability incurred to third parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in article 7.2.
- 7.3.2.** The Parties shall at all times indemnify, defend, and hold another Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to

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property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

- 7.3.3. If an indemnified person is entitled to indemnification under this article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this article, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.
- 7.3.4. If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.
- 7.3.5. Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

7.4. Consequential Damages

Other than as expressly provided for in this Agreement, neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

7.5. Force Majeure

- 7.5.1. As used in this article, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, insurrection, riot,

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fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

- 7.5.2.** If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Parties, either in writing or via the telephone, of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance. The Affected Party shall keep the other Parties informed on a continuing basis of developments relating to the Force Majeure Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of Reasonable Efforts. The Affected Party will use Reasonable Efforts to resume its performance as soon as possible.

7.6. Default

- 7.6.1.** No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except as provided in article 7.6.2, the defaulting Party shall have 60 calendar days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 60 calendar days, the defaulting Party shall commence such cure within 20 calendar days after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.
- 7.6.2.** If a Default is not cured as provided in this article, or if a Default is not capable of being cured within the period provided for herein, a non defaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due

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hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this Agreement.

Article 8. Insurance

- 8.1. The Interconnection Customer shall, at its own expense, maintain in force general liability insurance without any exclusion for liabilities related to the interconnection undertaken pursuant to this Agreement. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. The Interconnection Customer shall obtain additional insurance only if necessary as a function of owning and operating a generating facility. Such insurance shall be obtained from an insurance provider authorized to do business in the State where the interconnection is located. Certification that such insurance is in effect shall be provided upon request of the Transmission Owner, except that the Interconnection Customer shall show proof of insurance to the Transmission Owner no later than ten Business Days prior to the anticipated commercial operation date. An Interconnection Customer of sufficient credit-worthiness may propose to self-insure for such liabilities, and such a proposal shall not be unreasonably rejected.
- 8.2. The Transmission Owner agrees to maintain general liability insurance or self-insurance consistent with the Transmission Owner's commercial practice. Such insurance or self-insurance shall not exclude coverage for the Transmission Owner's liabilities undertaken pursuant to this Agreement.
- 8.3. The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

Article 9. Confidentiality

- 9.1. Confidential Information shall mean any confidential and/or proprietary information provided by one Party to another Party that is clearly marked or otherwise designated "Confidential." For purposes of this Agreement all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such.
- 9.2. Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to another Party and after exhausting any opportunity to

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oppose such publication or release), or necessary to be divulged in an action to enforce this Agreement. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under this Agreement, or to fulfill legal or regulatory requirements.

9.2.1. Each Party shall employ at least the same standard of care to protect Confidential Information obtained from another Party as it employs to protect its own Confidential Information.

9.2.2. Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.

9.3. Notwithstanding anything in this article to the contrary, and pursuant to 18 CFR § 1b.20, if FERC, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to FERC, within the time provided for in the request for information. In providing the information to FERC, the Party may, consistent with 18 CFR § 388.112, request that the information be treated as confidential and non-public by FERC and that the information be withheld from public disclosure. Parties are prohibited from notifying another Party to this Agreement prior to the release of the Confidential Information to FERC. The Party shall notify the other Parties to this Agreement when it is notified by FERC that a request to release Confidential Information has been received by FERC, at which time the Parties may respond before such information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

Article 10. Disputes

10.1. The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this article.

10.2. In the event of a dispute, any Party shall provide another Party with a written Notice of Dispute. Such Notice shall describe in detail the nature of the dispute.

10.3. If the dispute has not been resolved within two Business Days after receipt of the Notice, either Party may contact FERC's Dispute Resolution Service (DRS) for

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assistance in resolving the dispute.

- 10.4. The DRS will assist the Parties in either resolving their dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the Parties in resolving their dispute. DRS can be reached at 1-877-337-2237 or via the internet at <http://www.ferc.gov/legal/adr.asp>.
- 10.5. Each Party agrees to conduct all negotiations in good faith and will be responsible for one-half of any costs paid to neutral third-parties.
- 10.6. If none of the Parties elects to seek assistance from the DRS, or if the attempted dispute resolution fails, then any Party may exercise whatever rights and remedies it may have in equity or law consistent with the terms of this Agreement.

Article 11. Taxes

- 11.1. The Parties agree to follow all applicable tax laws and regulations, consistent with FERC policy and Internal Revenue Service requirements.
- 11.2. Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this Agreement is intended to adversely affect the Transmission Owner's tax exempt status with respect to the issuance of bonds including, but not limited to, local furnishing bonds.

Article 12. Miscellaneous

- 12.1. **Governing Law, Regulatory Authority, and Rules**
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.
- 12.2. **Amendment**
The Parties may amend this Agreement by a written instrument duly executed by both Parties.
- 12.3. **No Third-Party Beneficiaries**
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted,

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their assigns.

12.4. Waiver

12.4.1. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

12.4.2. Any waiver at any time by any Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Transmission Owner. Any waiver of this Agreement shall, if requested, be provided in writing.

12.5. Entire Agreement

This Agreement, including all Appendices, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.

12.6. Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

12.7. No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. The Parties shall not have a right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

12.8. Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith

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to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

12.9. Security Arrangements

Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. FERC expects all public utilities, market participants, and Interconnection Customers interconnected to electric systems to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cybersecurity practices.

12.10. Environmental Releases

Each Party shall notify the other Parties, first orally and then in writing, of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Small Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Parties. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Parties copies of any publicly available reports filed with any governmental authorities addressing such events.

12.11. Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Parties for the performance of such subcontractor.

12.11.1. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Transmission Owner be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to,

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any subcontractor of such Party.

12.11.2. The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

12.12. Reservation of Rights

The Transmission Owner shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and the Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by another Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

Article 13. Notices

13.1. General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified below:

If to the Interconnection Customer:
Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

If to the Transmission Owner:
Transmission Owner: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

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13.2. Billing and Payment

Billings and payments shall be sent to the addresses set out below:

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____

Transmission Owner: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____

13.3. Alternative Forms of Notice

Any notice or request required or permitted to be given by a Party to the other Parties and not required by this Agreement to be given in writing may be so given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out below:

If to the Interconnection Customer:

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

If to the Transmission Owner:

Transmission Owner: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

13.4. Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

Interconnection Customer's Operating Representative:

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Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

Transmission Owner : _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____

13.5. Changes to the Notice Information
A Party may change this information by giving five Business Days written notice prior to the effective date of the change.

Article 14. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Transmission Owner

Name: _____
Title: _____
Date: _____

For the Interconnection Customer

Name: _____
Title: _____
Date: _____

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Appendix A to Interim SGIA Glossary of Terms

Affected System - An electric system other than the Transmission Owner's Transmission System that may be affected by the proposed interconnection.

Applicable Laws and Regulations - All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Business Day - Monday through Friday, excluding Federal Holidays.

Default - The failure of a breaching Party to cure its Breach under the Small Generator Interconnection Agreement.

Distribution System - The Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

Distribution Upgrades - The additions, modifications, and upgrades to the Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Small Generating Facility and render the transmission service necessary to effect the Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Good Utility Practice - Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority - Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, the Interconnection Provider, or any Affiliate thereof.

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Independent Transmission Organization - The entity to which LG&E and KU have delegated the responsibility and authority to administer the Tariff, serve as ITO thereunder.

Interconnection Customer - Any entity, including the Transmission Owner or any of its affiliates or subsidiaries that proposes to interconnect its Small Generating Facility with the Transmission Owner's Transmission System.

Interconnection Facilities - The Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to the Transmission Owner's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

Generator Interconnection Request - The Interconnection Customer's request, in accordance with the Tariff, to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Small Generating Facility that is interconnected with the Transmission Owner's Transmission System.

Interim Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 2 to the Standard Small Generator Interconnection Procedures, for Interim Interconnection Service.

Interim Interconnection Service shall mean Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Owner's Transmission System and be eligible to deliver the Generating Facility's electric output on a temporary basis while the Interconnection Customer completes the interconnection process.

Interim Interconnection System Impact Study ("Interim SIS") shall mean the study conducted in response to a request by an Interconnection Customer for Interim Interconnection Service.

Interim SGIP SIS Agreement shall mean the form of agreement contained in Appendix 10 of the Standard Small Generator Interconnection Procedures for conducting the Interim Interconnection Study.

Interim SGIA shall mean the agreement that governs the provision of Interim Interconnection Service.

Material Modification - A modification that has a material impact on the cost or timing of any Generator Interconnection Request with a later queue priority date.

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Network Upgrades - Additions, modifications, and upgrades to the Transmission Owner's Transmission System required at or beyond the point at which the Small Generating Facility interconnects with the Transmission Owner's Transmission System to accommodate the interconnection of the Small Generating Facility with the Transmission Owner's Transmission System. Network Upgrades do not include Distribution Upgrades.

Operating Requirements - Any operating and technical requirements that may be applicable due to Regional Transmission Organization, Independent System Operator, control area, or the Transmission Owner's requirements, including those set forth in the Small Generator Interconnection Agreement.

Party or Parties - The Transmission Owner, Interconnection Customer or any combination of the above.

Point of Interconnection - The point where the Interconnection Facilities connect with the Transmission Owner's Transmission System.

Reasonable Efforts - With respect to an action required to be attempted or taken by a Party under the Small Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Reliability Coordinator - The party charged with providing reliability coordination service for the Transmission Owner's system in accordance with Attachment P hereto.

Small Generating Facility - The Interconnection Customer's device for the production of electricity identified in the Generator Interconnection Request and/or Interim Generator Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Tariff - The Transmission Owner or Affected System's Tariff through which open access transmission service and Interconnection Service are offered, as filed with the FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner - LG&E/KU, the public utility operating companies which: (i) own the Transmission System; (ii) contract with the ITO to provide open access transmission service under the Tariff; (iii) conduct those functions specified herein necessary for the ITO to provide open access transmission service under the Tariff; and (iv) receive payment for Transmission Service as provided for in the Tariff.

Transmission System - The facilities owned and operated by the Transmission Owner, and administered by the ITO to the extent and as provided for in this Tariff, that are used to provide transmission service under Part II and Part III of the Tariff.

Louisville Gas and Electric Company

LGE and KU Joint Pro Forma Open
Access Transmission Tariff

Part V_ATTACH N
Part V_ATTACH N Small Generator Intrcntrn Prcdrs and
Agmt
Version 13.0.0

Upgrades - The required additions and modifications to the Transmission Owner's Transmission System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

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**Appendix B to Interim SGIA
Description and Costs of the Small Generating Facility,
Interconnection Facilities, and Metering Equipment**

Equipment, including the Small Generating Facility, Interconnection Facilities, and metering equipment shall be itemized and identified as being owned by the Interconnection Customer or the Transmission Owner. The Transmission Owner will provide a best estimate itemized cost, including overheads, of its Interconnection Facilities and metering equipment, and a best estimate itemized cost of the annual operation and maintenance expenses associated with its Interconnection Facilities and metering equipment.

Approved Output Level of Small Generator Pursuant to Interim SGIA: [___] MW

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Appendix C to Interim SGIA

**One-line Diagram Depicting the Small Generating Facility, Interconnection
Facilities, Metering Equipment, and Upgrades**

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Appendix D to Interim SGIA
Milestones

In-Service Date: _____

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	Responsible Party
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____
(4)	_____	_____
(5)	_____	_____
(6)	_____	_____
(7)	_____	_____
(8)	_____	_____
(9)	_____	_____
(10)	_____	_____

Agreed to by:

For the Transmission Owner _____ Date _____

For the Interconnection Customer _____ Date _____

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**Appendix E to Interim SGIA
Additional Operating Requirements for the Transmission Owner's
Transmission System and Affected Systems Needed to Support
the Interconnection Customer's Needs**

The Transmission Owner shall also provide requirements that must be met by the Interconnection Customer prior to initiating parallel operation with the Transmission Owner's Transmission System.

Louisville Gas and Electric Company
LGE and KU Joint Pro Forma Open
Access Transmission Tariff

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Part V_ATTACH N Small Generator Intrcntrn Prcdr and
Agmt
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**Appendix F to Interim SGIA
Transmission Owner's Description of its Upgrades
and Best Estimate of Upgrade Costs**

The Transmission Owner shall describe Upgrades and provide an itemized best estimate of the cost, including overheads, of the Upgrades and annual operation and maintenance expenses associated with such Upgrades. The Transmission Owner shall functionalize Upgrade costs and annual expenses as either transmission or distribution related.

Louisville Gas and Electric Company
And
Kentucky Utilities Company
Attachment O
Rate Formulae for Network and Point-to-Point
Transmission Service

ETariff Information

Tariff Submitter: Louisville Gas and Electric Company

FERC Tariff Program Name: FERC FPA Electric Tariff

Tariff Title: Transmission

Tariff Record Proposed Effective Date: January 27, 2020

Tariff Record Title: Part V_ATTACH O Rate Formulae Network and PTP Tran Srvc

Option Code: A

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE

Rate Formula Template
Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----

Page 1 of 5

LG&E and KU

Line No.						Allocated Amount
1	GROSS REVENUE REQUIREMENT	Pg 3 of 5, L. 29				\$ 0
	REVENUE CREDITS	Note T	<u>Total</u>		<u>Allocator</u>	
2	Account No. 454	Pg 4 of 5, L. 35	\$ 0		TP 0.00000	\$ 0
3	Account No. 456	Pg 4 of 5, L. 38	0		TP 0.00000	0
4	Revenues from Grandfathered Interzonal Transactions		0		TP 0.00000	0
5	Revenues from service provided by LG&E and KU at a discount		0		TP 0.00000	0
6	TOTAL REVENUE CREDITS	Sum of Ls. 2-5				\$ 0
7	NET REVENUE REQUIREMENT	L.1 - L.6				\$ 0
	DIVISOR					
8	Average of 12 coincident system peaks for requirements (RQ) service (kW)			Note A		0
9	Plus 12 CP of firm bundled sales over one year not in line 8 (kW)			Note B		0
10	Plus 12 CP of Network Load not in line 8 (kW)			Note C		0
11	Less 12 CP of firm P-T-P over one year (enter negative) (kW)			Note D		(0)
12	Plus Contract Demand of firm P-T-P over one year (kW)					0
13	[RESERVED]					0
14	Less Contract Demands from service over one year provided by LG&E and KU at a discount (enter negative) (kW)					(0)
15	Divisor (kW)	Sum of Ls. 8-14				0
16	Annual Cost (\$/kW/Yr)	L. 7÷ L. 15	\$ 0.000			
17	Network Rate (\$/kW/Month)	L. 16 ÷ 12	\$ 0.000			
18	[RESERVED]					
19	[RESERVED]					
20	[RESERVED]					
21	FERC Annual Charge(\$/MWh)	Note E	\$ 0.000		Short Term	\$ 0.000
22			\$ 0.000		Long Term	\$ 0.000

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE

Rate Formula Template
Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
Page 2 of 5

Line No.	(1) RATE BASE:	LG&E and KU		(4) Allocator	(5) Transmission (Col 3 times Col 4)
		(2) Form No. 1 Page, Line, Col.	(3) Company Total		
GROSS PLANT IN SERVICE					
1	Production	205.46.g	\$ 0	NA	
2	Transmission	207.58.g	0	TP	0.00000 \$ 0
3	Distribution	207.75.g	0	NA	
4	General & Intangible	205.5.g & 207.99.g	0	W/S	0.00000 0
5	Common	356.1	0	CE	0.00000 0
6	TOTAL GROSS PLANT	Sum of Ls. 1 - 5	\$ 0	GP =	0.00000 \$ 0
ACCUMULATED DEPRECIATION					
7	Production	Note Y 219.20-24.c	\$ 0	NA	
8	Transmission	219.25.c	0	TP	0.00000 \$ 0
9	Distribution	219.26.c	0	NA	
10	General & Intangible	219.28.c & 200.21.c	0	W/S	0.00000 0
11	Common	356.1	0	CE	0.00000 0
12	TOTAL ACCUM. DEPRECIATION	Sum of Ls. 7 - 11	\$ 0		\$ 0
NET PLANT IN SERVICE					
13	Production	L.1 - L.7	\$ 0		
14	Transmission	L.2 - L.8	0		\$ 0
15	Distribution	L.3 - L.9	0		
16	General & Intangible	L.4 - L.10	0		0
17	Common	L.5 - L.11	0		0
18	TOTAL NET PLANT	Sum of Ls. 13 - 17	\$ 0	NP =	0.00000 \$ 0
ADJUSTMENTS TO RATE BASE					
19	Account No. 281 (enter negative)	Note F 273.8.k	\$ (0)	NA	
20	Account No. 282 (enter negative)	275.2.k	(0)	NP	0.00000 \$ (0)
21	Account No. 283 (enter negative)	277.9.k & Note W	(0)	NP	0.00000 (0)
22	Account No. 190	234.8.c & Note W	0	NP	0.00000 0
23	Account No. 255 (enter negative)	267.8.h	(0)	NP	0.00000 (0)
24	Network Upgrade (enter negative)	Note X	(0)	TP	0.00000 (0)
25	LSE Direct Assignment (enter negative)	Note X	(0)		1.00000 (0)
26	Transmission Plant ARO -- Net Balance (enter negative)		(0)	TP	0.00000 (0)
27	Common Plant ARO -- Net Balance (enter negative)		(0)	CE	0.00000 (0)
28	TOTAL ADJUSTMENTS	Sum of Ls. 19 - 27	\$ (0)		\$ (0)
29	LAND HELD FOR FUTURE USE	214.x.d; Notes G & Z	\$ 0	TP	0.00000 \$ 0
WORKING CAPITAL					
30	CWC	Note H calculated	\$ 0		\$ 0
31	Materials & Supplies	227.8.c & 16.c; Note G	0	TE	0.00000 0
32	Prepayments (Account 165)	111.57.c	0	GP	0.00000 0
33	TOTAL WORKING CAPITAL	Sum of Ls. 30 - 32	\$ 0		\$ 0
34	Rate Base	Sum of Ls. 18,28,29,33	\$ 0		\$ 0

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
 Page 3 of 5

Line No.	(1)	(2)	LG&E and KU (3)	(4)	(5)
	Form No. 1 Page, Line, Col.	Company Total		Allocator	Transmission (Col 3 times Col 4)
O&M					
1	Transmission	321.112.b; see also Note V	\$ 0	TE	0.00000 \$ 0
2	Less Account 565 (enter negative)	321.96.b	(0)		(0)
3	A&G	323.197.b	0	W/S	0
4	Less FERC Annual Fees (enter negative)	351.2.h	(0)	W/S	(0)
5	Less EPRI & Reg. Comm. Exp. & Non-safety Ad. (enter negative)	Note I	(0)	W/S	(0)
6	Plus Transmission Related Reg. Comm. Exp.	Note I	0	TE	0
7	Common	356.1	0	CE	0
8	Transmission Lease Payments		0		0
9	TOTAL O&M	Sum of Ls. 1-8	<u>\$ 0</u>		<u>\$ 0</u>
DEPRECIATION AND AMORTIZATION EXPENSE					
10	Transmission (net of ARO depreciation)	Note Y	\$ 0	TP	0.00000 \$ 0
11	General and Intangible	336.10.b & 336.1.f	0	W/S	0
12	Common (net of ARO depreciation)	336.11.b	0	CE	0.00000
13	TOTAL DEPRECIATION	Sum of Ls. 10-12	<u>\$ 0</u>		<u>\$ 0</u>
TAXES OTHER THAN INCOME TAXES					
LABOR RELATED					
14	Payroll	263.i	\$ 0	W/S	0.00000 \$ 0
15	Highway and vehicle	263.j	0	W/S	0.00000
PLANT RELATED					
17	Property	263.i	0	GP	0.00000
18	Other	263.i	0	GP	0.00000
19	Payments in lieu of taxes		0	GP	0.00000
20	TOTAL OTHER TAXES	Sum of Ls. 14-19	<u>\$ 0</u>		<u>\$ 0</u>
DEVELOPMENT OF INCOME TAXES					
21	$T = 1 - (((1 - SIT) \times (1 - FIT)) \div (1 - SIT \times FIT \times p))$	Note K	0.00%		
22	$CIT = (T \div (1 - T)) \times (1 - (WCLTD \div R))$, where:		0.00%		
	WCLTD =	Pg 4 of 5, L. 28	0.00%		
	R =	Pg 4 of 5, L. 31	0.00%		
	FIT, SIT and p	Note K			
23	Income Tax Gross Up Factor: $1 / (1 - T)$	T = L. 22	0.00000000		
24	Amortized Investment Tax Credit (enter negative)	266.8.f; see also Note K	0		
24a	(Excess)/Deficient ADIT Amortization - Protected	ADIT Worksheet, L. 1	0		
24b	(Excess)/Deficient ADIT Amortization - Unprotected	ADIT Worksheet, L. 2	0		
25	Income Tax Calculation	L. 22 x L. 28	\$ 0		\$ 0
26	ITC adjustment	L. 23 x L. 24	0	NP	0.00000
26a	(Excess)/Deficient ADIT Amortization - Protected - Grossed-Up	L. 23 x L. 24a; see also Note S	0	NP	0.00000
26b	(Excess)/Deficient ADIT Amortization - Unprotected - Grossed-Up	L. 23 x L. 24b; see also Note S	0	W/S	0.00000
27	Total Income Taxes	Sum of Ls. 25-26b	<u>\$ 0</u>		<u>\$ 0</u>
28	RETURN (rate base times rate of return)	Pg 2 of 5, L.34 x Pg 4 of 5, L. 31	<u>\$ 0</u>		<u>\$ 0</u>
29	REVENUE REQUIREMENT	Sum of Ls. 9,13,20,27,28	<u>\$ 0</u>		<u>\$ 0</u>

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/....
 Page 4 of 5

LG&E and KU
SUPPORTING CALCULATIONS AND NOTES

Line No.	TRANSMISSION PLANT INCLUDED IN LG&E and KU RATES					
1	Total transmission plant		Pg 2 of 5, L.2, C.3	\$	0	
2	Less transmission plant excluded from LG&E and KU rates		Note M	0		
3	Less transmission plant included in OATT Ancillary Services		Note N	0		
4	<u>Transmission plant included in LG&E and KU rates</u>		L. 1 - L.2 - L.3	\$	0	
5	Percentage of transmission plant included in LG&E and KU Rates		L.4 + L.1	TP=	0.00000	
TRANSMISSION EXPENSES						
6	Total transmission expenses		Pg 3 of 5, L.1, C.3	\$	0	
7	Less transmission expenses included in OATT Ancillary Services		Note L	0		
8	<u>Included transmission expenses</u>		L. 6 - L.7	\$	0	
9	Percentage of transmission expenses after adjustment		L.8 + L.6		0.00000	
10	Percentage of transmission plant included in LG&E and KU Rates		L. 5	TP	0.00000	
11	Percentage of transmission expenses included in LG&E and KU Rates		L.9 x L.10	TE=	0.00000	
WAGE & SALARY ALLOCATOR (W&S)						
	Form 1 Reference	Total W&S	TP	Allocated W&S		
12	Production 354.20.b	\$ 0	0.00	\$ 0		
13	Transmission 354.21.b	0	0.00000	0		
14	Distribution 354.23.b	0	0.00	0		
15	Other 354.24,25,26.b	0	0.00	0		
16	<u>Total Wages and Salaries</u> Sum of Ls. 12-15	\$ 0		\$ 0	=	0.00000 = W/S
COMMON PLANT ALLOCATOR (CE)						
	Note O	Total Plant				
17	Electric 200.3.c	\$ 0				
18	Gas 201.3.d	0				
19	Water 201.3.e	0				
20	<u>Total Plant</u> Sum of Ls. 17-19	\$ 0				
21	Electric Plant Ratio L.17 + L.20		1.00000	times W/S (L. 16)	0.00000	0.00000 = CE
DEVELOPMENT OF RATE OF RETURN (R)						
	117.62-67.c, Note W	Total per Form 1				
22	Long Term Interest 117.62-67.c, Note W	\$ 0				
23	Preferred Dividends 118.29.c	0				
Development of Common Stock:						
24	Proprietary Capital 112.16.c	\$ 0				
25	Less Preferred Stock (enter negative) L.29	(0)				
26	Less Accounts 216.1 & 219 (enter negative) 112.12.c; 112.15.c	0				
27	<u>Total Common Stock</u> Sum of Ls. 24-26	\$ 0				
Weighted Average Cost of Capital:						
	112.18-23.c, Note W	Total Company	%	Cost Rate (Note P)	Weighted	
28	Long Term Debt 112.18-23.c, Note W	\$ 0	0.00%	0.0000	0.0000	= WCLTD
29	Preferred Stock 112.3.c	0	0.00%	0.0000	0.0000	
30	Common Stock L.27	0	0.00%	0.1088	0.0000	
31	<u>Total</u> Sum of Ls. 28-30	\$ 0			0.0000	= R
REVENUE CREDITS						
ACCOUNT 447 (SALES FOR RESALE)						
32	a. Bundled Non-RQ Sales for Resale (kW)		310-311, Note Q	Load	0	
33	b. Bundled Sales for Resale included in Divisor on page 1 (kW)		311.x.h; Note Z	0		
34	<u>Total (kW)</u>		L. 32-L33	0		
ACCOUNT 454 (RENT FROM ELECTRIC PROPERTY)						
35			Note R	\$	0	
ACCOUNT 456 (OTHER ELECTRIC REVENUES)						
36	a. Transmission charges for all transmission transactions	(330.x.n)	Notes U & Z	\$	0	
37	b. Transmission charges for all transmission transactions included in Divisor on Page 1			0		
38	<u>Total</u>		L.36-L37	\$	0	

ATTACHMENT O
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
Page 1 of 5

LG&E and KU

Line No.					Allocated Amount
1	GROSS REVENUE REQUIREMENT	Pg 3 of 5, L. 29			\$ 0
	REVENUE CREDITS	Note T	<u>Total</u>	<u>Allocator</u>	
2	Account No. 454	Pg 4 of 5, L. 35	\$ 0	TP 0.00000	\$ 0
3	Account No. 456	Pg 4 of 5, L. 38	0	TP 0.00000	0
4	Revenues from Grandfathered Interzonal Transactions		0	TP 0.00000	0
5	Revenues from service provided by LG&E and KU at a discount		0	TP 0.00000	0
6	TOTAL REVENUE CREDITS	Sum of Ls. 2-5			\$ 0
7	NET REVENUE REQUIREMENT	L.1 - L.6			\$ 0
	DIVISOR				
8	Average of 12 coincident system peaks for requirements (RQ) service (kW)	Note A			0
9	Plus 12 CP of firm bundled sales over one year not in line 8 (kW)	Note B			0
10	Plus 12 CP of Network Load not in line 8 (kW)	Note C			0
11	Less 12 CP of firm P-T-P over one year (enter negative) (kW)	Note D			(0)
12	Plus Contract Demand of firm P-T-P over one year (kW)				0
13	Plus CBM Capacity withheld from P-T-P Customers (kW)				0
14	Less Contract Demands from service over one year provided by LG&E and KU at a discount (enter negative) (kW)				(0)
15	Divisor (kW)	Sum of Ls. 8-14			0
16	Annual Cost (\$/kW/Yr)	L. 7÷ L. 15	\$ 0.000		
17	P-to-P Rate (\$/kW/Month)	L. 16 ÷ 12	\$ 0.000		
			<u>Peak Rate</u>		<u>Off-Peak Rate</u>
18	Point-To-Point Rate (\$/kW/Wk)	L. 16 ÷ 52	\$ 0.000	L. 16 ÷ 52	\$ 0.000
19	Point-To-Point Rate (\$/kW/Day)	L. 18 ÷ 5	\$ 0.000	Capped at weekly rates L. 18 ÷ 7	\$ 0.000
20	Point-To-Point Rate (\$/MWh)	L. 19 ÷ 16	\$ 0.000	Capped at weekly & daily rates L. 19 ÷ 24	\$ 0.000
21	FERC Annual Charge(\$/MWh)	Note E	\$ 0.000	Short Term	\$ 0.000
22			\$ 0.000	Long Term	\$ 0.000

ATTACHMENT O
 RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
 Page 2 of 5

Line No.	(1) RATE BASE:	LG&E and KU		(4) Allocator	(5) Transmission (Col 3 times Col 4)
		(2) Form No. 1 Page, Line, Col.	(3) Company Total		
GROSS PLANT IN SERVICE					
1	Production	205.46.g	\$ 0	NA	
2	Transmission	207.58.g	0	TP	0.00000 \$ 0
3	Distribution	207.75.g	0	NA	
4	General & Intangible	205.5.g & 207.99.g	0	W/S	0.00000 0
5	Common	356.1	0	CE	0.00000 0
6	TOTAL GROSS PLANT	Sum of Ls. 1 - 5	\$ 0	GP=	0.00000 \$ 0
ACCUMULATED DEPRECIATION					
		Note Y			
7	Production	219.20-24.c	\$ 0	NA	
8	Transmission	219.25.c	0	TP	0.00000 \$ 0
9	Distribution	219.26.c	0	NA	
10	General & Intangible	219.28.c & 200.21.c	0	W/S	0.00000 0
11	Common	356.1	0	CE	0.00000 0
12	TOTAL ACCUM. DEPRECIATION	Sum of Ls. 7 - 11	\$ 0		\$ 0
NET PLANT IN SERVICE					
13	Production	L.1 - L.7	\$ 0		
14	Transmission	L.2 - L.8	0		\$ 0
15	Distribution	L.3 - L.9	0		
16	General & Intangible	L.4 - L.10	0		0
17	Common	L.5 - L.11	0		0
18	TOTAL NET PLANT	Sum of Ls. 13 - 17	\$ 0	NP =	0.00000 \$ 0
ADJUSTMENTS TO RATE BASE					
		Note F			
19	Account No. 281 (enter negative)	273.8.k	\$ (0)	NA	
20	Account No. 282 (enter negative)	275.2.k	(0)	NP	0.00000 \$ (0)
21	Account No. 283 (enter negative)	277.9.k & Note W	(0)	NP	0.00000 (0)
22	Account No. 190	234.8.c & Note W	0	NP	0.00000 0
23	Account No. 255 (enter negative)	267.8.h	(0)	NP	0.00000 (0)
24	Network Upgrade (enter negative)	Note X	(0)	TP	0.00000 (0)
25	LSE Direct Assignment (enter negative)	Note X	(0)		1.00000 (0)
26	Transmission Plant ARO -- Net Balance (enter negative)		(0)	TP	0.00000 (0)
27	Common Plant ARO -- Net Balance (enter negative)		(0)	CE	0.00000 (0)
28	TOTAL ADJUSTMENTS	Sum of Ls. 19 - 27	\$ (0)		\$ (0)
29	LAND HELD FOR FUTURE USE	214.x.d; Notes G & Z	\$ 0	TP	0.00000 \$ 0
WORKING CAPITAL					
		Note H			
30	CWC	calculated	\$ 0		\$ 0
31	Materials & Supplies	227.8.c & 16.c; Note G	0	TE	0.00000 0
32	Prepayments (Account 165)	111.57.c	0	GP	0.00000 0
33	TOTAL WORKING CAPITAL	Sum of Ls. 30 - 32	\$ 0		\$ 0
34	Rate Base	Sum of Ls. 18,28,29,33	\$ 0		\$ 0

ATTACHMENT O
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
Page 3 of 5

Line No.	(1)	(2) Form No. 1 Page, Line, Col.	LG&E and KU (3) Company Total	(4) Allocator	(5) Transmission (Col 3 times Col 4)
	O&M				
1	Transmission	321.112.b; see also Note V	\$ 0	TE	0
2	Less Account 565 (enter negative)	321.96.b	(0)		(0)
3	A&G	323.197.b	0	W/S	0
4	Less FERC Annual Fees (enter negative)	351.2.h	(0)	W/S	(0)
5	Less EPRI & Reg. Comm. Exp. & Non-safety Ad. (enter negative)	Note I	(0)	W/S	(0)
6	Plus Transmission Related Reg. Comm. Exp.	Note I	0	TE	0
7	Common	356.1	0	CE	0
8	Transmission Lease Payments		0		0
9	TOTAL O&M	Sum of Ls. 1-8	\$ 0		\$ 0
	DEPRECIATION AND AMORTIZATION EXPENSE				
10	Transmission (net of ARO depreciation)	Note Y 336.7.b	\$ 0	TP	0
11	General and Intangible	336.10.b & 336.1.f	0	W/S	0
12	Common (net of ARO depreciation)	336.11.b	0	CE	0
13	TOTAL DEPRECIATION	Sum of Ls. 10-12	\$ 0		\$ 0
	TAXES OTHER THAN INCOME TAXES				
	LABOR RELATED				
14	Payroll	263.i	\$ 0	W/S	0
15	Highway and vehicle	263.i	0	W/S	0
16	PLANT RELATED				
17	Property	263.i	0	GP	0
18	Other	263.i	0	GP	0
19	Payments in lieu of taxes		0	GP	0
20	TOTAL OTHER TAXES	Sum of Ls. 14-19	\$ 0		\$ 0
	DEVELOPMENT OF INCOME TAXES				
21	$T = 1 - ((1 - SIT) \times (1 - FIT)) + (1 - SIT \times FIT \times p)$	Note K	0.00%		
22	$CIT = (T \div (1 - T)) \times (1 - (WCLTD \div R))$, where:		0.00%		
	WCLTD =	Pg 4 of 5, L. 28	0.00%		
	R =	Pg 4 of 5, L. 31	0.00%		
	FIT, SIT and p	Note K			
23	Income Tax Gross Up Factor: $1 / (1 - T)$	T = L. 22	0.00000000		
24	Amortized Investment Tax Credit (enter negative)	266.8.f; see also Note K	0		
24a	(Excess)/Deficient ADIT Amortization - Protected	ADIT Worksheet, L. 1	0		
24b	(Excess)/Deficient ADIT Amortization - Unprotected	ADIT Worksheet, L. 2	0		
25	Income Tax Calculation	L. 22 x L. 28	\$ 0		\$ 0
26	ITC adjustment	L. 23 x L. 24	0	NP	0
26a	(Excess)/Deficient ADIT Amortization - Protected - Grossed-Up	L. 23 x L. 24a; see also Note S	0	NP	0
26b	(Excess)/Deficient ADIT Amortization - Unprotected - Grossed-Up	L. 23 x L. 24b; see also Note S	0	W/S	0
27	Total Income Taxes	Sum of Ls. 25-26b	\$ 0		\$ 0
28	RETURN (rate base times rate of return)	Pg 2 of 5, L.34 x Pg 4 of 5, L. 31	\$ 0		\$ 0
29	REVENUE REQUIREMENT	Sum of Ls. 9,13,20,27,28	\$ 0		\$ 0

ATTACHMENT O
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
 Page 4 of 5

LG&E and KU
SUPPORTING CALCULATIONS AND NOTES

Line No.	TRANSMISSION PLANT INCLUDED IN LG&E and KU RATES				
1	Total transmission plant	Pg 2 of 5, L.2, C.3	\$	0	
2	Less transmission plant excluded from LG&E and KU rates	Note M		0	
3	Less transmission plant included in OATT Ancillary Services	Note N		0	
4	<u>Transmission plant included in LG&E and KU rates</u>	L 1 - L.2 - L.3	\$	0	
5	Percentage of transmission plant included in LG&E and KU Rates	L.4 + L.1	TP=	0.0000	
TRANSMISSION EXPENSES					
6	Total transmission expenses	Pg 3 of 5, L.1, C.3	\$	0	
7	Less transmission expenses included in OATT Ancillary Services	Note L		0	
8	<u>Included transmission expenses</u>	L 6 - L.7	\$	0	
9	Percentage of transmission expenses after adjustment	L.8 + L.6		0.0000	
10	Percentage of transmission plant included in LG&E and KU Rates	L 5	TP	0.0000	
11	Percentage of transmission expenses included in LG&E and KU Rates	L.9 x L.10	TE=	0.0000	
WAGE & SALARY ALLOCATOR (W&S)					
	Form 1 Reference	Total W&S	TP	Allocated W&S	
12	Production 354.20.b	\$ 0	0.00000	\$ 0	
13	Transmission 354.21.b	0	0.00000	0	
14	Distribution 354.23.b	0	0.00000	0	
15	Other 354.24,25,26.b	0	0.00000	0	
16	<u>Total Wages and Salaries</u> Sum of Ls. 12-15	\$ 0	0	\$ 0	= 0.00000 = W/S
COMMON PLANT ALLOCATOR (CE)					
	Note O	Total Plant			
17	Electric 200.3.c	\$ 0			
18	Gas 201.3.d	0			
19	Water 201.3.e	0			
20	<u>Total Plant</u> Sum of Ls. 17-19	\$ 0			
21	Electric Plant Ratio L. 17 + L. 20		0.00000 times W/S (L. 16)	0.00000	0.00000 = CE
DEVELOPMENT OF RATE OF RETURN (R)					
	Total per Form 1				
22	Long Term Interest 117.62-67.c, Note W	\$ 0			
23	Preferred Dividends 118.29.c	0			
Development of Common Stock:					
24	Proprietary Capital 112.16.c	\$ 0			
25	Less Preferred Stock (enter negative) L.29	(0)			
26	Less Accounts 216.1 & 219 (enter negative) 112.12.c; 112.15.c	(0)			
27	<u>Total Common Stock</u> Sum of Ls. 24-26	\$ 0			
Weighted Average Cost of Capital:					
	Total Company	%	Cost Rate (Note P)	Weighted	
28	Long Term Debt 112.18-23.c; Note W	\$ 0	0.00%	0.0000	0.0000 = WCLTD
29	Preferred Stock 112.3.c	0	100.00%	0.0000	0.0000
30	Common Stock L.27	0	0.00%	0.1088	0.0000
31	<u>Total</u> Sum of Ls. 28-30	\$ 0		0.0000	= R
REVENUE CREDITS					
ACCOUNT 447 (SALES FOR RESALE)					
	Load				
32	a. Bundled Non-RQ Sales for Resale (kW) 310-311, Note Q			0	
33	b. Bundled Sales for Resale included in Divisor on page 1 (kW) 311.x,h; Note Z			0	
34	<u>Total (kW)</u> L. 32-L.33			0	
35	ACCOUNT 454 (RENT FROM ELECTRIC PROPERTY) Note R			\$ 0	
ACCOUNT 456 (OTHER ELECTRIC REVENUES) (330.x,n) Notes U & Z					
36	a. Transmission charges for all transmission transactions			\$ 0	
37	b. Transmission charges for all transmission transactions included in Divisor on Page 1			0	
38	<u>Total</u> L. 36-L.37			\$ 0	

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
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LG&E and KU

General Note: References to pages in this formula rate are indicated as: (page#, line#, col.#)
 References to data from FERC Form 1 are indicated as: #.y.x (page, line, column)

**Note
 Letter**

- A Average of monthly peak amounts reported on Page 400, column e of Form 1.
 - B Labeled LF, LU, IF, IU on pages 310-311 of Form 1 at the time of the LG&E and KU coincident monthly peaks.
 - C Average of monthly peak amounts reported on Page 400, column f + column h.
 - D Labeled LF on page 328 of Form 1 at the time of the LG&E and KU coincident monthly peaks.
 - E The FERC's annual charges for the year assessed the Transmission Owner for service under this tariff.
 - F The balances in Accounts 190, 281, 282 and 283, as adjusted by any amounts in contra accounts identified as regulatory assets or liabilities related to ASC 715 and ASC 740. Balance of Account 255 is reduced by prior flow throughs and excluded if LG&E and KU chose to utilize amortization of tax credits against taxable income as discussed in Note K. Account 281 is not allocated.
 - G Identified in Form 1 as being only transmission related.
 - H Cash Working Capital assigned to transmission is one-eighth of O&M allocated to transmission at page 3, line 9, column 5. Prepayments are the electric related prepayments booked to Account No. 165 and reported on Page 111 line 57 in the Form 1.
 - I Line 5 - EPRI Annual Membership Dues listed in Form 1 at 353.f, Regulatory Commission Expenses itemized at 351.h, and non-safety related advertising included in Account 930.1. Line 6 - Regulatory Commission Expenses directly related to transmission service, LG&E and KU filings, or transmission siting itemized at 351.h.
 - J Includes only FICA, unemployment, highway, property and other assessments charged in the current year. Taxes related to income are excluded.
 - K The currently effective income tax rate, where FIT is the Federal income tax rate; SIT is the State income tax rate, and p = "the percentage of federal income tax deductible for state income taxes". Furthermore, if LG&E and KU elected to utilize amortization of tax credits against taxable income, rather than book tax credits to Account No. 255 and reduce rate base, LG&E and KU must reduce its income tax expense by the amount of the Amortized Investment Tax Credit (Form 1, 266.8.f; transmission related only) multiplied by (1/1-T) (page 3, line 26). (LG&E elected to amortize tax credits against taxable income; KU elected to amortize tax credits below the line and reduce rate base. Current income tax credit balances for LG&E and KU are related 100% to production investment and are not included in the Attachment O.)
- | | | | |
|------------------|-------|-------|---|
| Inputs Required: | FIT = | 0.00% | |
| | SIT= | 0.00% | (State Income Tax Rate or Composite SIT) |
| | p = | 0.00% | (percent of federal income tax deductible for state purposes) |
- L Removes dollar amount of transmission expenses included in the OATT ancillary services rates, including all of Account No. 561.
 - M Removes transmission plant determined by Commission order to be state-jurisdictional according to the seven-factor test (until Form 1 balances are adjusted to reflect application of seven-factor test).
 - N Removes dollar amount of transmission plant included in the development of OATT ancillary services rates and generation step-up facilities, which are deemed to be included in OATT ancillary services. For these purposes, generation step-up facilities are those facilities at a generator substation on which there is no through-flow when the generator is shut down. LG&E and KU generator step-up facilities are included in production plant accounts and are not included in this Attachment O.
 - O Enter dollar amounts. Common Plant Allocator (CE) = ratio of electric only plant to total plant, multiplied by W/S (wages and salaries allocator).
 - P Debt cost rate = long-term interest (line 22) ÷ long term debt (line 28). Preferred cost rate = preferred dividends (line 23) ÷ preferred outstanding (line 29). ROE will be supported in the original filing and no change in ROE may be made absent a filing with FERC.
 - Q Line 34 must equal zero since all short-term power sales must be unbundled and the transmission component reflected in Account No. 456 and all other uses are to be included in the divisor.
 - R Includes income related only to transmission facilities, such as pole attachments, rentals and special use.
 - S Includes amounts recorded to Accounts 411.1 and 410.1 for amortization of excess/deficient ADIT resulting from tax rate changes.
 - T The revenues credited on page 1 lines 2-5 shall include only the amounts received directly (in the case of grandfathered agreements) or from LG&E and KU (for service under this tariff) reflecting the Transmission Owner's integrated transmission facilities. They do not include revenues associated with FERC annual charges, gross receipts taxes, ancillary services, facilities not included in this template (e.g., direct assignment facilities and GSUs) which are not recovered under this Rate Formula Template.
 - U Account 456 entry shall be the annual total of the quarterly values reported at Form 1, 330.x.n.
 - V This Attachment O reflects a pass-through of the costs associated with the ITO and the Reliability Coordinator and excludes amortization of regulatory assets when such amortization is charged to transmission O&M and recovered entirely from retail customers.
 - W The amounts included in this Attachment O are net of purchase accounting adjustments resulting from the 2010 acquisition of LG&E and KU by PPL Corp. These adjustments are necessary to insulate customers from costs related to the acquisition.
 - X Entry on Page 2, Line 24 shall include the Network Upgrade value included in Line 2 and any accumulated depreciation included in Line 8. Entry on Page 2, Line 25 shall include the Load Serving Entity direct assigned value included in Line 2 and any accumulated depreciation in Line 8.
 - Y Depreciation rates and accumulated depreciation balances used in this formula include adjustments to reflect depreciation rates on file with the FERC.
 - Z FERC Form 1 pages do not specify line numbers, which are subject to change from year to year and between LG&E and KU. Please see the line item descriptions for identification of amounts from FERC Form 1 included in this rate formula.

Depreciation Rates Used in Attachment O

For Kentucky Utilities Company:

Property Group	Current Rates ASL
Transmission Plant	
350.1 Land Rights	0.98%
350.2 Land	0.00%
352.1 Struct. and Impr. Non Sys Control	1.54%
352.2 Struct. and Impr. Sys Control	1.43%
353.1 Station Equipment	1.98%
353.2 Syst Control/Microwave Equip	0.46%
354 Towers & Fixtures	1.21%
355 Poles & Fixtures	2.28%
356 Overhead Conductors and Devices	1.79%
357 Underground Conduit	2.60%
358 Underground Conductors & Devices	1.26%
359 Asset Retirement Obligations - Transmission *	
Total Transmission Plant	

For Louisville Gas and Electric Company:

Property Group	Current Rates ASL
ELECTRIC PLANT	
Electric Transmission Plant	
350.2 Transmission Lines Land	0.00%
350.1 Land Rights	3.92%
352.1 Structures & Improvements	1.17%
353.1 Station Equipment	1.32%
354 Towers & Fixtures	1.38%
355 Poles & Fixtures	2.95%
356 Overhead Conductors & Devices	2.52%
357 Underground Conduit	1.85%
358 Underground Conductors & Devices	3.65%
359 Asset Retirement Obligations - Transmission *	
Total Transmission Plant	

* Asset retirement obligations to not have specific depreciation rates; AROs are depreciated at the same rates as the underlying physical assets.

Excess/Deficient Deferred Taxes - Protected and Unprotected

Line No.		
1	(Excess) Deficient ADIT Amortization - Protected	0
2	(Excess) Deficient ADIT Amortization - Unprotected	0

Cumulative Timing Differences as of Tax 20YY Return	ADIT Balances at Statutory Rates
---	----------------------------------

Line No.	Description	Amortization Period (Note C)					Excess/(Deficient) ADIT - Current Tax Reform (Note A)		Excess/(Deficient) ADIT - Prior Tax Reform	Total Excess/(Deficient) ADIT as of 20YY Tax Return	Amortization of (Excess) Deficient ADIT - 20YY (Note B)	Excess/(Deficient) ADIT 12/31/20YY
		(a)	(b)	(c)	(d)	(e)	OLD Fed - #%%, KY - #%	NEW (Fed - #%%, KY - #%)				
3	Protected (Property Related) Deferred Taxes:											
4	Reserved For Future Use											
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19	Unprotected Deferred Taxes:											
20	Reserved For Future Use											
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												

Notes

A Excess/Deficient ADIT balances resulting from corporate income tax rate changes are recorded to account 254/182.3.

B Excess/Deficient ADIT balances are amortized to accounts 411.1/410.1.

C (Description of amortization period, to be adjusted as needed).

D [Future Use]

E [Future Use]

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Louisville Gas and Electric Company/Kentucky Utilities Company
Formula Rate Protocols

Section I. Applicability

The following procedures shall apply to LG&E/KU's calculation of its Annual Update.

Section II. Annual Updates

- A. Beginning June 1, 2015, the Annual Transmission Revenue Requirement applicable under this Attachment O and the Network Integration Transmission Service and Point-to-Point Transmission Service charges derived therefrom shall be applicable to services on and after June 1 of a given year through May 31 of the subsequent year (the "Rate Year").
- B. On or before June 1, 2015, and on or before each subsequent June 1, LG&E/KU shall recalculate its Annual Transmission Revenue Requirement, producing the Annual Update for the upcoming Rate Year, and shall post such information on the public area of the LG&E/KU OASIS. Within ten (10) days of such posting, LG&E/KU shall provide notice of such posting via an email exploder list. Interested Parties can subscribe to the LG&E/KU exploder list on the public area of the LG&E/KU OASIS.
- C. If the date for posting the Annual Update falls on a weekend or a holiday recognized by FERC, then the posting shall be due on the next business day. The date on which such posting occurs shall be that year's "Publication Date." Any delay in the Publication Date will result in an equivalent extension of time for the submission of Information Requests discussed in Section III of these protocols.
- D. The Annual Update shall:
 - 1. Include a workable data-populated Formula Rate Template and underlying workpapers in native format with all formulas and links intact;
 - 2. Be based on LG&E/KU's applicable FERC Form No. 1 for the prior calendar year;
 - 3. Provide the formula rate calculations and all inputs thereto, as well as supporting documentation and workpapers for data that are used in the formula rate that are not otherwise available in the FERC Form No. 1;
 - 4. Provide sufficient information to enable Interested Parties (as that term is defined in Section II.E of these protocols) to replicate the calculation of the formula results using the FERC Form No. 1 and any data not otherwise available in the

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FERC Form No. 1;

5. Identify any changes in the formula references (page and line numbers) to the FERC Form No. 1;
6. Identify all material adjustments made to the FERC Form No. 1 data in determining formula inputs, including relevant footnotes to the FERC Form No. 1 and any adjustments not shown in the FERC Form No. 1;
7. Provide underlying data for formula rate inputs that provide greater granularity than is required for the FERC Form No. 1;
8. With respect to any change in accounting that affects inputs to the formula rate or the resulting charges billed under the formula rate (“Material Accounting Change”):
 - a. Identify any Material Accounting Changes, including:
 - i. the initial implementation of an accounting standard or policy;
 - ii. the initial implementation of accounting practices for unusual or unconventional items where FERC has not provided specific accounting direction;
 - iii. correction of errors and prior period adjustments that impact the revenue requirement;
 - iv. the implementation of new estimation methods or policies that change prior estimates; and
 - v. changes to income tax elections.
 - b. Identify items included in the formula rate at an amount other than on a historic cost basis (e.g., fair value adjustments);
 - c. Identify any reorganization or merger transaction during the previous year and explain the effect of the accounting for such transaction(s) on inputs to the formula rate;
 - d. Provide, for each item identified pursuant to items II. D.8.a - II. D.8.c of these protocols, a narrative explanation of the individual impact of such changes on charges billed under the formula rate.
 - e. “Material Accounting Change” shall mean a material change in

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LG&E/KU's accounting policies and practices (as such are defined by the Accounting Standards Codification Topic 250, *Accounting Changes and Error Corrections* issued by the Financial Accounting Standards Board) from those in effect for the year in which the immediately preceding Annual Update was based. Any Material Accounting Change shall be implemented prospectively only.

- E. LG&E/KU shall hold an open meeting among Interested Parties ("Annual Meeting") between the Publication Date and September 1. No less than seven (7) days prior to such Annual Meeting, LG&E/KU shall provide notice on the public area of the LG&E/KU OASIS of the time, date, and location of the Annual Meeting and LG&E/KU shall provide notice of such meeting to an email exploder list. For purposes of these procedures, the term "Interested Party" includes, but is not limited to, customers under the Tariff, state utility regulatory commissions, consumer advocacy agencies, and state attorneys general. The Annual Meeting shall (i) permit LG&E/KU to explain and clarify its Annual Update and (ii) provide Interested Parties an opportunity to seek information and clarifications from LG&E/KU about the Annual Update.

Section III. Information Exchange Procedures

Each Annual Update shall be subject to the following information exchange procedures ("Information Exchange Procedures"):

- A. Interested Parties shall have until December 1 following the Publication Date (unless such period is extended by the written consent of LG&E/KU or by FERC order) to serve reasonable information and document requests on LG&E/KU ("Information Exchange Period"). If December 1 falls on a weekend or a holiday recognized by FERC, the deadline for submitting all information and document requests shall be extended to the next business day. Such information and document requests shall be limited to what is necessary to determine:
1. the extent or effect of a Material Accounting Change;
 2. whether the Annual Update fails to include data properly recorded in accordance with these protocols;
 3. the proper application of the formula rate and procedures in these protocols;
 4. that the charges shown in the Annual Update have been calculated with accurate data and in a manner consistent with the formula rate;
 5. the prudence of actual costs and expenditures;
 6. the effect of any change to the underlying Uniform System of Accounts or FERC

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Form No. 1; or

7. any other information that may reasonably have substantive effect on the calculation of the charge pursuant to the formula.

The information and document requests shall not otherwise be directed to ascertaining whether the formula rate is just and reasonable.

- B. LG&E/KU shall make a good faith effort to respond to information and document requests pertaining to the Annual Update within fifteen (15) business days of receipt of such requests. LG&E/KU shall respond to all information and document requests by no later than January 10 following the Publication Date, unless the Information Exchange Period is extended by LG&E/KU or FERC.
- C. LG&E/KU will post on the public area of its OASIS all information requests from Interested Parties and LG&E/KU response(s) to such requests; except, however, if responses to information and document requests include material deemed by LG&E/KU to be confidential information, such information will not be publicly posted but will be made available to requesting parties pursuant to a confidentiality agreement to be executed by LG&E/KU and the requesting party.
- D. LG&E/KU shall not claim that responses to information and document requests provided pursuant to these protocols are subject to any settlement privilege in any subsequent FERC proceeding addressing LG&E/KU's Annual Update.

Section IV. Challenge Procedures

A. Informal Challenge

1. Interested Parties shall have until January 31 following the Publication Date (unless such period is extended by the written consent of LG&E/KU or by FERC order) to review the inputs, supporting explanations, allocations, and calculations and to notify LG&E/KU in writing, which may be made electronically, of any specific Informal Challenges to the Annual Update. The period of time from the Publication Date until January 31 shall be referred to as the Review Period. If January 31 falls on a weekend or a holiday recognized by FERC, the deadline for submitting all Informal Challenges shall be extended to the next business day. Failure to pursue an issue through an Informal Challenge or to lodge a Formal Challenge regarding any issue as to a given Annual Update shall bar pursuit of such issue with respect to that Annual Update, but shall not bar pursuit of such issue or the lodging of a Formal Challenge as to such issue as it relates to a subsequent Annual Update.
2. A party submitting an Informal Challenge to LG&E/KU must specify the inputs,

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supporting explanations, allocations, calculations, or other information to which it objects, and provide a detailed and sufficient explanation and documents to support its challenge. LG&E/KU shall make a good faith effort to respond to any Informal Challenge within twenty (20) business days of notification of such challenge. LG&E/KU shall appoint a senior representative to work with a party that submits an Informal Challenge (or its representative) toward a resolution of the challenge. If LG&E/KU disagrees with such challenge, LG&E/KU will provide the Interested Party(ies) with an explanation supporting the inputs, allocations, calculations, or other information in the Annual Update. No Informal Challenge may be submitted after January 31, and LG&E/KU must respond to all Informal Challenges by no later than February 28, unless the Review Period is extended by LG&E/KU or FERC.

3. Informal Challenges shall be subject to the resolution procedures and limitations in this Section IV.

B. Formal Challenge

Formal Challenges shall be filed pursuant to these protocols and shall satisfy all of the following requirements.

1. A Formal Challenge shall:
 - a. Clearly identify the action or inaction which is alleged to violate the filed rate formula or protocols;
 - b. Explain how the action or inaction violates the filed rate formula or protocols;
 - c. Set forth the business, commercial, economic or other issues presented by the action or inaction as such relate to or affect the party filing the Formal Challenge, including:
 - i. The extent or effect of a Material Accounting Change;
 - ii. Whether the Annual Update fails to include data properly recorded in accordance with these protocols;
 - iii. The proper application of the formula rate and procedures in these protocols;
 - iv. The accuracy of data and consistency with the formula rate of the charges shown in the Annual Update;

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- v. The prudence of actual costs and expenditures;
 - vi. The effect of any change to the underlying Uniform System of Accounts or the FERC Form No. 1; or
 - vii. Any other information that may reasonably have substantive effect on the calculation of the charge pursuant to the formula.
- d. Make a good faith effort to quantify the financial impact or burden (if any) created for the party filing the Formal Challenge as a result of the action or inaction;
- e. State whether the issues presented are pending in an existing Commission proceeding or a proceeding in any other forum in which the filing party is a party, and if so, provide an explanation why timely resolution cannot be achieved in that forum;
- f. State the specific relief or remedy requested, including any request for stay or extension of time, and the basis for that relief;
- g. Include all documents that support the facts in the Formal Challenge in possession of, or otherwise attainable by, the filing party, including, but not limited to, contracts and affidavits; and
- h. State whether the filing party utilized the Informal Challenge procedures described in these protocols to dispute the action or inaction raised by the Formal Challenge, and, if not, describe why not.
2. **Service.** Any person filing a Formal Challenge must serve a copy of the Formal Challenge on LG&E/KU. Service to LG&E/KU must be simultaneous with filing at the Commission. Simultaneous service can be accomplished by electronic mail in accordance with § 385.2010(f)(3), facsimile, express delivery, or messenger. The party filing the Formal Challenge shall serve the individual listed as the contact person on LG&E's Informational Filing required under Section VI of these protocols.
- C. Informal and Formal Challenges shall be limited to all issues that may be necessary to determine: (1) the extent or effect of a Material Accounting Change; (2) whether the Annual Update fails to include data properly recorded in accordance with these protocols; (3) the proper application of the formula rate and procedures in these protocols; (4) the accuracy of data and consistency with the formula rate of the charges shown in the Annual Update; (5) the prudence of actual costs and expenditures; (6) the effect of any change to the underlying Uniform System of Accounts or FERC Form No. 1; or (7) any other information that may reasonably have substantive effect on the calculation of the

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charge pursuant to the formula.

- D. LG&E/KU will post on the public area of its OASIS all Informal Challenges from Interested Parties and LG&E/KU's response(s) to such Informal Challenges; except, however, if Informal Challenges or responses to Informal Challenges include material deemed by LG&E/KU to be confidential information, such information will not be publicly posted but will be made available to requesting parties pursuant to a confidentiality agreement to be executed by LG&E/KU and the requesting party.
- E. Any changes or adjustments to the Annual Update resulting from the Information Exchange and Informal Challenge processes that are agreed to by LG&E/KU will be reported in the Informational Filing required pursuant to Section VI of these protocols and will be reflected in the Annual Update for the following Rate Year, as discussed in Section V of these protocols.
- F. An Interested Party shall have until March 31 following the Review Period (unless such date is extended by the written consent of LG&E/KU to continue efforts to resolve the Informal Challenge) to make a Formal Challenge with FERC, which shall be served on LG&E/KU on the date of such filing as specified in Section IV.C.2 above. A Formal Challenge shall be filed in the same docket as LG&E/KU Informational Filing discussed in Section VI of these protocols. LG&E/KU shall respond to the Formal Challenge by the deadline established by FERC. A party may not pursue a Formal Challenge if that party did not submit an Informal Challenge during the applicable Review Period.
- G. In any proceeding initiated by FERC concerning the Annual Update or in response to a Formal Challenge, LG&E/KU shall bear the burden, consistent with section 205 of the Federal Power Act, of proving that it has correctly applied the terms of the formula rate consistent with these protocols, and that it followed the applicable requirements and procedures in this Attachment O, in that year's Annual Update. Nothing herein is intended to alter the burdens applied by FERC with respect to prudence challenges.
- H. Except as specifically provided herein, nothing herein shall be deemed to limit in any way the right of LG&E/KU to file unilaterally, pursuant to Federal Power Act section 205 and the regulations thereunder, to change the formula rate or any of its inputs (including, but not limited to, rate of return and transmission incentive rate treatment), or to replace the formula rate with a stated rate, or the right of any other party to request such changes pursuant to section 206 of the Federal Power Act and the regulations thereunder.
- I. No party shall seek to modify the formula rate under the Challenge Procedures set forth in these protocols and the Annual Update shall not be subject to challenge by anyone for the purpose of modifying the formula rate. Any modifications to the formula rate will require, as applicable, a Federal Power Act section 205 or section 206 filing.

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- J. Any Interested Party seeking changes to the application of the formula rate due to a change in the Uniform System of Accounts or FERC Form No. 1, shall first raise the matter with LG&E/KU in accordance with this Section IV before pursuing a Formal Challenge.

Section V. Changes to Annual Updates

Any changes to the data inputs, including but not limited to revisions to LG&E/KU's FERC Form No. 1, or as the result of any FERC proceeding to consider the Annual Update, or as a result of the procedures set forth herein, shall be incorporated into the formula rate and the charges produced by the formula rate. The impact of the correct rate on the amounts billed to customers during the Rate Year will be calculated concurrently with the Annual Update for the next effective Rate Year. This reconciliation mechanism shall apply in lieu of mid-Rate Year adjustments. LG&E/KU will apply corrected rates to each customer's billed usage from the Rate Year to determine whether the customer was previously over-billed or under-billed. Interest on any over-billed amount shall be calculated in accordance with 18 C.F.R. § 35.19a ("FERC's Interest Rate"), and interest on any surcharge shall be calculated using the lower of FERC's Interest Rate or LG&E/KU's short-term borrowing rate, if applicable. If a refund (plus interest) is due, a credit will be applied to the customer's bill, or a refund will be issued. If a customer is under-billed, a charge will be applied to the customer's bill. If no longer a customer, a one-time bill will be issued for the charge.

Section VI. Informational Filings

- A. By March 15 of each year, LG&E/KU shall submit to FERC an informational filing ("Informational Filing") of its Annual Update. This Informational Filing must include the information that is reasonably necessary to determine: (1) that input data under the formula rate are properly recorded in any underlying workpapers; (2) that LG&E/KU has properly applied the formula rate and these procedures; (3) the accuracy of data and the consistency with the formula rate of the Actual Transmission Revenue Requirement and rates under review; and (4) the extent of Material Accounting Changes that affect formula rate inputs. The Informational Filing must also describe any corrections or adjustments made during that period, and must describe all aspects of the formula rate or its inputs that are the subject of an ongoing dispute under the Informal or Formal Challenge procedures. Within five (5) days of such Informational Filing, LG&E/KU shall provide notice of the Informational Filing via an email exploder list and by posting the docket number assigned to LG&E/KU's Informational Filing on the public area of its OASIS.
- B. Any challenges to the implementation of the Attachment O formula rate must be made through the Challenge Procedures described in Section IV of these protocols or in a separate complaint proceeding, and not in response to the Informational Filing.

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ATTACHMENT P
FUNCTIONS OF THE RELIABILITY COORDINATOR AND THE ITO

1 **OVERVIEW**

- 1.1** This Attachment P sets forth the functions and responsibilities of the Independent Transmission Organization (“ITO”), the Reliability Coordinator (“Reliability Coordinator”) and the Transmission Owner, and includes a description of certain relationships between and amongst the ITO, the Reliability Coordinator, the Transmission Owner, generator owners, load serving entities and other Tariff Participants. This Attachment P will be the governing document in describing and delineating the responsibilities among the Transmission Owner, the ITO, and the Reliability Coordinator.
- 1.2** The Transmission Owner will retain operational control over the Transmission System, but will be obligated to follow the directives of the ITO and Reliability Coordinator as set forth in this Attachment P. The specific division of functions between, and responsibilities of, the ITO, the Reliability Coordinator and the Transmission Owner are set forth in this Attachment P.
- 1.3** The Transmission Owner and ITO have entered into a contract which specifies all of the functions and responsibilities of the ITO and the terms and conditions upon which the ITO will perform such functions and responsibilities (the “ITO Agreement”). This Attachment P is intended solely as a delineation of functions and responsibilities between and amongst the ITO, the Reliability Coordinator and the Transmission Owner, and as a description of certain relationships between and amongst the ITO, the Reliability Coordinator, the Transmission Owner, generator owners, load serving entities and other Tariff Participants. For the avoidance of doubt, the ITO Agreement, which is attached hereto as Attachment Q to the Tariff, is attached for informational purposes only.
- 1.4** The Transmission Owner and Reliability Coordinator have entered into a contract which specifies all of the functions and responsibilities of the Reliability Coordinator and the terms and conditions upon which the Reliability Coordinator will perform such functions and responsibilities (the “RC Agreement”). This Attachment P is intended solely as a delineation of functions and responsibilities between and amongst the Reliability Coordinator, the ITO and the Transmission Owner, and as a description of certain relationships between and amongst the ITO, the Reliability Coordinator, the Transmission Owner, generator owners, load serving entities and other Tariff Participants. For the avoidance of doubt, the RC Agreement, which is attached hereto as Attachment Q to the Tariff, is attached for informational purposes only.
- 1.5** Nothing in this Attachment P precludes the ITO or Reliability Coordinator from

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performing the same or similar functions for other entities under a separate contract or expanding to a larger regional entity, provided that the Transmission Owner is reimbursed by the ITO or Reliability Coordinator, as the case may be, in an equitable manner for any capital expenditures or operation and maintenance expenditures made by the ITO or Reliability Coordinator pursuant to this Attachment P to the extent to which the ITO or Reliability Coordinator uses such capital expenditures or operation and maintenance expenditures in connection with such contract or expansion, and provided further that the ITO's or Reliability Coordinator's performance of such additional functions does not breach its duties and responsibilities set forth in this Attachment P.

2. **DEFINITIONS**

The capitalized terms used in this Attachment P shall have the meanings assigned to them below or, if not specifically defined in this Attachment P, shall have the meanings assigned to them elsewhere in the Tariff:

- 2.1 **Annual Plan** shall mean the plan developed pursuant to Section 3.3.3 of this Attachment P and Appendix 2 to this Attachment P.
- 2.2 **ATC** shall mean Available Transfer Capability.
- 2.3 **ATCID shall mean ATC Implementation Document**
- 2.4 **ATC Methodology** shall mean the criteria, standards, and procedures used to calculate ATC values as set forth in the following: (i) the Tariff provisions applicable to ATC calculations, including Attachment C to the Tariff; (ii) applicable NERC and Regional Reliability Council standards, and NAESB business practices; (iii) the Transmission Owner's ATCID that are provided to the ITO for posting on OASIS pursuant to Appendix 1 to this Attachment P; and (iv) the Transmission Owner's local reliability criteria provided to the ITO for posting on OASIS pursuant to Appendix 1 to this Attachment P.
- 2.5 **Balancing Authority** shall mean the entity responsible for maintaining load resource balance within the Balancing Authority Area, as described in the NERC Reliability Functional Model Version 2. The Transmission Owner and the ITO shall divide the responsibilities of the Balancing Authority as provided in Appendix 5 of this Attachment P.
- 2.6 **Balancing Authority Area** shall mean the collection of generation, transmission, and loads within the metered boundaries managed by the Balancing Authority. .
- 2.7 **Base Case Model** shall mean current power flow models representing the Transmission System used for reliability assessments, TSR studies, Interconnection Studies, and transmission planning and economic studies. When used in the context of TSR studies and Interconnection Studies, "Base Case Model" refers to the annual, seasonal, monthly, or other power flow models used

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by the ITO to evaluate the respective TSRs or Generator Interconnection Requests. When used in the context of transmission planning, “Base Case Model” refers to the annual and seasonal power flow model described in Appendix 1 to this Attachment P.

2.8 CMP shall mean the Congestion Management Process, whereby TVA coordinates flowgates with PJM and PJM with MISO.

2.9 Facilities Study Criteria shall mean the criteria, standards, and procedures used to perform Facilities Studies as set forth in the following: (i) Tariff provisions applicable to the performance of Generator Interconnection Study Criteria and TSR Study Criteria; (ii) applicable NERC Reliability Standards and Regional Reliability Council standards; (iii) the Transmission Owner’s business practices related to Facilities Studies that are provided to the ITO for posting on OASIS pursuant to Appendix 1 to this Attachment P; and (iv) the Transmission Owner’s local reliability criteria that are provided to the ITO for posting on OASIS pursuant to Appendix 1 to this Attachment P.

2.10 FPA shall mean the Federal Power Act, 16 USC § 824, *et seq.*

2.11 Generator Interconnection Request shall mean any Generator Interconnection Request made under the LGIP or SGIP.

2.12 Generator Interconnection SIS shall mean the interconnection System Impact Study required under the LGIP or SGIP.

2.13 Generator Interconnection Study(ies) shall mean studies required to interconnect new generation to the Transmission System under FERC Order Nos. 2003 and 2006.

2.14 Generator Interconnection Study Criteria shall mean the criteria, standards, and procedures used to perform Interconnection Studies as set forth in the following: (i) the LGIP, LGIA, SGIP, and SGIA provisions applicable to the performance of Interconnection Studies; (ii) applicable NERC Reliability Standards and Regional Reliability Council standards; (iii) the Transmission Owner’s business practices related to Interconnection Studies that are provided to the ITO for posting on OASIS pursuant to Appendix 1 to this Attachment P; and (iv) the Transmission Owner’s local reliability criteria that are provided to the ITO for posting on OASIS pursuant to Appendix 1 to this Attachment P.

2.15 Independent shall mean: (a) with respect of the ITO, its employees, or designees, that the ITO, its employees, and designees are not subject to the control of the Transmission Owner, any of its Affiliates or any Tariff Participant, and have full decision-making authority to perform all of the functions and responsibilities assigned to them under this Attachment P; and (b) with respect to the Reliability Coordinator and its employees, that the Reliability Coordinator and its employees are not subject to the control of the Transmission Owner or any of its Affiliates,

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and have full decision-making authority to perform all of the functions and responsibilities assigned to them under this Attachment P.

- 2.16 LGIA** shall mean the Standard Large Generator Interconnection Agreement under Attachment M to the Tariff or the version of that agreement executed by an Interconnection Customer, as applicable.
- 2.17 LGIP** shall mean the Standard Large Generator Interconnection Procedures under Attachment M to the Tariff.
- 2.18 Long-Term TSRs** shall mean TSRs that are for a term of one year or greater in duration.
- 2.19 Market Participant** shall have the meaning given to such term in 18 CFR § (b)(2) of FERC’s regulations.
- 2.20 NERC** shall mean the North American Electric Reliability Corporation or any successor organization.
- 2.21 NERC Reliability Standards** shall mean the NERC “Reliability Standards for the Bulk Electric Systems of North America,” as may be amended from time-to-time.
- 2.22 Planning Guidelines** shall mean the guidelines, criteria, standards, and procedures used in developing the Annual Plan as set forth Attachment K to the Tariff, as such is accepted for filing by FERC.
- 2.23 Regional Reliability Council** shall mean any one of the eight current NERC Regional Reliability Councils with jurisdiction over the Balancing Authority Area, including ReliabilityFirst Corporation, or its successor.
- 2.24 Short-Term TSRs** shall mean TSRs that are for a term less than one-year in duration.
- 2.25 SIS** shall mean the System Impact Study required under the Tariff to evaluate TSRs or Generator Interconnection Requests, and to determine what magnitude of system upgrades, if any, might be required to grant a TSR or Generator Interconnection Request.
- 2.26 SIS Criteria** shall mean the criteria, standards, and procedures used to perform System Impact Studies as set forth in the following: (i) Tariff provisions applicable to the performance of SISs, including Attachment D to the Tariff; (ii) applicable NERC Reliability Standards and Regional Reliability Council standards; (iii) the Transmission Owner’s business practices related to Generator Interconnection Study Criteria and TSR Study Criteria that are provided to the ITO for posting on OASIS pursuant to Appendix 1 to this Attachment P; and (iv) the Transmission Owner’s local reliability criteria that are provided to the ITO for posting on OASIS pursuant to Appendix 1 this Attachment P.
- 2.27 SGIA** shall mean the Standard Small Generator Interconnection Agreement under Attachment N to the Tariff or the version of that agreement executed by an

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Interconnection Customer, as applicable.

- 2.28 **SGIP** shall mean the Standard Small Generator Interconnection Procedures under Attachment N to the Tariff.
- 2.29 **Transmission Loading Relief (“TLR”)** means actions such as Transmission System reconfiguration, generator redispatch, or load shedding, consistent with the NERC Reliability Standards.
- 2.30 **Tariff Participant** shall mean the Transmission Owner’s Transmission Customers, Interconnection Customers, wholesale customers, Affected Systems, Market Participants and similarly qualified third parties within the Balancing Authority Area.
- 2.31 **Transmission Planning Conference** shall mean the annual stakeholder meeting conducted by the ITO to gather input and feedback on the planning process and Annual Plan.
- 2.32 **Transmission Study Criteria** shall mean the ATC Methodology, the SIS Criteria, and the Facilities Study Criteria.
- 2.33 **Transmission Service Request (“TSR”)** shall mean a request submitted by an eligible Transmission Customer under the Tariff for either Point-to-Point Transmission Service or Network Integration Transmission Service, including a new designation of Network Resources or Network Load.
- 2.34 **TSR Study Criteria** shall mean the criteria, standards, and procedures used to process TSRs as set forth in the following: (i) Tariff provisions applicable to TSR processing; (ii) FERC’s OASIS Standards and Communication Protocols and Business Practice Standards for OASIS Transactions; and (iii) the Transmission Owner’s business practices related to OASIS and TSR processing that are provided to the ITO for posting on OASIS pursuant to Appendix 1 to this Attachment P.

3 **FUNCTIONS OF THE ITO**

3.1 **Independence**

- 3.1.1 The ITO and its employees and designees (i) shall be Independent of and (ii) shall not discriminate against the Transmission Owner, any of its Affiliates and any Tariff Participant. Any ITO employee or designee owning securities in the Transmission Owner, or its Affiliates or any Tariff Participant shall divest such securities within six (6) months of first being assigned to perform ITO functions or responsibilities, provided that ITO employees and designees shall be entitled to indirectly own securities issued by the Transmission Owner, its Affiliates or any Tariff Participant through a mutual fund or similar arrangement (other than a fund or arrangement specifically targeted toward the electric industry or the

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electric utility industry or any segment thereof) under which the ITO employee or designee does not control the purchase or sale of such securities, provided further that participation by an ITO employee or designee in a pension plan of the Transmission Owner, its Affiliates or any Tariff Participant shall not be deemed to be a direct financial interest if the plan is a defined-benefit plan that does not involve the ITO employee's or designee's ownership of the securities. No ITO employees or designees shall be employed by the Transmission Owner or any of its Affiliates.

- 3.1.2** All employees and designees of the ITO performing functions and responsibilities under this Attachment P shall be treated, for the purposes of FERC's Standards of Conduct set forth at 18 CFR Part 358, as transmission employees of the Transmission Owner, and all restrictions related to information sharing and other relationships between merchant employees of the Transmission Owner and/or its Affiliates and transmission employees of the Transmission Owner and/or its Affiliates shall apply to the employees and designees of the ITO.
- 3.1.3** The ITO shall perform its functions and responsibilities under this Attachment P: (i) in accordance with (A) Good Utility Practice, (B) the Transmission Owner's specific requirements and operating guidelines (to the extent these are not inconsistent with other requirements specified in this Attachment P), (C) the Tariff, and (D) all applicable laws and the requirements of federal and state regulatory authorities; and (ii) in an Independent, fair, and nondiscriminatory manner.
- 3.1.4** The ITO shall adopt a policy on conflicts of interest establishing appropriate standards for the professional and financial independence of the ITO, consistent with FERC policies and regulations. In addition, the ITO shall adopt ethics policies and standards for its employees. The ITO and its employees shall comply at all times with the conflicts of interest and ethics policies. The ITO's conflict of interest and ethics policies shall be posted on the Transmission Owner's OASIS. The ITO's conflict of interest policies shall include provisions protecting against any discrimination by the ITO in favor of third parties for whom the ITO may perform services or enjoy a relationship that inures to the ITO's financial benefit.
- 3.1.5** In order to carry out its functions and responsibilities under this Attachment P, the ITO will have complete access to all data and information prepared by or on behalf of or generated for the Transmission Owner's transmission operations personnel that the ITO requests and that the ITO believes is necessary to perform its functions and responsibilities under this Attachment P, subject to appropriate confidentiality provisions. To the extent that the ITO requires access to data or information obtained by the Transmission Owner from other Tariff Participants, including the

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Transmission Owner's wholesale merchant function employees, such data or information shall be treated as confidential information, unless otherwise available from public sources or public disclosures.

3.2 General Functions

- 3.2.1** The general functions and responsibilities of the ITO are described in this Section 3.2. A more detailed description of the functions and responsibilities of the ITO, the Reliability Coordinator and the Transmission Owner is provided in Appendices 1-5 to this Attachment P.
- 3.2.2** The ITO shall have experience and expertise appropriate to the performance of its functions and responsibilities under this Attachment P, including the analysis of Transmission System operations and open access regulatory requirements.
- 3.2.3** All functions and responsibilities of the ITO shall be performed by ITO employees or designees of the ITO, and the ITO shall retain full responsibility and authority for any act or omission of such designees.
- 3.2.4** The ITO shall administer the terms and conditions of the Tariff.
- 3.2.5** The ITO will process and evaluate (i.e., grant or deny) all TSRs, including those transactions associated with network service and existing point-to-point service agreements, on a non-discriminatory basis consistent with the Tariff, the TSR Study Criteria, the Transmission Study Criteria, and Good Utility Practice. The ITO shall be responsible for documenting all transmission service requests under the Tariff, the disposition of such requests, and any data required to support the decision with respect to such requests. The division of responsibilities for evaluation and approval of TSRs is defined in Appendix 1 of this Attachment.
- 3.2.6** The ITO, in consultation with the Transmission Owner, the Reliability Coordinator, and Tariff Participants, shall develop and revise, as appropriate, operating procedures governing the ITO's exercise of its functions and responsibilities in this Attachment P ("Operating Procedures"), which shall be made publicly available on the OASIS except to the extent the ITO and the Transmission Owner jointly determine that certain of the Operating Procedures should not be made publicly available for security reasons consistent with FERC's regulations regarding Critical Energy Infrastructure Information.
- 3.2.7** The ITO shall develop procedures for ensuring the confidentiality of any confidential information or materials made available to the ITO by the Transmission Owner or any Tariff Participant, including information or materials that include or comprise Critical Energy Infrastructure Information.
- 3.2.8** The ITO shall post any information it possesses regarding proposed

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changes to the Tariff not later than fifteen (15) days prior to the Transmission Owner's filing of the amendment with FERC. The ITO shall be responsible for keeping the Tariff updated on OASIS and any website to be administered by the ITO.

- 3.2.9** The ITO shall propose Tariff changes to the Transmission Owner to the extent necessary to carry out its responsibilities and functions under this Attachment P. The ITO shall submit bi-annual reports to the Transmission Owner proposing such changes (if any). The ITO shall promptly post these reports on OASIS. The Transmission Owner shall file such Tariff changes under Section 205 of the FPA to the extent the Transmission Owner, in its sole discretion, determines that such Tariff changes are appropriate. If the Transmission Owner declines to file such a Tariff change with the FERC, the ITO and the Transmission Owner shall make a joint submission to the FERC under Section 206 of the FPA, including a statement of their respective positions regarding the Tariff change.
- 3.2.10** The ITO shall coordinate and cooperate with the Reliability Coordinator and provide any information that the Reliability Coordinator may reasonably request in order to carry out its functions under the RC Agreement, subject to any applicable confidentiality requirements.
- 3.2.11** The ITO shall report in writing to FERC every six (6) months (commencing on the six-month anniversary of the effective date of the Tariff and every six (6) months thereafter) to address (i) any concerns expressed by stakeholders and the ITO's response to same and (ii) any issues or Tariff provisions that hinder the ITO from performing its functions and responsibilities under this Attachment P and the other provisions of the Tariff.
- 3.2.12** In addition to the reports provided for in Section 3.2.12, the ITO shall make such other reports to FERC and Transmission Owner's retail regulators as may be required by applicable law and regulations or as may be requested by such authorities.

3.3 Planning Function

- 3.3.1** The ITO shall have ultimate review and approval authority over all planning activities discussed in the Tariff, including those listed in Appendix 2 of this Attachment P. This includes review and approval authority over transmission plans, the development of models, planning criteria, study criteria, plans, studies, the methodology for calculating ATC, and any inputs or numerical values provided by the Transmission Owner. The ITO shall carry out its duties under the Planning Function in a manner that ensures that transmission planning on the Transmission Owner's system is done on an independent, non-discriminatory basis.
- 3.3.2** All planning shall conform to applicable NERC Reliability Standards,

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applicable Regional Reliability Council standards, Transmission Owner's specific reliability requirements and operating guidelines, and all applicable requirements of federal or state laws or regulatory authorities. Such planning shall seek to minimize costs, consistent with the reliability and other requirements set forth in the Tariff.

- 3.3.3** The ITO shall conduct an open stakeholder process through which issues and concerns of stakeholders related to the Annual Plan can be received and considered. This process shall include an open Transmission Planning Conference to gather stakeholder input for consideration in the planning process. The focus of this stakeholder process will be those issues or concerns related to the provision of Transmission Service and Interconnection Service under the Tariff.

4 THE FUNCTIONS OF THE RELIABILITY COORDINATOR

4.1 Independence.

- 4.1.1** The Reliability Coordinator and its employees shall be Independent of the Transmission Owner and any of its Affiliates. Any Reliability Coordinator employee owning securities in the Transmission Owner or its Affiliates shall divest such securities within six (6) months of first being assigned to perform Reliability Coordinator functions or responsibilities, provided that Reliability Coordinator employees shall be entitled to indirectly own securities issued by the Transmission Owner or its Affiliates through a mutual fund or similar arrangement (other than a fund or arrangement specifically targeted toward the electric industry or the electric utility industry or any segment thereof) under which the Reliability Coordinator employee does not control the purchase or sale of such securities, provided further that participation by a Reliability Coordinator employee in a pension plan of the Transmission Owner or its Affiliates shall not be deemed to be a direct financial interest if the plan is a defined-benefit plan that does not involve the Reliability Coordinator employee's ownership of the securities. No Reliability Coordinator employees shall be employed by the Transmission Owner or any of its Affiliates.
- 4.1.2** All employees of the Reliability Coordinator performing functions and responsibilities under this Attachment P shall be treated, for purposes of the FERC's Standards of Conduct, as transmission employees of the Transmission Owner, and all restrictions relating to information sharing and other relationships between merchant employees of the Transmission Owner or its Affiliates and transmission/reliability employees of the Transmission Owner or its Affiliates shall apply to such Reliability Coordinator employees.
- 4.1.3** The Reliability Coordinator will perform its functions in accordance with Good Utility Practice and shall: (a) conform to: (i) all applicable reliability

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criteria, policies, standards, rules, regulations and other requirements of NERC and any applicable Regional Reliability Council or their successors; (ii) the Transmission Owner's specific reliability requirements and operating guidelines (to the extent these are not inconsistent with other requirements specified in this Section 4.1.3); and (iii) all applicable requirements of federal and state regulatory authorities; and (b) not make any adverse distinction between the Transmission Owner, any Market Participant, or any Tariff Participant, on the one hand, and any third-party on whose behalf the Reliability Coordinator may perform transmission-related services or functions on the other hand.

4.1.4 Employees of the Reliability Coordinator performing the Reliability Coordinator functions may occupy dedicated offices within facilities owned or operated by the Transmission Owner ("Reliability Coordinator Dedicated Offices"), provided that any such Reliability Coordinator employees shall not share office space with any transmission/reliability employees or merchant employees of the Transmission Owner or its Affiliates, any Market Participant, or any other Tariff Participant. The Transmission Owner and the Reliability Coordinator shall put in place the appropriate procedures to ensure that access to the Reliability Coordinator Dedicated Offices is restricted to the same extent that the Transmission Owner restricts access to its transmission/reliability offices and facilities pursuant to FERC's Standards of Conduct, set forth in 18 CFR Part 358.

4.2 General Functions

4.2.1 The general functions of the Reliability Coordinator are described in this Section 4.2. A more detailed description of the functions and responsibilities of the Reliability Coordinator, the ITO and the Transmission Owner is provided in Appendices 1-5 to this Attachment P.

4.2.2 In its capacity as Reliability Coordinator, the Reliability Coordinator shall coordinate and cooperate with the ITO and Transmission Owner and provide any information that the ITO or Transmission Owner may reasonably need to carry out its functions, as may be requested. Such information provided to the Reliability Coordinator will be kept confidential in accordance with terms herein.

4.3 Reporting; Audit. The Reliability Coordinator will be responsible for making regular reports to FERC and the Transmission Owner's retail regulators as may be required by applicable law and regulations or as may be requested by such authorities.

5 **GENERAL RESPONSIBILITIES OF THE TRANSMISSION OWNER,
GENERATION OWNERS AND LOAD SERVING ENTITIES**

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- 5.1 The Transmission Owner shall perform its functions and responsibilities under this Attachment P in accordance with Good Utility Practice and all applicable laws and the requirements of federal and state regulatory authorities.
- 5.2 Nothing in this Attachment P shall be deemed to restrict or prohibit the Transmission Owner from taking any actions it believes are reasonably necessary to protect against endangerment to the safety of employees or the public or damage to facilities.
- 5.3 The Transmission Owner shall have sole authority to file with FERC changes to the Tariff, including this Attachment P, pursuant to Section 205 of the FPA, subject to the terms of the ITO Agreement and/or the Reliability Coordinator Agreement. The Transmission Owner shall provide thirty (30) days notice to the ITO and/or the Reliability Coordinator, as applicable, regarding any such changes.
- 5.4 Generation owners shall provide the ITO with such data, information, and applicable requirements that govern the operation of any generating facilities interconnected with the Transmission System, as the ITO may require to perform its functions and responsibilities under this Attachment P, including any redispach information required under Section 19.3 of the Tariff.
- 5.5 Generation owners shall submit and coordinate unit schedules as necessary to permit the ITO to assess TTC and transmission reliability.
- 5.6 Load serving entities shall submit, on an annual basis, data concerning projected loads, designated network resources, generation and transmission maintenance schedules, and such other operating data as the ITO may require to perform its functions and responsibilities under this Attachment P.

6 DISPUTE RESOLUTION

Any dispute, claim or controversy amongst the Transmission Owner, the ITO and the Reliability Coordinator involving the division of responsibility as set forth in this Attachment P and/or related to the ITO Agreement or the RC Agreement, as set forth in Attachment Q to the Tariff, (each, a "Dispute") shall be resolved in accordance with the procedures set forth in this Section 6 to Attachment P. For the avoidance of doubt, any dispute between the ITO and the Transmission Owner or between the Reliability Coordinator and the Transmission Owner shall be resolved pursuant to the dispute resolution provisions of the ITO Agreement or the RC Agreement, respectively.

- 6.1 Notice of Dispute. In the event of a Dispute under this Section 6 of Attachment P any party to the Dispute may provide written notice to the other parties to the Dispute, including a description of the nature of the Dispute.
- 6.2 Dispute Resolution by Representatives. The parties to the Dispute shall first refer the Dispute to their respective representatives who shall negotiate in good faith to resolve the Dispute.

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- 6.3** Dispute Resolution by Executive Management Representatives. If the Dispute is not resolved within fifteen (15) days of being referred to the disputing parties' representatives pursuant to Section 6.2 of this Attachment P, then each party shall have five (5) days to appoint an executive management representative who shall negotiate in good faith to resolve the Dispute.
- 6.4** Dispute Resolution by Mediation. If the parties' executive management representatives are unable to resolve the Dispute within thirty (30) days of their appointment, the parties shall proceed in good faith to submit the matter to a mediator mutually acceptable to the disputing parties. The parties will share equally in the cost of such mediation, which will be conducted in accordance with the Commercial Mediation Rules of the American Arbitration Association.
- 6.5** Arbitration. If the parties are unable to resolve the Dispute within thirty (30) days after the appointment of a mediator pursuant to Section 6.4 of this Attachment P, then the Dispute will be resolved according to the provisions for arbitration and any other remedies as outlined in this Section 6.5 of Attachment P.
- 6.5.1** Choice of Arbitrator(s). Any arbitration initiated under Section 6.5 of Attachment P shall be conducted before a single neutral arbitrator appointed by the disputing parties. If the disputing parties fail to agree upon a single arbitrator within ten (10) days of the referral of the Dispute to arbitration, each disputing party shall choose one arbitrator who shall sit on a three-member arbitration panel. The arbitrator(s) shall provide each of the disputing parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association.
- 6.5.2** Arbitration Decisions. Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of appointment and shall notify the disputing parties in writing of such decision and the reasons therefore. The decision of the arbitrator(s) shall be final and binding upon the disputing parties, and judgment on the award may be entered in any court having jurisdiction; provided, to the extent the final decision of the arbitrator(s) affects jurisdictional rates, terms and conditions of service or facilities, it must also be filed with the FERC consistent with applicable law, and its effectiveness is contingent upon applicable filing and acceptance provisions of applicable law, if any. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act and/or the Administrative Dispute Resolution Act.
- 6.5.3** Costs. Each disputing party shall be responsible for its own costs incurred during the arbitration process and for the cost of the arbitrator chosen by the disputing party to sit on the three member panel or, if applicable, one third of the cost of the single arbitrator jointly chosen by the disputing

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parties.

- 6.6** Interim Measures Pending Resolution. Pending resolution of any dispute raised under this Section 6, the parties' positions will prevail as follows. These are only meant to be interim measures, shall not implicate a final outcome of Dispute Resolution taken under this Section 6.
- 6.6.1** In a dispute among the Parties, or between the ITO and the Reliability Coordinator involving matters for which the Transmission Owner has authority to provide inputs, the Transmission Owner's position should control pending outcome of the dispute resolution process.
- 6.6.2** In a dispute among the Parties, or between the ITO and the Reliability Coordinator involving matters for which the Transmission Owner does not have authority to provide inputs, and the dispute concerns matters which, under this Attachment P, the Reliability Coordinator has final review and approval authority, the Reliability Coordinator's position should control pending outcome of the dispute resolution process.
- 6.6.3** In a dispute among the Parties, or between the ITO and the Reliability Coordinator involving matters for which the Transmission Owner does not have authority to provide inputs, and the dispute concerns matters which, under this Attachment P, the ITO has final review and approval authority, the ITO's position should control pending outcome of the dispute resolution process.

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Appendix 1

Division of Responsibility for Transmission Service and Interchange

The coordination between and amongst the ITO, the Reliability Coordinator and the Transmission Owner with respect to processing and evaluation of TSRs shall be as provided for in this Appendix 1. As the Tariff administrator for the Transmission Owner, the ITO has ultimate authority over all TSRs and is the lead entity for the evaluation of any TSR.

1 ITO Responsibility - The responsibilities of the ITO in respect of the processing and evaluating TSRs will be performed on a non-discriminatory basis consistent with the TSR Processing and Transmission Study Criteria, and include the following:

- Maintaining commercial interface for receiving and confirming requests for transmission service according to the requirements of the Tariff (e.g. OASIS);
- Calculating ATC and posting ATC and TTC consistent with the Tariff, NERC standards, and NAESB business practices;
- Collecting all necessary information for the processing and evaluation of a TSR;
- Coordinating as necessary with the Transmission Owner and the Reliability Coordinator when processing requests for service into and out of transmission facilities or distribution facilities;
- Determining that all preconditions necessary for a TSR to be considered a Completed Application have been met;
- Maintaining appropriate TSR queues for Short-Term and Long-Term TSRs;
- Determining whether sufficient transmission capability exists to grant or deny a TSR;
- Approving or denying TSRs;
- Providing and executing SIS Agreements, and Facilities Studies Agreements;
- Performing SISs as necessary to evaluate whether sufficient transmission capability exists to accommodate a TSR, what additional facilities might be, required to allow the granting of a TSR (subject to further review in a Facilities Study), redispatch options (when requested by a customer), and conditional curtailment options (when requested by a customer);
- Performing SISs in response to requests to designate new Network Resources under Section 30 of the Tariff, including requests by the Transmission Owner's wholesale merchant function on behalf of Native Load Customers, and verifying that applicable Tariff requirements have been met;
- Providing all notices related to the processing and evaluation of a TSR to the Transmission Customer via OASIS;
- Independently reviewing the Transmission Owner's description of the ATC Methodology, SIS Criteria, Facilities Study Criteria, and TSR Study Criteria to ensure that these criteria are sufficiently defined for Transmission Customers to understand how TSRs are processed and evaluated. If the ITO concludes that additional explanatory detail is required, the Transmission Owner will modify the

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appropriate business practice documents to include the additional detail. The ITO will post on OASIS the final versions of the criteria, including the Transmission Owner's local reliability criteria, subject to applicable confidentiality requirements.

- Independently reviewing data, information and analyses, including Facilities Studies provided or performed by the Transmission Owner or the Reliability Coordinator;
- Ensuring that the TSR Study Criteria and the Transmission Study Criteria are posted on OASIS and are sufficiently detailed so that the evaluation and processing of TSRs is transparent and understandable, subject to the confidentiality provisions of Attachment P;
- Responding to inquiries by Transmission Customers regarding TSRs concerning the functions performed by the ITO as set forth in Attachment P;
- Developing and managing computer software that automates the process for evaluating Transmission Service Requests in an independent and nondiscriminatory manner;
- Billing and normal collection/payment of the applicable charges/invoices for SIS and Facilities Studies; and
- Monitoring and validating the Net Scheduled Interchange ("NSI") value that is provided to the Transmission Owner from OATI software
- Any affected Transmission Customer, the ITO, and the Reliability Coordinator will be automatically notified of modifications to TSRs through the NERC Electronic Tagging System ("e-Tag"). E-tag provides information on a real-time basis regarding a schedule modification and the reasons for that modification.

2 Transmission Owner Responsibility -- The responsibilities of the Transmission Owner in respect of the processing and evaluation of TSRs include the following:

- Calculating TTC consistent with the Tariff, NERC standards, and NAESB business practices;
- Providing data inputs and other information and analyses required by the ITO to study individual TSRs;
- Determining the amount and applicability of Ancillary Services under Schedules 1-6 of the Tariff that are needed or required for each transaction by Transmission Customers to comport with reliability guidelines;
- Tendering, entering into, and filing all Transmission Service Agreements in accordance with the Tariff;
- Entering into any Facilities Study Agreement with the ITO and the Transmission Customer;
- Performing Facilities Studies;
- Billing and collecting the applicable charges for Transmission Service under the Tariff and Ancillary Services under Schedules 1-6 and 9 of the Tariff; and
- Supplying the Transmission Customer with detailed descriptions of the current

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Transmission Study Criteria and TSR Study Criteria, including: (i) the Transmission Owner's current Tariff; (ii) applicable NERC Reliability Standards; and (iii) the Transmission Owner's local reliability criteria.

- 3 **TSR Study Criteria** - As the Tariff administrator, the ITO has ultimate approval authority over all TSR Study Criteria. The TSR Study Criteria shall be developed as follows:
 - 3.1 **Base Case Model Development:** Once the Base Case Model is complete, the ITO will participate with the Transmission Owner and the Reliability Coordinator in any additional regional model development processes necessary to create updated quarterly and monthly regional models from the seasonal and annual models. These models, which are updated quarterly or monthly, will serve as the basis for the annual, seasonal, monthly, or daily Base Case Models for the Transmission System used to evaluate TSRs.
 - 3.1.1 In order to develop the regional models and Base Case Models for the Transmission System referenced above, the Transmission Owner and the Reliability Coordinator will provide to the ITO and other modeling group participants such data and information as may be necessary to prepare and update the models. The ITO will review the data inputs provided by the Transmission Owner and the Reliability Coordinator to ensure that the data inputs and resulting models are consistent with the Transmission Study Criteria and Attachment K to the OATT.
 - 3.2 **Studies for Long-Term TSRs:** All Long-Term TSRs will be evaluated in accordance with the Tariff. If a SIS indicates that additions or upgrades are needed to accommodate the TSR, the Transmission Customer may request a Facilities Study. The division of responsibilities and duties related to such studies is described below.

System Impact Study

- 3.2.1 If necessary, the ITO shall inform the Transmission Customer of the need for an SIS and provide the Transmission Customer with the standard form SIS Agreement to be executed by the ITO, the Transmission Owner and the Transmission Customer. The SIS Agreement shall obligate the Transmission Customer to pay for the actual cost of the SIS, including any costs incurred by the ITO or the Transmission Owner associated with performing their respective functions herein. The ITO will be responsible for determining whether the Transmission Customer has timely complied with all requirements necessary for an SIS and for a request to remain a Completed Application. The ITO will provide a copy of the executed SIS Agreement to the Transmission Owner and Transmission Customer.

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- 3.2.2** After confirming that all applicable requirements have been met by the Transmission Customer, the ITO will perform or cause to be performed the required SIS. If the SIS is performed by someone other than the ITO, the ITO still retains the ultimate responsibility and authority for the study. Any such delegation of responsibilities by the ITO will be to entities that are Independent of the Transmission Owner and other Market Participants. To perform the SIS, the ITO will use the current set of applicable Base Case Models. The ITO will update the applicable Base Case Models to reflect then-current data from the Transmission Owner's OASIS regarding additional Long-Term TSRs, including new or expired rollover rights. The ITO will perform the SIS as set forth in the SIS Criteria and will ensure that the Base Case Models, including any updates thereto, are consistent with the SIS Criteria.
- 3.2.3** The ITO will provide the Transmission Owner (and/or any affected thirdparty Transmission Owner) and the Reliability Coordinator with an initial draft of the SIS report including a list of any constrained transmission elements. The Transmission Owner (or affected third-party Transmission Owner) and the Reliability Coordinator will have the opportunity to review and comment on the report. The Transmission Owner or affected third party Transmission Owner will be responsible for developing a mitigation plan to address any constrained transmission elements. The ITO will review the Transmission Owner's mitigation plan and any other mitigation plans provided by a third-party Transmission owner, and will include such mitigation plan(s) and the Transmission Owner's and any other affected third-party Transmission Owner's comments in the final SIS report provided to the Transmission Customer.
- 3.2.4** The ITO, in conjunction with the Transmission Owner , will use due diligence to finalize the required SIS in accordance with the Tariff and will provide all notices to the Transmission Customer required under the Tariff. The ITO will post the SIS on OASIS as soon as the SIS is complete, and will respond to requests for work papers supporting the SIS. If the Transmission Owner and the ITO cannot resolve any disagreements regarding the SIS, the ITO will modify the draft SIS report to identify the areas of disagreement and will provide this SIS report to the Transmission Customer by posting on OASIS.
- 3.2.5** If the Transmission Owner and the ITO agree that no additions or upgrades to the Transmission System are needed to accommodate the TSR, and the ITO has determined that the Transmission Customer has met the necessary Tariff requirements, the ITO will provide the Transmission Customer with a Transmission Service Agreement to be executed by the Transmission Owner and the Transmission Customer.
- 3.2.6** The Transmission Customer may request that the ITO and the

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Transmission Owner file an unexecuted Transmission Service Agreement with FERC in accordance with the Tariff if: (i) the Transmission Owner and the ITO cannot agree on whether any additions or upgrades to the Transmission System are needed to accommodate the TSR; (ii) the Transmission Customer does not accept the results of the SIS; or (iii) the Transmission Owner, and the Transmission Customer cannot agree on the terms and conditions of the Transmission Service Agreement. If the Transmission Owner and the ITO cannot agree on the scope of the additions or upgrades to the Transmission System that are needed to accommodate the TSR, or if the Transmission Customer does not accept the scope of the necessary additions or upgrades, the parties shall attempt to resolve any such disagreement through the more detailed Facilities Study process if the Transmission Customer elects to undertake such a study.

Facilities Study

- 3.2.7** If a SIS indicates that additions or upgrades are needed to accommodate the TSR, the ITO will provide the Transmission Customer with the standard form Facilities Study Agreement to be executed by the ITO, the Transmission Owner, and the Transmission Customer. The Facilities Study Agreement shall obligate the Transmission Customer to pay for the actual cost of the Facilities Study, including any costs incurred by the ITO or the Transmission Owner associated with performing their respective functions. The ITO will be responsible for determining whether the Transmission Customer has timely complied with all requirements necessary for a Facilities Study and for a request to remain a Completed Application.
- 3.2.8** After confirming that all applicable requirements have been met by the Transmission Customer, the ITO shall direct the Transmission Owner to perform a Facilities Study. The ITO will provide the Transmission Owner with the updated Base Case Models used by the ITO in performing the SIS, including any additional data that the ITO determines may have material impact on the Facilities Study results. The ITO shall direct the Transmission Owner to determine the scope and estimate the cost of the additions or upgrades to the Transmission System needed to accommodate the TSR. The Transmission Owner shall use the updated Base Case Models as the basis for this determination and shall make this determination on a non-discriminatory basis consistent with the Facilities Study Criteria. The Transmission Owner will provide the ITO with its determination of the scope and estimate of the cost of the necessary additions or upgrades and, upon request, supporting documents and work papers.

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3.2.9 The ITO will review the Transmission Owner's determination regarding the scope and cost of the necessary additions or upgrades. To the extent necessary, the ITO shall coordinate the Facilities Study with other affected transmission providers and conduct any meetings between the Transmission Owner and any other affected transmission providers. The Transmission Owner will prepare an initial draft of the Facilities Study report. The ITO will have the opportunity to review and comment on the report and its comments will be included in the final Facilities Study report provided to the Transmission Customer. If the ITO and the Transmission Owner cannot resolve any disagreements regarding the Facilities Study, the ITO will modify the draft Facilities Study report to identify the areas of disagreement and will provide this Facilities Study report to the Transmission Customer.

3.2.10 The ITO, in conjunction with the Transmission Owner, will use due diligence to finalize the required Facilities Study in accordance with the Tariff and will provide all notices to the Transmission Customer required under the Tariff. The ITO will provide the Transmission Customer with the final Facilities Study report and will respond to requests for work papers supporting the Facilities Study.

3.2.11 If the ITO and the Transmission Owner agree on the final Facilities Study, and the Transmission Customer accepts the final Facilities Study, and the ITO has determined that the Transmission Customer has met the necessary Tariff requirements, the ITO will provide the Transmission Customer with a Transmission Service Agreement to be executed by the ITO, Transmission Owner and the Transmission Customer. If the ITO and the Transmission Owner cannot agree, or the Transmission Customer does not accept the final Facilities Study, or if the Transmission Owner and the Transmission Customer cannot agree on the terms and conditions of the Transmission Service Agreement, the Transmission Customer may request that the Transmission Owner file an unexecuted Transmission Service Agreement with FERC in accordance with the Tariff.

3.3 Studies for Short-Term TSRs: The ITO will evaluate all Short-Term TSRs in accordance with the ATC Methodology using the Base Case Models described in Appendix 1 of this Attachment.

4 Transmission Hoarding

4.1 To guard against hoarding of transmission capacity by Market Participants, the ITO will perform a monthly assessment of unscheduled reservations and redirected capacity. Recurring instances of unused and redirected transmission reservations and instances in which scheduling practices have potentially detrimental market significance will be documented and provided to the FERC in the semiannual ITO report.

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Appendix 2

Division of Responsibilities for the Planning Function

Overview

This Appendix 2 of Attachment P of the Tariff is designed to provide a division of responsibilities between the Transmission Owner, the ITO and the Reliability Coordinator. Long-term Transmission Planning for the Transmission Owner's footprint will be conducted as an iterative process as follows: 1) the Transmission Owner will develop the long-term Annual Transmission Plan ("Annual Plan") and submit the Annual Plan to the ITO for initial approval; 2) the ITO will review and conduct an engineering assessment of the Annual Plan; and if it is approved, the ITO will submit the Annual Plan to the Reliability Coordinator; 3) the Reliability Coordinator will conduct a regional assessment of the Annual Plan, subject to the conditions below; and 4) the Reliability Coordinator will submit any changes to the Annual Plan based on its regional assessment to the ITO for final review and approval. The ITO will ensure that transmission planning on the Transmission Owner's system is done on an independent, nondiscriminatory basis. This process is further detailed below.

1. Plan Development by the Transmission Owner

The Transmission Owner will be responsible for the following tasks:

- 1.1 System Models for Transmission Planning.** The Transmission Owner will develop and maintain all transmission and resource (demand and capacity) system models, to evaluate Transmission System performance and resource adequacy. As part of these duties the Transmission Owner is responsible for:
 - 1.1.1** Creating the Base Case Model for the Transmission System. The Base Case Model will include all existing long-term, firm uses of the Transmission System, including: (i) Network Integration Transmission Service; (ii) firm transmission service for the Transmission Owner's Native Load; (iii) Long-Term Point-to-Point Transmission Service; and (iv) firm transmission service provided in accordance with grandfathered agreements. The Base Case Model will be developed pursuant to the modeling procedures used in developing the NERC multi-regional and ReliabilityFirst regional models.
 - 1.1.2** Providing the Base Case Model to the ITO for review and approval according to the iterative process outlined in the overview to this Appendix 2.
 - 1.1.3** Maintaining other transmission models including, but not limited to steady-state, dynamic and short circuit models.

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1.2 Assess, develop, and document Resource and Transmission Expansion plans.

The Transmission Owner will assess, develop, and document resource and transmission Expansion plans including the Annual Plan. These plans include the following responsibilities:

- 1.2.1** Maintaining and applying methodologies and appropriate tools for the development, analysis and simulation of the Transmission System in the assessment and development of transmission expansion plans and the analysis and development of resource adequacy plans.
- 1.2.2** Developing a long-term (generally one year and beyond) plan for the reliability (adequacy) of the Transmission System.
- 1.2.3** Defining system protection and control needs and requirements, including special protection systems (remedial action schemes), to meet reliability standards.
- 1.2.4** Developing and reporting, as appropriate, on the Annual Plan for assessment and compliance with reliability standards.
- 1.2.5** Monitoring and reporting, as appropriate, its Annual Plan implementation.

1.3 Information. The Transmission Owner will define, collect and develop information required for planning purposes, including:

- 1.3.1 Transmission facility characteristics and ratings.** Collect and maintain specific transmission information regarding characteristics of transmission facilities, lines, equipment, and methodologies, for determining the appropriate thermal ratings of circuits and transformers, including information on transmission line design temperature, voltage and stability limits and other transformer test data.
- 1.3.2 Demand and energy end-use customer forecasts, capacity resources, and demand response programs.** Including:
 - i. Load forecasts for all existing delivery points for the following ten years, including transmission (wholesale and retail) connected substations and distribution substations, and coincident and noncoincident peak demands and power factor at each delivery point;
 - ii. Plans for new delivery points for the following ten (10) years;
 - iii. Resource plans for the following ten (10) years;
 - iv. Expectations for market access to on- and off-system generation resources;
 - v. All planned on-system distributed generation resources; and vi. Information on all interruptible loads.

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1.3.3. Generator unit performance characteristics and capabilities. The Transmission Owner shall provide the ITO with all necessary data, information, and applicable requirements that govern the operation of any generating facilities interconnected with the Transmission System, as the ITO may require for performance of its various functions. The Transmission Owner shall submit and coordinate generator unit schedules as necessary to permit the ITO to assess transmission transfer capability and to permit the Reliability Coordinator to assess transmission reliability. The Transmission Owner shall submit, on an annual basis, data concerning projected loads, designated network resources, generation and transmission maintenance schedules, and other such operating data as the ITO may require for performance its various functions.

1.3.4 Long-term capacity purchases and sales. The Transmission Owner will maintain a list of all long-term capacity purchases and sales and include this information in its model development and the Annual Plan.

2 ITO Review and Assessment

The ITO will be responsible for the following tasks:

- 2.1 Independently reviewing and approving the Transmission Owner's Planning Guidelines. If the ITO concludes that additional explanatory detail is required, the Transmission Owner will modify the appropriate business practice documents to include the additional detail. The ITO will ensure that the final versions of the Planning Guidelines are posted on OASIS;
- 2.2 Reviewing and approving Transmission Owner's Base Case Model; reviewing, evaluating, and commenting on the Annual Plan as developed by the Transmission Owner. This review and evaluation will be based on all applicable planning criteria and statewide or multi-state transmission planning requirements;
- 2.3 Monitoring the Transmission Owner's transmission facility ratings based on access to data necessary to evaluate such ratings;
- 2.4 Performing an Independent assessment of the Transmission System using the Planning Guidelines and the Base Case Model. As part of this assessment, the ITO will independently evaluate whether: (i) the Transmission Owner's Annual Plan complies with the Planning Guidelines and the Base Case Model; and (ii) whether there are upgrade projects in the Annual Plan that are not necessary to meet the Planning Guidelines and the Base Case Model;
- 2.5 Holding a Transmission Planning Conference to gather input and consider the planning process and the Transmission Owner's Annual Plan; and
- 2.6 Providing the Transmission Owner with its conclusions regarding the reliability assessment and evaluation of the Annual Plan, including any outstanding issues

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that the ITO believes the Transmission Owner should address. The Transmission Owner will have the opportunity to review the ITO's conclusions and may submit a revised Annual Plan and supporting documentation to the ITO to address any outstanding issues. Once the Annual Plan has been finalized by the Transmission Owner, the ITO will submit the Annual Plan to the Reliability Coordinator for regional coordination.

3 Regional Coordination

The Reliability Coordinator will be responsible for the following tasks:

- 3.1 Integrating and verifying that the respective plans for the regional area meet reliability standards.
- 3.2 Identifying and reporting on potential Transmission System and resource adequacy deficiencies in the regional area, and providing alternate plans that mitigate these deficiencies.
- 3.3 Reviewing and reporting, as appropriate, on the Transmission Owner's Annual Plan for assessment and compliance with reliability standards within their regional area.
- 3.4 Notifying impacted transmission entities within their regional area of any planned transmission changes that may impact their facilities.
- 3.5 Submitting Annual Plan, including any changes based on the regional coordination, to the ITO for final approval.

4 Final Review and Assessment

- 4.1 The ITO shall have final review and assessment of all plans. If the ITO cannot approve a plan after regional coordination, then the ITO will return the plan to the Transmission Owner for further development as appropriate. The process for final approval of any previously rejected plan will follow the same iterative process as outlined above.
- 4.2 The ITO will post the Transmission Owner's finalized Annual Plan on OASIS.

5 Implementation of Plan and Construction of Upgrades

- 5.1 The Transmission Owner is responsible for the implementation of the Annual Plan. The Transmission Owner will make a good faith effort to design, certify, and build facilities approved by the ITO in the Annual Plan.
- 5.2 In the case where the Reliability Coordinator or the ITO does not agree with the Annual Plan, nothing in this Attachment P shall prevent the Transmission Owner from constructing those facilities it deems necessary to reliably meet its obligation to serve its Network Customers, its Native Load Customers and its Transmission Customers taking Point-to-Point Transmission Service.

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Appendix 3

Division of Responsibilities for Generator Interconnections

The coordination between and amongst the ITO, the Reliability Coordinator and the Transmission Owner with respect to processing and evaluation of Generator Interconnection Requests shall be as provided for in this Appendix 3. As the Tariff administrator for the Transmission Owner, the ITO has ultimate authority over all Generator Interconnection Requests and is the lead entity for the evaluation of any Generator Interconnection Request.

- 1** ITO Duties and Responsibilities: The ITO shall process all Generator Interconnection Requests and Interim Generator Interconnection Requests and perform Interconnection Studies in a non-discriminatory manner in accordance with the LGIP and SGIP and the Transmission Owner's Generator Interconnection Study Criteria. Sole authority to grant or deny requests for generation interconnections are the exclusive responsibility of the ITO, and cannot be delegated to any other parties described herein. The ITO will have authority to interpret and apply the guidelines, and shall have responsibility for administration of the Transmission Owner's LGIP and SGIP, including queuing of Generator Interconnection Requests and Interim Generator Interconnection Requests, completion of Interconnection Studies associated with Generator Interconnection Requests and Interim Generator Interconnection Requests, and development of the Transmission System modeling process, software, and assumptions used to evaluate Generator Interconnection Requests and Interim Generator Interconnection Requests. The ITO's responsibilities in processing and evaluating Interconnection Requests and Interim Interconnection Requests include the following:
 - 1.1** Collecting from the Interconnection Customer, the Transmission Owner and the Reliability Coordinator all necessary information for the processing and evaluation of each Generator Interconnection Request and Interim Generator Interconnection Request;
 - 1.2** Determining that all preconditions necessary for a valid Generator Interconnection Request and Interim Generator Interconnection Request have been met;
 - 1.3** Performing Interconnection Feasibility Studies, Generator Interconnection SISs, Interim SISs and Optional Interconnection Studies and coordinating such studies with Affected Systems;
 - 1.4** Maintaining and administering a queue for Interconnection Study requests;
 - 1.5** Posting on the Transmission Owner's OASIS a list of Generator Interconnection Requests and Interim Generator Interconnection Requests and related information as required under the LGIP and SGIP;
 - 1.6** Providing and executing Interconnection Study Agreements. Interim

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- Interconnection System Impact Study Agreements, Interim SGIA SIS Agreements, and Facilities Study Agreements;
- 1.7** Providing all notices related to the processing and evaluation of an Generator Interconnection Request and Interim Generator Interconnection Request to the Interconnection Customer;
 - 1.8** Independently reviewing the Transmission Owner's description of the Generator Interconnection Study Criteria to ensure that these criteria are sufficiently defined for Interconnection Customers to understand how Generator Interconnection Requests are processed and evaluated. If the ITO concludes that additional explanatory detail is required, the Transmission Owner will modify the appropriate business practice documents to include the additional detail. The ITO will post on OASIS the final versions of the criteria, subject to appropriate confidentiality provisions;
 - 1.9** Independently reviewing data, information, and analyses, including Interconnection Facilities Studies, provided or performed by the Transmission Owner or the Reliability Coordinator; and
 - 1.10** Responding to inquiries by Interconnection Customers.
- 2** Transmission Owner Duties and Responsibilities: The processing and evaluation of Generator Interconnection Requests and Interim Generator Interconnection Requests requires coordination between the Transmission Owner and the ITO. The Transmission Owner will be responsible for the following functions associated with the processing and evaluation of Generator Interconnection Requests, and the ITO will ensure that these functions are performed consistent with the LGIP, the SGIP and the Generator Interconnection Study Criteria:
- 2.1** Providing data inputs and information required by the ITO;
 - 2.2** Supplying the ITO with the Generator Interconnection Study Criteria, including descriptions or copies of: (i) the LGIP, LGIA, SGIP and SGIA provisions applicable to the performance of Interconnection Studies; (ii) applicable NERC Reliability Standards; (iii) the Transmission Owner's business practices related to Interconnection Studies; and (iv) the Transmission Owner's local reliability criteria; and
 - 2.3** Performing Interconnection Facilities Studies consistent with Section 5 of this Appendix 3.
 - 2.4** Entering into and filing all Interim LGIA's, LGIAs, Interim SGIAs, and SGIAs in accordance with the Tariff.
- 3** Interconnection Studies: The LGIP or SGIP provisions of the Tariff shall determine the studies necessary to interconnect with the Transmission System. The ITO will be responsible for coordinating all Interconnection Studies with any Affected Systems and conducting all meetings between the Affected Systems, the Reliability Coordinator, the Transmission Owner and the Interconnection Customer, in accordance with the

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provisions of the LGIP or SGIP. The division of additional responsibilities in performing Interconnection Studies is described below.

- 4** Interconnection Feasibility Study
 - 4.1** Pursuant to the LGIP or SGIP, the ITO shall provide the Interconnection Customer with an Interconnection Feasibility Study Agreement to be executed by the Interconnection Customer, the Transmission Owner, and the ITO. The Interconnection Feasibility Study Agreement shall obligate the Interconnection Customer to pay for the actual cost of the Interconnection Feasibility Study, including any costs incurred by the ITO or the Transmission Owner associated with performing their respective functions under Sections 4.1 through 4.3 of this Appendix 3. The ITO will be responsible for determining whether the Interconnection Customer has timely complied with all requirements necessary for an Interconnection Feasibility Study and a valid Generator Interconnection Request, as provided in the LGIP or SGIP. The ITO will provide a copy of the executed Interconnection Feasibility Study Agreement to the Transmission Owner.
 - 4.2** After confirming that all applicable requirements have been met by the Interconnection Customer, the ITO will perform or cause its designee to perform the required Interconnection Feasibility Study, including any Re-Studies. To perform the Interconnection Feasibility Study, the ITO will use the current set of applicable Base Case Models. The ITO will update the applicable Base Case Models to reflect then-current data from the Transmission Owner's OASIS regarding additional Long-Term TSRs, including new or expired rollover rights. The ITO will perform the Interconnection Feasibility Study as set forth in the Generator Interconnection Study Criteria and will ensure that the Base Case Models, including any updates thereto, are developed as set forth in the Generator Interconnection Study Criteria. The ITO will provide the Transmission Owner with an initial draft of the Interconnection Feasibility Study report, and the Transmission Owner will have the opportunity to review and comment on the report.
 - 4.3** The ITO will use reasonable efforts to finalize the Feasibility Study in accordance with the LGIP or SGIP provisions of the Tariff and will provide all notices to the Interconnection Customer required therein. The ITO will be responsible for responding to requests for work papers or other supporting documentation under the LGIP or SGIP. If the Transmission Owner and the ITO cannot resolve any disagreements regarding the Feasibility Study, the ITO will modify the draft Feasibility Study report to identify the areas of disagreement and will provide this Feasibility Study report to the Interconnection Customer. If the Transmission Owner, the ITO, and the Interconnection Customer ultimately cannot agree on the final Interconnection Feasibility Study report, Section 14.5 of the LGIP or Section 4.2 of the SGIP will apply.

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- 5** Interconnection System Impact Study
- 5.1** Pursuant to the LGIP or SGIP, the ITO shall provide the Interconnection Customer with the Generator Interconnection SIS Agreement to be executed by the ITO, the Transmission Owner and the Interconnection Customer. The Generator Interconnection SIS Agreement shall obligate the Interconnection Customer to pay for the actual cost of the Interconnection SIS, including any costs incurred by the ITO or the Transmission Owner associated with performing their respective functions under Section 5 of this Appendix 3. The ITO will be responsible for determining whether the Interconnection Customer has timely complied with all requirements necessary for an Generator Interconnection SIS and for a valid Generator Interconnection Request, as set forth in the LGIP or SGIP. The ITO will provide a copy of the executed Generator Interconnection SIS Agreement to the Transmission Owner and the Reliability Coordinator.
- 5.2** After confirming that all applicable requirements have been met by the Interconnection Customer, the ITO shall perform or cause its designee to perform the required Generator Interconnection SIS, including any Re-Studies. To perform the Generator Interconnection SIS, the ITO will use the current set of applicable Base Case Models. The ITO will update the applicable Base Case Models to reflect then current data from the Transmission Owner's OASIS regarding additional Long- Term TSRs, including new or expired rollover rights. The ITO will perform the interconnection SIS as set forth in the Generator Interconnection Study Criteria and will ensure that the Base Case Models, including any updates thereto, are developed as set forth in the Generator Interconnection Study Criteria.
- 5.3** The ITO will provide the Transmission Owner, the Reliability Coordinator and other Affected System with an initial draft of the Generator Interconnection SIS report, including a list of any constrained transmission elements. The Transmission Owner and the Reliability Coordinator will have the opportunity to review and comment on the report and the Transmission Owner will be responsible for developing a mitigation plan to address any constrained transmission elements. The ITO will review the Transmission Owner's mitigation plan and will include the mitigation plan and the Transmission Owner's comments in the final Generator Interconnection SIS report provided to the Interconnection Customer.
- 5.4** The ITO, in conjunction with the Transmission Owner and the Reliability Coordinator, will use reasonable efforts to finalize the required Generator Interconnection SIS in accordance with the LGIP or SGIP and will provide all notices to the Interconnection Customer required by the LGIP or SGIP. The ITO will be responsible for responding to requests for work papers supporting the Generator Interconnection SIS. If the Transmission Owner and the ITO cannot resolve any disagreements regarding the Generator Interconnection SIS, the ITO will modify the draft Generator Interconnection SIS report to identify the areas of disagreement and will provide this Interconnection SIS report to the

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Interconnection Customer. If the Transmission Owner, the ITO, the Reliability Coordinator and the Interconnection Customer ultimately cannot agree on the final Generator Interconnection SIS report, Section 14.5 of the LGIP or Section 4.2 of the SGIP will apply.

- 6** Interconnection Facilities Study
 - 6.1** Pursuant to the LGIP or SGIP provisions of the Tariff, the ITO will tender the Interconnection Facilities Study Agreement to the Interconnection Customer to be executed by the ITO, the Transmission Owner, any Affected System, and the Interconnection Customer. The Interconnection Facilities Study Agreement shall obligate the Interconnection Customer to pay for the actual cost of the Interconnection Facilities Study, including any costs incurred by the ITO or the Transmission Owner associated with performing their respective functions under Section 6 of this Appendix 3.
 - 6.2** After confirming that all applicable requirements have been met by the Interconnection Customer, the ITO shall direct the Transmission Owner to perform an Interconnection Facilities Study. The ITO will provide the Transmission Owner with the relevant SIS data used by the ITO in performing the Generator Interconnection SIS, including any additional data that the ITO determines may have material impact on the Interconnection Facilities Study results. The ITO shall direct the Transmission Owner to determine the equipment, engineering, procurement, and construction work necessary to implement the conclusions in the Generator Interconnection SIS. The Transmission Owner shall use the relevant SIS data provided by the ITO as the basis for this determination and shall make this determination consistent with the Generator Interconnection Study Criteria. The Transmission Owner will provide the ITO with its determination and, upon request, supporting documents and work papers.
 - 6.3** The ITO will review the Transmission Owner's determination regarding the equipment, engineering, procurement, and construction work necessary to implement the conclusions in the Generator Interconnection SIS. The ITO will prepare an initial draft of the Interconnection Facilities Study report. The Transmission Owner will have the opportunity to review and comment on the report and the Transmission Owner's comments will be included in the final Interconnection Facilities Study report provided to the Interconnection Customer. If the ITO and the Transmission Owner cannot resolve any disagreements regarding the Interconnection Facilities Study, the ITO will modify the draft Interconnection Facilities Study report to identify the areas of disagreement and will provide this Interconnection Facilities Study report to the Interconnection Customer.
 - 6.4** The ITO, in conjunction with the Transmission Owner, will use reasonable efforts to finalize the required Interconnection Facilities Study in accordance with the LGIP or SGIP and will provide all notices to the Interconnection Customer required in the LGIP or SGIP. The ITO will be responsible for providing the

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Interconnection Customer with the final Interconnection Facilities Study report and responding to requests for work papers and supporting documentation for the Interconnection Facilities Study.

- 6.5** If the ITO and the Transmission Owner agree on the final Facilities Study, and the Interconnection Customer accepts the final Facilities Study, and the ITO has determined that the Interconnection Customer has met the necessary LGIP or SGIP requirements, the Transmission Owner will provide the Interconnection Customer with a LGIA or SGIA to be executed by the Transmission Owner and the Interconnection Customer. If the ITO and the Transmission Owner cannot agree, or the Interconnection Customer does not accept the final Interconnection Facilities Study, or if the Transmission Owner and the Interconnection Customer cannot agree on the terms and conditions of the LGIA or SGIP, the parties may attempt to resolve the dispute pursuant to Section 14.5 of the LGIP or Section 4.2 of the SGIP, or the Interconnection Customer may request that the Transmission Owner file an unexecuted LGIA with FERC in accordance with Section 11.3 of the LGIP, or file an unexecuted SGIA with FERC in accordance with Section 4.8 of the SGIA.
- 7** **Interim SIS.** The ITO shall have the responsibility to conduct Interim Interconnection System Impact Studies pursuant to the terms of Section 13 of the LGIP.
- 8.** **Optional Interconnection Study:** If the Interconnection Customer requests an Optional Interconnection Study, the division of responsibilities between the Transmission Owner and the ITO shall be the same as for the Generator Interconnection SIS.

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Appendix 4

Division of Responsibilities for the Reliability Function

The Reliability Coordinator is responsible for bulk transmission reliability and power supply reliability functions. Bulk transmission reliability functions include reliability analysis, loading relief procedures, re-dispatch of generation and ordering curtailment of transactions and/or load. Power supply reliability functions include monitoring Balancing Authority Area performance and ordering the Balancing Authority to take actions, including load curtailment and increasing/decreasing generation in situations where an imbalance between generation and load places the system in jeopardy. The procedures to be followed by the Reliability Coordinator shall be consistent with those of NERC and are spelled out in the NERC Approved Reliability Plan for the TVA Reliability Coordination Area and TVA Standard Procedures and Policies.

1 Reliability Coordinator General Functions:

The Reliability Coordinator shall perform the following functions:

- 1.1 Serving as NERC designated reliability coordinator and representing the TVA Reliability Area at the NERC and Regional Reliability Council level.
- 1.2 Implementing applicable NERC and regional reliability criteria initiatives, such as maintaining a connection to NERC's Interregional Security Network ("ISN"), day-ahead load-flow analysis, transmission loading relief procedures, and information exchange.
- 1.3 Developing and coordinating with the Reliability Coordination Advisory Committee ("RCAC") new Reliability Coordinator Procedures and revisions to existing Reliability Coordinator Procedures.
- 1.4 Exchanging timely, accurate, and relevant Transmission System information with the Transmission Owner, the ITO, and with other reliability coordinators.
- 1.5 Developing and maintaining system models and tools needed to perform analysis needed to develop operational plans.
- 1.6 Coordinating with neighboring reliability coordinators and other operating entities as appropriate to ensure regional reliability.
- 1.7 Performing all other reliability coordinator functions as required for compliance with applicable NERC Reliability Standards and Regional Reliability Council standards, as the same may be amended or modified from time to time.

2 Real-time Operations:

2.1 Reliability Coordinator Functions:

The Reliability Coordinator shall perform the following functions:

- 2.1.1 Monitoring, analyzing, and coordinating the reliability of the Transmission

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Owner's facilities and interfaces with other Balancing Authorities, Transmission Operators, and other reliability coordinators.

- 2.1.2 Performing analyses to develop an evaluation of system conditions. The Transmission Owner will provide necessary information (e.g., outages and transactions) and Transmission System conditions, as applicable, to the Reliability Coordinator in accordance with applicable NERC Standards. The results of these analyses will be provided to the Transmission Owner and neighboring reliability coordinators in accordance with applicable NERC Reliability Standards and Regional Reliability Council Standards.
- 2.1.3 Determining, directing, and documenting appropriate actions to be taken by the Transmission Owner, the ITO and Reliability Coordinator in accordance with the NERC Reliability Standards, including curtailment of transmission service or energy schedules, re-dispatch of generation and load shedding as necessary to alleviate facility overloads and abnormal voltage conditions, and other circumstances that affect interregional bulk power reliability.
- 2.1.4 Coordinating transmission loading relief and voltage correction actions with the Transmission Owner and with other reliability coordinators.

2.2 Transmission Owner Responsibilities:

The Transmission Owner shall have the following responsibilities:

- 2.2.1 Ensuring appropriate telemetry and providing Reliability Coordinator realtime operational information for monitoring.
- 2.2.2 Receiving from the Reliability Coordinator all reliability alerts for TVA Reliability Area and neighboring reliability coordinators.
- 2.2.3 Following Reliability Coordinator directives for corrective actions (e.g., curtailments or load shedding) during system emergencies or to implement TLR procedures.
- 2.2.4 Receiving from Reliability Coordinator all notices regarding Transmission System limitations or other reliability issues, as appropriate

3 Forward Operations:

3.1 Reliability Coordinator Functions:

The Reliability Coordinator shall perform the following functions:

- 3.1.1 Performing analyses and develop an evaluation of expected next-day Transmission System operations. The results of these analyses shall be provided to the Transmission Owner, the ITO and neighboring reliability coordinators in accordance with applicable NERC Reliability Standards and Regional Reliability Council Standards.

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- 3.1.2 Performing analysis of planned transmission and generation outages and coordination of outages with NERC, participants in reliability coordination agreements, and other reliability coordinators as appropriate and as required by NERC. This entails analysis and coordination of planned outages which are beyond next day and intra-day outages.
- 3.1.3 Analyzing and approving all planned maintenance schedules on facilities 100kV and above and planned maintenance of generation facilities submitted by the Transmission Owner in conjunction with other work on the regional transmission grid to determine the impact of the Transmission Owner's planned maintenance schedule on the reliability of the facilities under TVA's purview as Reliability Coordinator, and the purview of neighboring reliability coordinators, and any other relevant effects; and coordinate impacts on available transfer capability with the ITO.
- 3.1.4 Coordinating, as required by either NERC or other agreements, planned maintenance schedules with all adjacent reliability coordination areas and/or Balancing Authority Areas and Transmission Providers; as well as the ITO.

3.2 Transmission Owner Responsibilities:

The Transmission Owner shall have the following responsibilities:

- 3.2.1 Providing generation-related information (e.g., outages and transactions) and expected Transmission System conditions (e.g., transmission facility outages and transactions), as applicable, to the Reliability Coordinator for the next-day operation in accordance with applicable NERC Reliability Standards and Regional Reliability Council standards.
- 3.2.2 Submitting facility ratings and operational data for all generators and transmission facilities in the Transmission Owner's footprint.
- 3.2.3 Coordinating with the ITO and submitting to the Reliability Coordinator generation dispatch information for the Transmission Owner's footprint and following Reliability Coordinator directives regarding dispatch adjustments to mitigate congestion.
- 3.2.4 Submitting to the Reliability Coordinator generation operation plans and commitments for reliability analysis.
- 3.2.5 Submitting to the Reliability Coordinator transmission maintenance plans for reliability analysis.
- 3.2.6 Following Reliability Coordinator directives to revise transmission maintenance plans as required to ensure grid reliability.
- 3.2.7 Receiving from Reliability Coordinator all notices regarding reliability analyses for the TVA Reliability Area as well as neighboring reliability coordinators.

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3.2.8 Representing the Transmission Owner on the RCAC and in all RCAC deliberations.

4 **Regional Congestion Management**

For the purposes of this section IV, capitalized terms not defined in the Tariff will have the definitions used in the JRCA and its related Congestion Management Process (“CMP”), unless otherwise noted in this section IV.

4.1 **Reliability Coordinator Functions:**

The following functions to be performed by the Reliability Coordinator shall be performed in conjunction with the functions to be performed by the Independent Transmission Operator under the Independent Transmission Organization Agreement and will fully incorporate the Transmission Owner’s operations into the procedures and protocols governing other facilities in the Reliability Coordinator’s Reliability Area in accordance with the CMP:

- 4.1.1** Identifying of Coordinated Flowgates and determination of flowgates requiring Reciprocal Coordination (twice annually).
- 4.1.2** Performing Historic Firm Flow Calculations -- implement transmission service reservation set and designated resources provided by the Transmission Owner for established freeze date; calculate historic firm flow values and ratios for all coordinated flowgates on the Transmission Owner’s system (bi-annually).
- 4.1.3** Developing reciprocal coordination agreements that establish how each Operating Entity will consider its own flowgates as well as the usage of other Operating Entities when it determines the amount of flowgate or constraint capacity remaining. This process will include both operating horizon determination as well as forward looking capacity allocation.
- 4.1.4** Implementing AFC Process -- determining AFC attribute requirements; obtaining NNL Impact Data; implementing Allocation Calculation Process; implement AFC calculation process.
- 4.1.5** Providing the ITO flowgate AFCs on an hourly basis and flowgate allocations on a daily basis.

4.2 **Transmission Owner Responsibilities:**

The Transmission Owner is obligated to uphold the terms and conditions of the CMP, and providing the Reliability Coordinator with the information and support it needs in order to carry out its duties as Transmission Owner's Reliability Coordinator. The Transmission Owner shall be responsible for coordinating with the ITO and provide Transmission System data to the Reliability Coordinator including, but not limited to:

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Operating information:

- (i) Transmission Service Reservations;
- (ii) Load forecast requirements;
- (iii) Flowgates requirements;
- (iv) AFC data requirements;
- (v) PSSE Models Requirements;
- (vi) Designated Network Resources requirements;
- (vii) Jointly owned units;
- (viii) Dynamic schedules;
- (ix) NNL allocations requirements; and,
- (x) NNL evaluator requirements.

Projected operating information:

- (i) Unit commitment/merit order;
- (ii) Firm purchase and sales (including grandfathered agreements);
- (iii) Independent power producer information including current operating level, projected operating levels, scheduled outage start and end dates;
- (iv) Planned and actual operational start-up dates for any permanently added, removed, or significantly altered transmission segments; and
- (v) Planned and actual start-up testing and operational start-up dates for any permanently added, removed, or significantly altered generation units.

4.3 ITO Responsibilities:

The ITO shall have the following responsibilities in support of the JCongestion Management Process ("CMP"):

- 4.3.1** Providing to the Reliability Coordinator all transmission facility plans and facility upgrade schedules.
- 4.3.2** Providing to the Reliability Coordinator the status of all transmission service requests and all new transmission service agreements.
- 4.3.3** Receiving from the Reliability Coordinator all flowgate AFCs on an hourly basis and flowgate allocations on a daily basis.
- 4.3.4** Converting flowgate information provided by the Reliability Coordinator to ATC values for posting on OASIS and for analyzing TSRs.
- 4.3.5** Implementing CMP business rules for AFC vs. ASTFC.

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- 4.3.6** Honoring all AFC allocations and AFC over-rides from other CMP participants in the evaluation and granting of transmission service.

5 Regional Coordination

5.1 Reliability Coordinator Functions:

The Reliability Coordinator will ensure a long-term (one year and beyond) plan is available for adequate resources and transmission within the TVA Reliability Area. The Reliability Coordinator will integrate the Transmission Plan provided by the ITO with plans of other operating entities in the Reliability Coordination Area and assess the plans to ensure those plans meet reliability standards. The Reliability Coordinator will advise the ITO of solutions to plans that do not meet those standards. The Reliability Coordinator will then coordinate the Reliability Area Plan with those of neighboring reliability coordinators and Planning Coordinators to ensure wide-area grid reliability.

These functions include:

- 5.1.1** Integrating the transmission and resource (demand and capacity) system models provided by the ITO with those of other Reliability Coordinator Area operating entities to ensure Transmission System reliability and resource adequacy.
- 5.1.2** Applying methodologies and tools to assess and analyze the Transmission System expansion plans and the resource adequacy plans.
- 5.1.3** Collecting all information and data required for modeling and evaluation purposes.
- 5.1.4** Integrating and verifying that the respective plans of the Resource Planners and Transmission Planners within the TVA Reliability Area meet reliability standards.
- 5.1.5** Coordinating the Reliability Coordinator Area plan with neighboring Reliability Coordinators for review, as appropriate.
- 5.1.6** Integrating the Reliability Coordinator Area plan with neighboring Planning Coordinators/reliability coordinators plans to provide a broad multi-regional bulk system planning view.

5.2 Transmission Owner Responsibilities:

The Transmission Owner shall have the following responsibilities:

- 5.2.1** Providing to the Reliability Coordinator demand and energy end-use customer forecasts, capacity resources, and demand response programs.
- 5.2.2** Providing to the Reliability Coordinator generator unit performance characteristics and capabilities.

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- 5.2.3** Providing to Reliability Coordinator long-term capacity purchases and sales.

Appendix 5

Balancing Authority

The Transmission Owner is registered with NERC as the Balancing Authority for the Transmission Owner's Balancing Authority Area. Accordingly, the Transmission Owner is responsible for performing the following tasks and functions as provided for in Version 5 of the NERC Reliability Functional Model. Consistent with the terms of the NERC Reliability Functional Model, these tasks and functions are intended as guidelines only. If there is a conflict or inconsistency with the tasks and functions listed below and the requirements included in a NERC Reliability Standard, the terms included in the NERC Reliability Standard shall govern the Transmission Owner's actions.

Function - Balancing

Tasks

1. Control any of the following combinations within a Balancing Authority Area:
 - a. Load and generation (an isolated system)
 - b. Load and Confirmed Interchange
 - c. Generation and Confirmed Interchange

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- d. Generation, load, and Confirmed Interchange
2. Calculate area control error within the reliability area.
3. Operate in the Balancing Authority Area to maintain load-interchange-generation balance.
4. Review generation commitments, dispatch, and load forecasts.
5. Formulate an operational plan (generation commitment, outages, etc.) for reliability evaluation.
6. Approve Arranged Interchange from ramping ability perspective.
7. Implement Confirmed Interchange.
8. Operate the Balancing Authority Area to contribute to Interconnection frequency.
9. Monitor and report control performance and disturbance recovery.
10. Provide balancing and energy accounting (including hourly checkout of Confirmed Interchange, Implemented Interchange and actual interchange), and administer inadvertent energy paybacks.
11. Determine needs for reliability-related services.
12. Deploy reliability-related services.
13. Implement emergency procedures.

14. Transmission Owner will approve schedules as the Balancing Authority

Relationships with Other Functional Entities

Ahead of Time

1. Receives operating and availability status of generating units and operational plans and commitments from Generator Operators (including annual maintenance plans) within the Balancing Authority Area.
2. Receives annual maintenance plans from Generator Owners within the Balancing Authority Area.
3. Receives reliability evaluations from the Reliability Coordinator.
4. Receives final approval or denial of a request for an Arranged Interchange from the Interchange Coordinators.
5. Compiles load forecasts from Load-Serving Entities.
6. Develops agreements with adjacent Balancing Authorities for ACE calculation parameters.
7. Submits integrated operational plans to the Reliability Coordinator for reliability evaluation and provides balancing information to the Reliability Coordinator for monitoring.
8. Confirms Arranged Interchange with Interchange Coordinators.
9. Confirms ramping capability with Interchange Coordinators.
10. Implements generator commitment and dispatch schedules from the Load-Serving Entities and Generator Operators who have arranged for generation within the Balancing Authority Area.
11. Acquires reliability-related services from Generator Operator.
12. Receives dispatch adjustments from Reliability Coordinators to prevent exceeding limits.

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13. Receives generator information from Generator Owners including unit maintenance schedules and retirement plans.
14. Receives information from Load Serving Entities on self-provided reliability-related services.
15. Coordinates system restoration plans with Transmission Operator.
16. Provides generation dispatch to Reliability Coordinators.

17. Interchange Transactions will be approved by the ITO as TP

Real Time

18. Coordinates use of controllable loads with Load-Serving Entities (i.e., interruptible load that has been bid in as a reliability-related service or has agreed to participate in voluntary load shedding program under resource/reserve deficiency situations).
19. Receives loss allocation from Transmission Service Providers (for repayment with in-kind losses).
20. Receives Real-time operating information from the Transmission Operator, adjacent Balancing Authorities and Generator Operators.
21. Receives operating information from Generator Operators.
22. Provides Real-time operational information for Reliability Coordinator monitoring.
23. Receives reliability alerts from Reliability Coordinator.
24. Complies with reliability-related requirements (e.g., reactive requirements, location of operating reserves) specified by Reliability Coordinator.
25. Verifies implementation of emergency procedures to Reliability Coordinator.
26. Informs Reliability Coordinator and Interchange Coordinators of Confirmed Interchange changes (e.g., due to generation or load interruptions) involving its Balancing Authority Area.
27. Directs resources (Generator Operators and Load-Serving Entities) to take action to ensure balance in real time.
28. Directs Transmission Operator (or Distribution Provider) to reduce voltage or shed load if needed to ensure balance within its Balancing Authority Area.
29. Directs Generator Operators to implement redispatch for congestion management as directed by the Reliability Coordinator.
30. Implements corrective actions and emergency procedures as directed by the Reliability Coordinator.
31. Implements system restoration plans as directed by the Transmission Operator.
32. Directs Transmission Operator to implement flow control devices.
33. Receives information of Implemented Interchange and Confirmed Interchange curtailments from Interchange Coordinator.

After the hour

34. Confirms Implemented Interchange **with Confirmed Interchange** provided by the Interchange Coordinators after the hour for “checkout.”
35. _____ Confirms Implemented Interchange and Confirmed Interchange with adjacent Balancing Authorities after the hour for “checkout”.

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36. Provides to the ITO, for posting on OASIS, statistics regarding interchange schedules that the Transmission Owner has modified.

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ATTACHMENT Q

**AGREEMENTS BETWEEN THE TRANSMISSION OWNER AND THE ITO
AND THE RELIABILITY COORDINATOR**

Independent Transmission Organization
Agreement

Between

Louisville Gas and Electric Company/
Kentucky Utilities Company

And

TranServ International, Inc.

FINAL

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Appendix A - Service Specification

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INDEPENDENT TRANSMISSION ORGANIZATION AGREEMENT

This Independent Transmission Organization (“ITO”) Agreement (this “Agreement”) is entered into on September 1, 2017, between Louisville Gas and Electric Company and Kentucky Utilities Company, corporations organized pursuant to the laws of the Commonwealth of Kentucky (collectively, “Company”), and TranServ International, Inc., an entity organized pursuant to the laws of Delaware (“TranServ”). Company and TranServ may sometimes be individually referred to herein as a “Party” and collectively as the “Parties.”

WHEREAS, Company owns, among other things, an integrated electric transmission system (“Transmission System”), over which open access transmission service is provided to customers in the Company’s Balancing Authority Area (as that term is defined by the North American Electric Reliability Corporation (“NERC”));

WHEREAS, the Company has an Open Access Transmission Tariff (“OATT”) on file with the Federal Energy Regulatory Commission (“FERC”)

WHEREAS, Company’s current contract with TranServ is scheduled to expire on August 31, 2017;

WHEREAS, Company desires that, upon expiration of the current contract, TranServ will continue its work under this Agreement, as detailed herein;

WHEREAS, Company remains the owner of its Transmission System and shall be the ultimate provider of transmission services to Eligible Customers (as defined in the OATT), including the sole authority to amend the OATT;

WHEREAS, TranServ: (i) is independent from Company; (ii) possesses the necessary competence and experience to perform the functions provided for hereunder; and (iii) is willing to perform such functions under the terms and conditions agreed upon by the Parties as set forth in this Agreement; and

WHEREAS, as part of Company’s goal to maintain independence in the operation of its Transmission System in order to prevent any exercise of transmission market power, Company entered into a Reliability Coordinator Agreement (the “Reliability Coordinator Agreement”) with the Tennessee Valley Authority, NERC-certified reliability coordinator (the “Reliability Coordinator”), pursuant to which the Reliability Coordinator provides to Company certain required reliability functions.

NOW THEREFORE, in consideration of the mutual promises contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

Effective On: September 1, 2019

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Section 1 - Services to be Provided; Standards of Performance

1.1 Services. TranServ shall perform, or cause to be performed, the services described in Appendix A hereto as well as any obligations expressly assigned to the ITO under the OATT (“ITO Services”) during the Term in accordance with the terms and conditions of this Agreement, subject to modification pursuant to Section 1.4 hereto.

1.2 Coordination with Reliability Coordinator. In conjunction with its performance of ITO Services, TranServ shall coordinate and cooperate with the Reliability Coordinator in accordance with the terms of the OATT and all NERC and SERC Reliability Corporation (“SERC”) requirements. TranServ shall provide to the Reliability Coordinator, subject to the terms and conditions of this Agreement, including TranServ’s obligations with respect to Confidential Information in Section 10, any information that the Reliability Coordinator may reasonably request in order to carry out its functions under the Reliability Coordinator Agreement, which agreement is included in the OATT.

1.3 TranServ Performance; Compliance.

1.3.1 Performance. TranServ, TranServ Personnel and any TranServ Designee (as defined in Section 17.5) shall perform TranServ’s obligations (including ITO Services) under this Agreement:

(a) in an independent, fair, and nondiscriminatory manner; and

(b) in accordance with:

(i) any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition (“Good Utility Practice”). Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region, including those practices required by Federal Power Act Section 2 14(a)(4);

(ii) the terms and conditions of the OATT;

(iii) all applicable laws and the requirements of federal and state regulatory authorities, including the Kentucky Public Service Commission (“KPSC”), Department of Energy (“DOE”), FERC, NERC, SERC, and the North American Electric Standards Board (“NAESB”) (collectively, “Regulatory Authorities”); and in fulfilling this requirement in this subsection (iii), TranServ will cooperate with all reasonable requests by Company for information, interviews with TranServ personnel, or other support that may be needed to investigate possible FERC, NERC or other compliance violations or prepare for or

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respond to compliance-related audits, self-certifications, and other inquiries by Regulatory Authorities (whether internal or external); and

(iv) any methodologies, processes, or procedures relating to ITO Services which Company may develop and which Company determines are necessary or appropriate to ensure safe and reliable system operations and compliance with all applicable laws and the applicable requirements of Regulatory Authorities.

1.4 Changes to ITO Services. The Parties agree that all changes to ITO Services resulting from legal and regulatory developments, as well as Company requests, shall be assessed using a change order process. This process will include a written assessment of impacts to ITO Services consistent with Section 5 of Appendix A. Changes will be implemented only after mutual execution of a change document, which may be titled a Change Order or an Amendment. If the Parties are unable to agree on whether a change constitutes a “Minor Change,” or a “Major Change,” as those terms are used in Section 5 of Appendix A, such Dispute shall be resolved in accordance with Section 3.6.

Section 2 - Independence and Standards of Conduct

2.1 TranServ Personnel. All ITO Services shall be performed by staff members of TranServ (“TranServ Personnel”) or TranServ Designees. No TranServ Personnel or TranServ Designee shall also be employed by Company or any of its Affiliates (as defined in FERC’s regulations, 18 C.F.R. § 35.34(b)(3) (2011)). TranServ, TranServ Employees, and TranServ Designees shall (i) be Independent of and (ii) shall not discriminate against Company, any of its Affiliates, or any Tariff Participant. For purposes of this Agreement: (a) “Independent” shall mean that TranServ, TranServ Personnel, and any TranServ Designees are not subject to the control of Company, its Affiliates or any Tariff Participant, and have full decision-making authority to perform all ITO Services in accordance with the provisions of this Agreement. Any TranServ Personnel or TranServ Designee owning securities in Company, its Affiliates or any Tariff Participant shall divest such securities within six (6) months of first being assigned to perform such ITO Services, provided that nothing in this Section 2.1 shall be interpreted or construed to preclude any such TranServ Personnel or TranServ Designee from indirectly owning securities issued by Company, its Affiliates or any Tariff Participant through a mutual fund or similar arrangement (other than a fund or arrangement specifically targeted toward the electric industry or the electric utility industry or any segment thereof) under which the TranServ Personnel or the TranServ Designee does not control the purchase or sale of such securities. Participation by any TranServ Personnel or TranServ Designee in a pension plan of Company, its Affiliates or any Tariff Participant shall not be deemed to be a direct financial interest if the plan is a defined-benefit plan that does not involve the TranServ Personnel’s or TranServ Designee’s ownership of the securities; and (b) “Tariff Participant” shall mean Company Transmission System customers, interconnection customers, wholesale customers, affected transmission providers, any Market Participant (as defined in FERC’s regulations, 18 C.F.R. § 35.34(b)(2) (2011)) and similarly qualified third parties within the Company Balancing Authority Area. For the avoidance of doubt, Company shall have no veto authority over the selection of TranServ Personnel or TranServ Personnel matters, including TranServ’s appointment of a TranServ Project Manager (as provided in Section 8.2) except that the Company and TranServ hereby agree that TranServ shall be

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prohibited from hiring current or former Company employees until at least one (1) year subsequent to the Company employee's separation from Company. Likewise, Company is prohibited from hiring current or former TranServ employees until one (1) year subsequent to the TranServ employee's separation from TranServ.

2.2 Standards of Conduct Treatment. All TranServ Personnel and TranServ Designees performing work under this Contract shall be treated, for purposes of the FERC's Standards of Conduct (18 C.F.R. Part 358), as transmission function employees. All restrictions relating to information sharing and other relationships between marketing function employees and transmission function employees, as those terms are defined in the Standards of Conduct, including the non-discrimination requirements contained therein, shall apply to TranServ Personnel and TranServ Designees performing work under this Contract, or likely to become privy to transmission function information. Said TranServ Personnel and TranServ Designees shall participate in any Standards of Conduct training that the Company may request for compliance purposes. TranServ shall provide prompt notice of new TranServ Personnel or TranServ Designees to Company to assure new persons are trained within the first thirty (30) days of their employment with TranServ.

Section 3 - Compensation; Billing and Payment; Performance Review

3.1 Compensation for Services. Company shall pay to TranServ an annual fee for performance of the ITO Services ("Annual Fee"). The Annual Fee (subject to increases or decreases in accordance with Section 5 of Appendix A) shall be \$2,479,543.56 for the first Contract Year and shall escalate by one and five/tenths percent (1.5%) of the prior year's Annual Fee for each Contract Year thereafter.

3.2 Out-of-Pocket Costs. Company shall reimburse TranServ for actual out-of-pocket third party costs and expenses, without markup, for (a) regulatory legal support that is reasonably allocable to TranServ's performance of ITO Services, provided that in no event shall Company reimburse TranServ for legal fees associated with any actual or potential Dispute under this Agreement, (b) travel and lodging that are reasonably allocable to TranServ's performance of ITO Services and (c) setting up regular stakeholder meetings (collectively, (a), (b) and (c) are "Out-of-Pocket Costs"); provided, however, that all Out-of-Pocket Costs subject to reimbursement under this Section 3.2 must be reviewed and approved by Company prior to TranServ incurring such expense.

3.3 Payment.

3.4.1 Monthly Payment. TranServ shall deliver to Company monthly invoices by regular mail, facsimile, electronic mail or such other means as the Parties agree. Such invoices shall set forth (i) one-twelfth (1/12) of the Annual Fee for each month in advance, and (ii) any Out-of-Pocket costs incurred during the previous month, provided however, that travel expenses occurring on the last three (3) days of each month may be carried over to future invoices for ease of administration. Company shall make payment of the amount invoiced by wire transfer in immediately available funds to an account specified by TranServ not later than the thirtieth (30th) day after receipt of the invoice,

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unless such day is not a business day, in which case on the next business day. All such payments shall be deemed made when said wire transfer is received by TransServ. Overdue payments shall accrue interest calculated at the FERC interest rate as defined in 18 C.F.R. §35.19a(2)(iii)(A) (2011) ("FERC Interest Rate").

3.4 Annual Review.

3.4.1 Annual Review. Commencing at the end of each Contract Year, no later than sixty (60) days after the end of each Contract Year, TransServ shall determine and deliver to Company a calculation of TransServ's actual labor in providing ITO Services for the preceding Contract Year ("Annual Labor"). The Annual Labor calculation shall detail the job title and number of full-time employees assigned to ITO Services, and the number of hours spent in performing ITO Services. The Annual Labor shall also include the hours for any tasks which TransServ outsourced to TransServ Designees.

3.5 Compensation Disputes. Notwithstanding the Dispute resolution provisions in Section 8.3, for any Disputes concerning compensation under this Section 3, Company shall timely file notice of such Dispute with FERC and request that FERC resolve such Dispute. TransServ retains the authority to file notice with FERC of any such Dispute if it so desires. If either Party in good faith disputes any invoice submitted by the other Party pursuant to this Agreement, then the disputing Party (i) shall timely pay the other Party the entire invoiced amount and (ii) shall furnish the other Party with a written explanation specifying the amount of and the basis for the Dispute. Within twenty (20) days after resolution of such Dispute, the Party owing money shall pay the other Party the amount owed, if any, together with interest calculated at the FERC Interest Rate.

Section 4 - Term and Termination

4.1 Term. The initial term of this Agreement shall begin on September 1, 2017 ("Commencement Date"), and shall continue for five (5) years thereafter ("Initial Term"). At the conclusion of the Initial Term, this Agreement shall automatically extend for successive one (1) year terms (each a "Subsequent Term"), unless terminated by either Party in accordance with the terms of this Agreement. Three hundred and sixty (360) days prior to the conclusion of the Initial Term either Party may notify the other, in writing, of a desire to amend terms or pricing of this Agreement for the Subsequent Terms. If such amendment is not agreed upon by both parties 180 days prior to the beginning of the first Subsequent Term, the Amendment shall not automatically extend and will terminate on the later of i) the conclusion of the Initial Term, as defined above, or ii) receipt of the regulatory approvals required under Section 4.5. The Initial Term or any Subsequent Terms are each referred to herein as a "Term." For the purposes of this Agreement, a "Contract Year" shall begin on the Commencement Date or anniversary thereof and conclude twelve (12) months thereafter.

4.2 Termination by Either Party. This Agreement may be terminated by either Party at the end of a Term upon prior one hundred eighty (180) days written notice to the other Party, which termination shall be effective upon the later of (i) one hundred eighty (180) days after the date of such written notice, or (ii) receipt of the regulatory approvals required under Section 4.5.

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4.3 Immediate Termination.

4.3.1 Termination for Cause. Subject to Section 4.5, either Party may terminate this Agreement upon prior written notice thereof to the other Party if:

- (a) Material Failure or Default. The other Party fails, in any material respect, to comply with, observe or perform, or defaults, in any material respect, in the performance of the terms and conditions of this Agreement, and such failure or default remains uncured for thirty (30) days after written notice thereof, provided that such failure or default is susceptible to cure and the other Party is exercising reasonable diligence to cure such failure or default;
- (b) Pattern of Failure. It determines, in its reasonable discretion, that there has been a pattern of failure by the other Party to comply with the standards of performance set forth in Section 1.3.1, whether or not such failure is material;
- (c) Gross Negligence, Willful Misconduct or Fraud. The other Party commits gross negligence, willful misconduct or fraud in the performance of its obligations under this Agreement;
- (d) Material Misrepresentation. Any representation made by the other Party hereunder shall be false or incorrect in any material respect when made and such misrepresentation is not cured within thirty (30) days of such discovery or written notice thereof, or is incapable of cure;
- (e) Bankruptcy. The other Party: (i) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause of action under any bankruptcy, insolvency, reorganization or similar law, or has any such petition filed or commenced against it; (ii) makes an assignment or any general arrangement for the benefit of creditors; (iii) otherwise becomes bankrupt or insolvent (however evidenced); (iv) has a liquidator, administrator, receiver, trustee, conservator or similar official appointed with respect to it or any substantial portion of its property or assets; or (v) is generally unable to pay its debts as they fall due; or
- (f) Dissolution. The other Party dissolves or is dissolved or its legal existence is otherwise terminated.

4.3.2 Immediate Termination Not For Cause. Subject to Section 4.5, Company may terminate this Agreement upon thirty (30) days prior written notice thereof to TranServ if:

- (a) Failure to Negotiate Amendment. The Parties are unsuccessful in negotiating an amendment or amendments to this Agreement pursuant to Section 17.9;

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- (b) Regulatory Changes/Modifications. A Regulatory Authority makes any material changes, modifications, additions, or deletions to this Agreement, unless both Parties agree to such changes, modifications, additions, or deletions;
- (c) Failure to Receive Regulatory Approval. Prior to the Commencement Date, FERC rejects this Agreement or Company's selection of TranServ as the ITO;
- (d) RTO. Company joins a regional transmission organization ("RTO");or
- (e) Extended Force Majeure. A Party is excused because of Force Majeure (as defined in Section 11) for more than thirty (30) days from performing any of its material obligations under this Agreement.

4.4 Termination for Lack of Independence. Subject to Section 4.5, Company may terminate this Agreement upon prior written notice thereof to TranServ if FERC or the KPSC issues a final order that declares that TranServ lacks independence from Company and TranServ cannot obtain independence in a reasonable manner or time period.

4.5 Regulatory Approval. No termination of this Agreement shall be effective until approved by FERC and the KPSC. Notice of termination provided pursuant to Sections 4.3 and 4.4 shall become effective immediately upon approval by FERC and the KPSC.

4.6 Return of Materials. Upon any termination of this Agreement TranServ shall timely and in an orderly manner turn over to Company all materials that were prepared or developed pursuant to this Agreement prior to termination, and return or destroy, at the option of Company, all Data and other information supplied by Company to TranServ or created by TranServ on behalf of Company.

4.7 Survival. All provisions of this Agreement which are by their nature or terms intended to survive the termination of this Agreement, including the obligations set forth in Section 7 and Section 10, shall survive termination of this Agreement.

4.8 Compensation for Early Termination.

4.8.1 If Company terminates this Agreement before the end of a Term pursuant to Section 4.3.2 (a), (b), (d) or (e), then Company shall pay to TranServ the Annual Fee(s) through the longer of the end of the Contract Year or for six (6) months subsequent to the date of termination, which fees shall be accelerated hereunder for this purpose, plus any unpaid Out-of-Pocket Costs that TranServ has incurred through the date of any such termination. In the event that this Section 4.8.1 should trigger an acceleration of Annual Fee(s) that would otherwise span multiple years, such fees paid by Company to TranServ shall not include any escalation of one and five/tenths percent (1.5%) as described in Section 3.1 that had not yet been previously applied to the Annual Fee(s).

4.8.2 If Company terminates this agreement before the end of the Term, and such termination is for cause pursuant to Section 4.3.1, then Company shall only be liable for

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TranServ's Out-of-Pocket Costs incurred pursuant to contracts which extend beyond any early termination date.

4.9 Post-Termination Services. Commencing on the date that any termination becomes effective ("Termination Date") and continuing for up to one hundred eighty (180) days thereafter, TranServ shall (a) provide ITO Services (and any replacements thereof or substitutions therefor), to the extent Company requests such ITO Services to be performed, and (b) cooperate with Company in the transfer of ITO Services (collectively, the "Post-Termination Services") as such services are authorized under a separate agreement between the Parties. TranServ shall, upon Company's request, provide the Post-Termination Services at a cost to be negotiated and mutually agreed to at that time. The quality and level of performance of ITO Services by TranServ shall not diminish. After the expiration of the Post-Termination Services, TranServ shall answer questions from Company regarding ITO Services on an "as needed" basis at TranServ's then-standard billing rates.

4.10 Termination for Guaranty Termination. A guaranty with Open Access Technology International, Inc., in favor of Company and with TranServ as a counterparty was executed (November 29, 2016) (hereinafter "the Guaranty"). Subject to Section 4.5, Company may terminate this Agreement if the Guaranty is terminated and TranServ does not provide a replacement Guaranty determined, by Company, to be satisfactory.

Section 5 - Data Management and Intellectual Property

5.1 Supply of Data. During the Term, Company shall supply to TranServ, and/or grant TranServ access to all Data that TranServ requests and that TranServ believes is necessary to perform its duties and obligations under this Agreement, including ITO Services. The Parties shall agree upon the initial format and manner in which such Data shall be provided. For purposes of this Agreement, "Data" means all information, text, drawings, diagrams, models, images or sounds which are embodied in any electronic or tangible medium and which (a) are supplied or in respect of which access is granted to TranServ by Company under this Agreement, which shall be Company's Data, (b) are prepared, stored or transmitted by TranServ solely on behalf of Company, which shall be Company's Data; or (c) are compiled by TranServ by aggregating Data owned by Company and Data owned by third parties, which shall be TranServ's Data.

5.2 Property of Each Party. Each Party acknowledges that the other Party's Data and the other Party's software, base data models and operating procedures for software or base data models ("Processes") are the property of such other Party and agrees that it will do nothing inconsistent with such ownership, including preserving all intellectual property and/or proprietary rights in such other Party's Data and Processes as provided in Section 6.

5.3 Data Integrity. Each Party shall reasonably assist the other Party in establishing measures to preserve the integrity and prevent any corruption or loss of Data, and the Parties shall reasonably assist each other in the recovery of any corrupted or lost Data. Each Party shall

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reasonably retain and preserve any of the other Party's Essential Data that are supplied to it during the Term. "Essential Data" means any Data that is reasonably required to perform ITO Services under this Agreement and that must be retained and preserved according to any applicable law, regulation, reliability criteria, or Good Utility Practice. Each Party shall exercise commercially reasonable efforts to preserve the integrity of the other Party's Data that are supplied to it during the Term, in order to prevent any corruption or loss of the other Party's Data.

5.4 Confidentiality. Each Party's Data shall be treated as Confidential Information in accordance with the provisions of Section 10.

Section 6 - Intellectual Property.

6.1 Ownership. All inventions, discoveries, processes, methods, designs, drawings, blueprints, information, works of authorship, or the like, whether or not patentable or copyrightable (collectively, "Intellectual Property"), which TranServ first conceives, develops, or begins to develop, either alone or in conjunction with Company or others, with respect to ITO Services under this Agreement, shall be jointly owned by Company and TranServ, and each party shall have the right to use such intellectual property unless specifically otherwise specified on a change document hereunder.

6.2 Royalties and License Fees. Unless the Parties otherwise agree in writing, TranServ shall procure and pay all royalties and license fees which may be payable on account of ITO Services or any part thereof. In case any part of ITO Services is held in any suit to constitute infringement and its use is enjoined, TranServ within a reasonable time shall, at the election of Company and as Company's exclusive remedy hereunder, either (a) secure for Company the perpetual right to continue the use of such part of ITO Services by procuring for Company a royalty-free license or such other permission as will enable TranServ to secure the suspension of any injunction, or (b) replace at TranServ's own expense such part of ITO Services with a non-infringing part or modify it so that it becomes non-infringing (in either case with changes in functionality that are acceptable to Company).

Section 7 - Indemnification and Limitation of Liability

7.1 Company Indemnification. Subject to the limitations specified in Section 7.6, Company shall indemnify, release, defend, reimburse and hold harmless TranServ and its directors, officers, employees, principals, representatives and agents (collectively, the "TranServ Indemnified Parties") from and against any and all third party claims (including claims of bodily injury or death of any person or damage to real and/or tangible personal property), demands, liabilities, losses, causes of action, awards, fines, penalties, litigation, administrative proceedings and investigations, costs and expenses, and attorney fees, (each, an "Indemnifiable Loss") asserted against or incurred by any of the TranServ Indemnified Parties arising out of, resulting from or based upon TranServ performing its obligations pursuant to this Agreement, provided, however, that in no event shall Company be obligated to indemnify, release, defend, reimburse or hold harmless the TranServ Indemnified Parties from and against any Indemnified Loss which

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is caused by the negligence, the gross negligence or willful misconduct of any TranServ Indemnified Party.

7.2 TranServ Indemnification. Subject to the limitations specified in Section 7.6, TranServ shall indemnify, release, defend, reimburse and hold harmless Company and its directors, officers, employees, principals, representatives and agents (collectively, the “Company Indemnified Parties”) from and against any and all Indemnifiable Losses asserted against or incurred by any of the Company Indemnified Parties arising out of, resulting from or based upon TranServ’s or a TranServ Designee’s negligence, gross negligence, or willful misconduct, provided, however, that in no event shall TranServ be obligated to indemnify, release, defend, reimburse or hold harmless any Company Indemnified Parties from and against any Indemnified Loss which is caused by the negligence, gross negligence or willful misconduct of any Company Indemnified Party.

7.3 Regulatory Indemnification. Subject to the limitations specified in Section 7.6, TranServ shall indemnify, release, defend, reimburse and hold harmless any Company Indemnified Parties from and against all regulatory penalties and sanctions (including penalties or sanctions levied by a Regulatory Authority) arising out of, resulting from or based upon TranServ breach of this Agreement, specifically including Section 1.3.1 hereto, provided, however, that in no event shall TranServ be obligated to indemnify, release, defend, reimburse or hold harmless any Company Indemnified Parties from and against any penalty or sanction which is caused by the gross negligence or willful misconduct of any Company Indemnified Party.

7.4 Cooperation Regarding Claims. If an Indemnified Party (which for purposes of this Section 7.4 shall mean an TranServ Indemnified Party or a Company Indemnified Party) receives notice or has knowledge of any Indemnifiable Loss that may result in a claim for indemnification by such Indemnified Party against an Indemnifying Party (which for purposes of this Section 7.4 shall mean Company or TranServ) pursuant to this Section 7, such Indemnified Party shall as promptly as possible give the Indemnifying Party written notice of such Indemnifiable Loss, including a reasonably detailed description of the facts and circumstances relating to such Indemnifiable Loss, a complete copy of all notices, pleadings and other papers related thereto, and in reasonable detail the basis for its claim for indemnification with respect thereto. Failure to promptly give such written notice or to provide such information and documents shall not relieve the Indemnifying Party from the obligation hereunder to respond to or defend the Indemnified Party against such Indemnifiable Loss unless and only to the extent such failure shall materially diminish the ability of the Indemnifying Party to respond to or to defend the Indemnified Party against such Indemnifiable Loss. Except for indemnification for penalties and sanctions under Section 7.3, the Indemnifying Party, upon its acknowledgment in writing of its obligation to indemnify the Indemnified Party in accordance with this Section 7, shall be entitled to assume the defense or to represent the interest of the Indemnified Party with respect to such Indemnifiable Loss, which shall include the right to select and direct legal counsel and other consultants, appear in proceedings on behalf of such Indemnified Party and to propose, accept or reject offers of settlement, all at its sole cost. If and to the extent that the defense or settlement of any Indemnifiable Loss is reasonably likely to involve injunctive, equitable or prospective relief or materially and adversely affect the Indemnified Party’s business or operations other than as a result of money damages or other money payments assumed by the Indemnifying Party, then

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such defense or settlement will be subject to the reasonable approval of the Indemnified Party. Nothing herein shall prevent an Indemnified Party from retaining its own legal counsel and other consultants and participating in its own defense at its own cost and expense.

7.5 Release and Indemnification Regarding Liens. TranServ hereby releases and/or waives for itself and its successors in interest, and for all TranServ Designees and their successors in interest, any and all claims or right of mechanics or any other type of lien to assert and/or file upon Company's or any other party's property or any part thereof as a result of performing ITO Services. TranServ shall execute and deliver to Company such documents as may be required by applicable laws (*i.e.*, partial and/or final waivers of liens and/or affidavits of indemnification) to make this release effective and shall give all required notices to TranServ Designees with respect to ensuring the effectiveness of the foregoing releases against those parties. TranServ shall secure the removal of any lien that TranServ has agreed to release in this Section 7.5 within five (5) working days of receipt of written notice from Company to remove such lien. If not timely removed, Company may remove the lien and charge all costs and expenses including legal fees (for inside and/or outside legal counsel) to TranServ including, without limitation, the costs of bonding off such lien. Company, in its sole discretion, expressly reserves the right to off-set and/or retain any reasonable amount due to TranServ from payment of any one or more of TranServ's invoices upon Company having actual knowledge of any threatened and/or filed liens and/or encumbrances that may be asserted and/or filed by any TranServ Designee and/or third party with respect to the ITO Services, with final payment being made by Company only upon verification that such threatened and/or filed liens and/or encumbrances have been irrevocably satisfied, settled, resolved and/or released (as applicable), and/or that any known payment disputes concerning the ITO Services involving TranServ and any TranServ Designees have been resolved so that no actions, liens and/or encumbrances of any kind or nature will be filed against Company and/or Company's property.

7.6 Limitation of Liability. Other than as provided in Section 7.3, neither Party shall be liable to the other for any special, punitive, or consequential damages arising out of ITO Services, even if advised of the possibility of such damages. Company agrees that ITO Services are not consumer goods for purposes of international, U.S. Federal or U.S. state warranty laws. Indemnification pursuant to Sections 7.1, 7.2, and 7.3, as well as any direct damages to Company arising out of a material breach of this Agreement shall be limited in the aggregate to the total amount of fees actually paid by Company to TranServ under this Agreement through the date that any penalty or judgment is assessed.

Section 8 - Contract Managers; Dispute Resolution

8.1 Company Contract Manager. Company shall appoint an individual (the "Company Contract Manager") who shall serve as the primary Company representative under this Agreement. The Company Contract Manager shall (a) have overall responsibility for managing and coordinating the performance of Company's obligations under this Agreement, and (b) be authorized to act for and on behalf of Company with respect to all matters relating to this Agreement. Notwithstanding the foregoing, the Company Contract Manager may, upon written notice to TranServ, delegate such of his or her responsibilities to other Company employees, as the Company Contract Manager deems appropriate.

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8.2 TranServ Project Manager. TranServ shall appoint, among TranServ Personnel, an individual (the "TranServ Project Manager") who shall serve as the primary TranServ representative under this Agreement. The TranServ Project Manager shall have overall responsibility for managing and coordinating the performance of TranServ obligations under this Agreement. Notwithstanding the foregoing, the TranServ Project Manager may, upon written notice to Company, delegate such of his or her responsibilities to other TranServ Personnel, as the TranServ Project Manager deems appropriate.

8.3 Resolution of Disputes. Any dispute, claim or controversy between the Parties arising out of or relating to this Agreement (each, a "Dispute") shall be resolved in accordance with the procedures set forth in this Section 8.3; provided, however, that this Section 8.3 shall not apply to Disputes arising from or relating to (a) the amount of compensation to be paid by Company pursuant to Section 3.1, which shall be resolved pursuant to Section 3.6, (b) confidentiality or intellectual property rights, in which case either Party shall be free to seek available legal or equitable remedies, or (c) alleged violations of the OATT, in which case either Party shall be free to bring the Dispute to FERC.

8.3.1 Notice of Dispute. Each Party shall provide written notice to the other party of any Dispute, including a description of the nature of the Dispute.

8.3.2 Dispute Resolution by Contract Managers. Any Dispute shall first be referred to the Company Contract Manager and TranServ Project Manager, who shall negotiate in good faith to resolve the Dispute.

8.3.3 Dispute Resolution by Executive Management Representatives. If the Dispute is not resolved within fifteen (15) calendar days of being referred to the Company Contract Manager and the TranServ Project Manager pursuant to Section 8.3.2, then each Party shall have five (5) calendar days to appoint an executive management representative who shall negotiate in good faith to resolve the Dispute.

8.3.4 Binding Arbitration. If the Dispute is not resolved within ten (10) calendar days of being referred to executive management representatives, and the amount in dispute or potential damages exceeds \$250,000 USD, the Parties shall proceed in good faith to submit immediately the matter to binding arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("AAA") as they may be amended from time to time (the "Arbitration Rules") subject to the following conditions:

(a) The Parties shall give due consideration to using the Expedited Procedures under the Arbitration Rules in any case in which no disclosed claim or counterclaim exceeds \$75,000, exclusive of interest and arbitration fees and costs.

(b) The Parties agree that three arbitrators will be used. Each Party will directly appoint one arbitrator of its choosing from a list of members from the National Roster (as that term is used in the Arbitration Rules) provided by the AAA pursuant to R-12, within ten (10) Days after receipt of such names. The two arbitrators so appointed shall select a third arbitrator from the National Roster to serve as chairperson.

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- (c) “Baseball” arbitration (in which each Party presents a proposed award or resolution and the actual award must be one of the two submitted), or close variants thereof, shall not be used.
- (d) The arbitrators have no authority to appoint or retain expert witnesses for any purpose unless agreed to by the Parties.
- (e) All arbitration fees and costs shall be borne equally, regardless of which Party prevails.
- (f) Each Party shall bear its own costs of legal representation and witness expenses, unless the arbitrator(s) determines that one Party should bear some or all of the costs of legal representation and witness expenses of the other Party.
- (g) The Parties waive any right of appeal or recourse to any court except to compel arbitration, to compel the appointment of arbitrators, to stay judicial proceedings pending arbitration, for an injunction pending determination by the arbitrators, for disqualification of arbitrators, for aid in furtherance of arbitration, to confirm the award, to enforce any judgment confirming the award, or in circumstances of fraud or failure to disclose information or documents required by the arbitrators.
- (h) The decision or award of a majority of the arbitrators shall govern. The decision or award of the arbitrators shall be final and binding upon the Parties to the same extent and to the same degree as if the matter had been adjudicated by a court of competent jurisdiction and shall be enforceable under the Federal Arbitration Act and applicable states’ laws.

8.3.5 Rights and Remedies. If the Dispute is not resolved within ten (10) calendar days of being referred to executive management representatives, and the amount in dispute or potential damages does not exceed \$250,000 USD, each Party is free to pursue any rights or remedies it may have at law or equity.

8.4 Rights Under FPA Unaffected. Except as provided in Section 17.2 relating to the variation or amendment of this Agreement, nothing in this Agreement is intended to limit or abridge any rights that Company may have to file or make application before FERC under Section 205 of the Federal Power Act to revise any rates, terms or conditions of the OATT.

8.5 Statute of Limitations; Continued Performance. The Parties agree to waive the applicable statute of limitations during the period of time that the Parties are seeking to resolve a Dispute pursuant to Section 8.3, and the statute of limitations shall be tolled for such period. The Parties shall continue to perform their obligations under this Agreement during the resolution of a Dispute.

Section 9 - Insurance

9.1 TranServ’s Insurance Obligation. During the Term, TranServ shall provide and maintain, and shall require TranServ Designees to provide and maintain, the following insurance (and,

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except with regard to Workers' Compensation, naming Company as additional insured and waiving rights of subrogation against Company and Company's insurance carrier(s)), and TranServ shall submit evidence of such coverage(s) of TranServ and any TranServ Designees to Company prior to the start of ITO Services. Furthermore, TranServ shall notify Company, prior to the commencement of ITO Services, of any threatened, pending and/or paid off claims to third parties, individually or in the aggregate, which otherwise affects the availability of the limits of such coverage(s) inuring to the benefit of Company as hereinafter specified:

9.1.1 Workers' Compensation and Employer's Liability Policy, which shall include provisions required by applicable law in the jurisdiction of location of workers.

9.1.2 Employer's Liability (Coverage B) with limits of One Million Dollars (\$1,000,000) Bodily Injury by Accident, each Accident, \$1,000,000 Bodily Injury by Disease, each Employee, and including:

- (a) a thirty (30) day cancellation clause; and
- (b) broad form all states endorsement.

9.1.3 Commercial General Liability Policy, which shall have minimum limits of One Million Dollars (\$1,000,000) each occurrence; One Million Dollars (\$1,000,000) Products/Completed Operations Aggregate each occurrence; One Million Dollars (\$1,000,000) Personal and Advertising Injury each occurrence, in all cases subject to Two Million Dollars (\$2,000,000) in the General Aggregate for all such claims, and including:

- (a) a thirty (30) day cancellation clause;
- (b) Blanket Written Contractual Liability to the extent covered by the policy against liability assumed by TranServ under this Agreement; and
- (c) Broad Form Property Damage.

9.1.4 Commercial Automobile Liability Insurance covering the use of all owned, non-owned, and hired automobiles, with a bodily injury, including death, and property damage combined single minimum limit of One Million Dollars (\$1,000,000) each occurrence with respect to TranServ's vehicles assigned to or used in performance of ITO Services under this Agreement.

9.1.5 Umbrella/Excess Liability Insurance with minimum limits of Two Million Dollars (\$2,000,000) per occurrence; Two Million Dollars (\$2,000,000) aggregate, to apply to employer's liability, commercial general liability, and automobile liability.

9.1.6 To the extent applicable, if engineering or other professional services will be separately provided by TranServ as specified in Appendix A, then Professional Liability Insurance with limits of Three Million Dollars (\$3,000,000) per occurrence and Three Million Dollars (\$3,000,000) in the aggregate, which insurance shall be either on an

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occurrence basis or on a claims made basis (with a retroactive date satisfactory to Company).

9.2 Quality of Insurance Coverage. The above policies to be provided by TranServ shall be written by insurance companies which are both licensed to do business in the state where ITO Services will be performed and either satisfactory to Company or having a Best Rating of not less than "A-". These policies shall not be materially changed or canceled except with thirty (30) days written notice to Company from TranServ and the insurance carrier. Evidence of coverage, notification of cancellation or other changes shall be mailed to: Attention: Manager, Supply Chain, LG&E and KU Services Company, P.O. Box 32020, Louisville, Kentucky 40232.

9.3 Implication of Insurance. Company reserves the right to request and receive a summary of coverage of any of the above policies or endorsements; however, Company shall not be obligated to review any of TranServ's certificates of insurance, insurance policies, or endorsements, or to advise TranServ of any deficiencies in such documents. Any receipt of such documents or their review by Company shall not relieve TranServ from or be deemed a waiver of Company's rights to insist on strict fulfillment of TranServ's obligations under this Agreement.

9.4 Other Notices. TranServ shall provide written notice of any accidents or claims in connection with ITO Services or this Agreement to Company's Manager, Risk Management at LG&E and KU Services Company, P.O. Box 32030, Louisville, Kentucky 40232.

Section 10 - Confidentiality

10.1 Definition of Confidential Information. For purposes of this Agreement, "Confidential Information" shall mean, in respect of each Party, all information and documentation of such Party, whether disclosed to or accessed by the other Party in connection with this Agreement and which is identified as Confidential Information, or which otherwise would be treated as confidential by the recipient, including confidential information provided by third-parties; provided, however, that the term "Confidential Information" shall not include information that: (a) is independently developed by the recipient, as demonstrated by the recipient's written records, without violating the disclosing Party's proprietary rights; (b) is or becomes publicly known (other than through unauthorized disclosure); (c) is disclosed by the owner of such information to a third party free of any obligation of confidentiality; (d) is already known by the recipient at the time of disclosure, as demonstrated by the recipient's written records, and the recipient has no obligation of confidentiality other than pursuant to this Agreement or any confidentiality agreements between the Parties entered into before the Commencement Date; or (e) is rightfully received by a Party free of any obligation of confidentiality.

10.2 Protection of Confidential Information. All Confidential Information shall be held in confidence by the recipient to the same extent and in at least the same manner as the recipient protects its own Confidential Information, and such Confidential Information shall be used only for purposes of performing obligations under this Agreement. Except as otherwise provided in Section 10.3, neither Party shall disclose, publish, release, transfer or otherwise make available Confidential Information of, or obtained from, the other Party in any form to, or for the use or

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benefit of, any person or entity without the owner of such information's prior written consent. Each Party shall be permitted to disclose relevant aspects of the other Party's Confidential Information to its officers, directors, agents, professional advisors, contractors, subcontractors (including TranServ Designees) and employees and to the officers, directors, agents, professional advisors, contractors, subcontractors and employees of its Affiliates (collectively, "Representatives"), to the extent that such disclosure is reasonably necessary for the performance of its duties and obligations or the determination, preservation or exercise of its rights and remedies under this Agreement; provided, however, that the recipient shall take all reasonable measures to ensure that Confidential Information is not disclosed or duplicated in contravention of the provisions of this Agreement by such officers, directors, agents, professional advisors, contractors, subcontractors and employees. Recipient agrees to be liable for the wrongful actions of its Representatives under this Section 10.2. The obligations in this Section 10 shall not restrict any disclosure pursuant to any Regulatory Authority if such release is necessary to comply with valid laws, governmental regulations or final orders of regulatory bodies or courts; provided that, other than in respect of disclosures pursuant to Section 10.3, the recipient shall give prompt written notice to the disclosing Party in reasonable time to exercise whatever legal rights the disclosing Party may have to prevent or limit such disclosure. Further, the recipient shall cooperate with the disclosing Party in preventing or limiting such disclosure.

10.3 Regulatory Requests for Confidential Information. Notwithstanding anything in this Section 10 to the contrary, if a Regulatory Authority or its staff, during the course of an investigation or otherwise, requests Confidential Information from TranServ, TranServ shall provide the requested Confidential Information to the requesting Regulatory Authority or its staff within the time provided for in the request for information. In providing the Confidential Information to a Regulatory Authority or its staff, TranServ shall, consistent with 18 C.F.R. § 388.112 (2011) or any other applicable confidentiality regulation, request that the Confidential Information be treated as confidential and non-public by the Regulatory Authority and its staff and that the information be withheld from public disclosure. TranServ shall notify Company when it is notified by the Regulatory Authority or its staff that a request for public disclosure of, or decision to publicly disclose, Confidential Information has been received, at which time either TranServ or Company may respond before such Confidential Information is made public, pursuant to 18 C.F.R. § 388.112 or the applicable confidentiality regulation.

Section 11 - Force Majeure.

11.1 Force Majeure. Neither Party shall be liable to the other Party for any failure or delay of performance hereunder due to an event which (i) is not reasonably foreseeable or within the reasonable control of the Party claiming Force Majeure (the "Claiming Party") or any Person over which the Claiming Party has control, (ii) was not caused by the acts, omissions, negligence, fault or delays of the Claiming Party or any person over whom the Claiming Party has control, (iii) is not an act, event or condition the risks or consequences of which the Claiming Party has expressly agreed to assume pursuant to this Agreement, and (iv) by the prompt exercise of due diligence, the Claiming Party is unable to overcome or avoid or cause to be avoided (collectively, (i) - (iv) are "Force Majeure"). Force Majeure shall include: acts of God; acts of the public enemy, war, hostilities, invasion, insurrection, riot, civil disturbance, or order of any competent civil or military government; explosion or fire; strikes or lockouts or other industrial

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action (excluding those of the Claiming Party unless such action is part of a wider industrial dispute materially affecting other employers); labor or material shortage; malicious acts, vandalism or sabotage; action or restraint by court order of any public or governmental authority (so long as the Claiming Party has not applied for or assisted in the application for, and has opposed where and to the extent reasonable, such government action). Neither Party shall be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to Force Majeure, except for the obligation to pay any amount when due, provided that the Claiming Party:

11.1.1 gives prompt written notice to the other Party of the event or circumstance giving rise to the event of Force Majeure;

11.1.2 affords the other Party reasonable access to information about the event or circumstances giving rise to the event of Force Majeure;

11.1.3 takes commercially reasonable steps to restore its ability to perform its obligations hereunder as soon as reasonably practicable, provided that the Claiming Party shall not be obligated to take any steps that are not otherwise in accordance with Good Utility Practice; and

11.1.4 exercises commercially reasonable efforts to perform its obligations hereunder.

Section 12 - Reporting; Audit.

12.1 Regulatory Reporting.

12.1.1 TranServ shall have the authority to report in writing to FERC in respect of any compensation-related Dispute that arises between TranServ and Company pursuant to Section 3.6.

12.1.2 TranServ shall report in writing to FERC every six (6) months (commencing on the six (6) month anniversary of the Commencement Date and every six (6) months thereafter during the Term) in respect of (a) any concerns expressed by stakeholders and TranServ's response to same and (b) any issues or OATT provisions that hinder TranServ from performing its duties and obligations under this Agreement and the OATT.

12.1.3 In addition to the reports provided for above, TranServ shall make such other reports to Regulatory Authorities as may be required by applicable law and regulations or as may be requested by such Regulatory Authorities.

12.2 Books and Records. TranServ shall maintain full and accurate books and records pertinent to this Agreement, and TranServ shall maintain such books and records for a minimum of five (5) years following the expiration or early termination of this Agreement or longer if necessary to resolve a pending Dispute. Company will have the right, at reasonable times and under reasonable conditions, to inspect and audit, or have an independent third party inspect and audit, TranServ's operations, books, and records (a) to ensure compliance with this Agreement, including TranServ's performance of ITO Services in accordance with Section 1.3.1, (b) to

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verify any cost claims or other amounts due hereunder, and (c) to validate TranServ's internal controls with respect to the performance of ITO Services. TranServ shall maintain an audit trail, including all original transaction records and timekeeping records, of all financial and non-financial transactions and activities resulting from or arising in connection with this Agreement as may be necessary to enable Company or the independent third party, as applicable, to perform the foregoing activities. Company shall be responsible for any costs and expenses incurred in connection with any such inspection or audit, unless such inspection or audit discovers that Company was charged inappropriate or incorrect costs and expenses, in which case, TranServ shall be responsible for a percentage of the costs and expenses incurred in connection with such inspection or audit equal to the percentage variance by which Company was charged inappropriate or incorrect costs and expenses. TranServ shall provide reasonable assistance necessary to enable Company or an independent third party, as applicable, to perform the foregoing activities and shall not be entitled to charge Company for any such assistance. Amounts incorrectly or inappropriately invoiced by TranServ to Company, whether discovered prior to or subsequent to payment by Company, shall be adjusted or reimbursed to Company by TranServ within twenty (20) days of notification by Company to TranServ of the error in the invoice.

Section 13 - Independent Contractor

13.1 TranServ, in performing ITO Services, shall not act as an agent or employee of Company, but shall be and act as an independent contractor and, except as established in Section 1.3.1, shall be free to perform ITO Services by such methods and in such manner as TranServ may choose, doing everything necessary to perform such ITO Services properly and safely and having supervision over and responsibility for the safety and actions of its employees and the suitability of its equipment. TranServ Personnel and TranServ Designees shall not be deemed to be employees and/or agents of Company. TranServ agrees that if any portion of ITO Services are subcontracted to TranServ Designees, such TranServ Designees shall be bound by and observe the conditions of this Agreement to the same extent as required of TranServ. In such event, Company strongly encourages the use of Minority Business Enterprises, Women Business Enterprises and Disadvantaged Business Enterprises, as defined under federal law and as certified by a certifying agency that Company recognizes as proper.

13.2 Notwithstanding any provision in this Agreement to the contrary, unless approved in writing by Company, TranServ shall not (and shall not permit any TranServ Personnel or TranServ Designee to):

13.2.1 Sell, lease, pledge, mortgage, encumber, convey, or make any license, exchange or other transfer, assignment or disposition of any property or assets of Company;

13.2.2 Enter into, amend, terminate, modify or supplement any contract or agreement (including any labor or collective bargaining agreement) on behalf, or in the name, of Company;

13.2.3 Except upon the approval of Company or pursuant to the direction of Company, take any action that would, to TranServ's knowledge: (a) invalidate any warranty that

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runs to Company under any contract or agreement; or (b) release any person or entity from its obligations under any contract or agreement with Company;

13.2.4 Make any warranty or representation on behalf of Company;

13.2.5 Except as contemplated under Section 7.4, settle, compromise, assign, pledge, transfer, release or consent to the compromise, assignment, pledge, transfer or release of any claim, suit, debt, demand or judgment against or due by Company, or submit any such claim, dispute or controversy to arbitration or judicial process, or stipulate in respect thereof to a judgment, or consent to the same;

13.2.6 Pledge the credit of Company in any way in respect of any commitments for which it has not received express written authorization from Company; or

13.2.7 Engage in any other transaction on behalf of Company not permitted under this Agreement.

Section 14 - Taxes.

Each Party shall be responsible for the payment of its own taxes, including taxes based on its net income, employment taxes of its employees, taxes on any property it owns or leases, and sales, use, gross receipts, excise, value-added or other transaction taxes. Sales and/or use taxes, that become applicable to services performed within Minnesota, shall be added to TranServ fees and compensation otherwise herein described.

Section 15 - Notices.

15.1 Notices. All notices, requests, consents and other communications required or permitted hereunder shall be in writing, signed by the Party giving such notice or communication, and shall be deemed given: (a) upon receipt, when mailed by U.S. certified mail, postage prepaid, return receipt requested; or (b) upon the next business day, when sent by overnight delivery, postage prepaid using a recognized courier service.

If to Company:

LG&E/KU
VP, Transmission
220 West Main St
PO Box 32010
Louisville, KY 40232

If to TranServ:

TranServ International, Inc.
Contracts Administration

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3660 Technology Drive NE
Minneapolis, MN 55418

15.2 Changes. Either Party may, from time to time, change the names, addresses, facsimile numbers or other notice information set out in Section 15.1 by notice to the other Party in accordance with the requirements of Section 15.1.

Section 16 - Personnel and Work Conditions; NERC Requirements.

16.1 Applicable Laws and Safety. TranServ agrees to protect TranServ Personnel and TranServ Designees and be responsible for their performance of the ITO Services, and to protect Company's facilities, property, employees and third parties from damage or injury. TranServ shall at all times be solely responsible for complying with any and all applicable laws and facility rules relating to health and safety, in connection with ITO Services and for obtaining (but only as approved by Company) all permits and approvals necessary to perform ITO Services. Without limiting the foregoing, TranServ agrees to strictly abide by and observe all standards of the Occupational Safety & Health Administration ("OSHA") which are applicable to ITO Services, as well as Company's Contractor Code of Business Conduct and Company's Contractor/Subcontractor Safety Policy which are both hereby incorporated by reference (Contractor hereby acknowledges receipt of a copy of such Company's Contractor Code of Business Conduct and Company's Contractor/Subcontractor Safety Policy) and any other rules and regulations of the Company, all of which are provided to TranServ in writing and incorporated herein by reference. TranServ also agrees to review in good faith and execute any amendments and/or modifications that may be issued in the future by Company from time to time, with respect to Company's Contractor Code of Business Conduct and/or any of its related policies which are the subject of this Section 16, provided however, that TranServ shall not be obliged by such requirement if the requirements conflicts with an alternate regulatory code of conduct imposed on TranServ. In the event TranServ subcontracts any of ITO Services to a TranServ Designee, TranServ shall notify Company in writing of the identity of TranServ Designee before utilizing TranServ Designee. TranServ shall require any TranServ Designees to complete the safety and health questionnaire and checklists provided by Company and shall provide a copy of such documents to Company upon request. TranServ shall conduct, and require such TranServ Designees to conduct, safety audits and job briefings during performance of ITO Services as applicable. In the event such TranServ Designee has no procedure for conducting safety audits and job briefings, TranServ shall include TranServ Designee in its safety audits and job briefings. All applicable safety audits shall be documented in writing by TranServ and such TranServ Designees. TranServ shall provide documentation of any and all audits identifying safety deficiencies and concerns and corrective action taken as a result of such audits to Company semi-monthly. TranServ further specifically acknowledges, agrees and warrants that TranServ has complied, and shall at all times during the term of this Agreement, comply in all respects with all laws, rules and regulations relating to the employment authorization of TranServ Personnel including, but not limited to, the Immigration Reform and Control Act of 1986, as amended, and the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, whereby TranServ certifies to Company that TranServ

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has (a) properly maintained, and shall at all times during the term of this Agreement properly maintain all records required by Immigration and Customs Enforcement, such as the completion and maintenance of the Form I-9 for each TranServ employee; (b) that TranServ maintains and follows an established policy to verify the employment authorization of TranServ Personnel; (c) that TranServ has verified the identity and employment eligibility of all TranServ Personnel in compliance with all applicable laws; and (d) that TranServ is without knowledge of any fact that would render any TranServ Personnel or TranServ Designee ineligible to legally work in the United States. TranServ further acknowledges, agrees and warrants that any TranServ Designee shall be required to agree to these same terms as a condition to being awarded any subcontract for such ITO Services.

16.2 Hazards and Training. TranServ shall furnish adequate numbers of trained, qualified, and experienced TranServ Personnel suitable for performance of ITO Services. Such TranServ Personnel shall be skilled and properly trained to perform ITO Services and recognize all hazards associated with ITO Services. Without limiting the foregoing, TranServ shall participate in any safety orientation or other of Company's familiarization initiatives related to safety and shall strictly comply with any monitoring initiatives as determined by Company.

16.3 Drug and Alcohol. TranServ shall develop and strictly comply with any and all drug and alcohol testing requirements as required by applicable laws. TranServ shall provide Company with a copy of its drug and alcohol testing requirements.

16.4 NERC Reliability Standards. The following additional provisions shall apply to the extent TranServ's performance of ITO Services requires physical or electronic access to areas or assets which are located within physical security perimeters as defined by NERC's Reliability Standards for the Bulk Electric Systems of North America (collectively, the "NERC Standards"), including without limitation any Company data center or control center. In the event of TranServ's non-compliance with the NERC Standards referenced in this Section 16.4, Company shall notify TranServ in writing of the non-compliance and specify appropriate remedial actions.

16.4.1 Information Protection. Without compromising the confidentiality provisions in Section 10, TranServ shall at all times comply with the Company's information protection program(s) as defined by CIP-003, R4. Among the information protected by this program are: (i) all operational procedures; (ii) lists of critical cyber assets; (iii) network topology or similar diagrams; (iv) floor plans of computing centers that contain critical cyber assets; (v) equipment layouts of critical cyber assets; (vi) disaster recovery plans; (vii) incident response plans; and (viii) security configuration information. TranServ shall protect this protected information from disclosure consistent with the program.

16.4.2 Access Revocation. TranServ shall immediately advise appropriate Company's management if any TranServ Personnel or TranServ Designees who have key card access to a Company restricted area or electronic access to a protected system no longer require such access.

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16.4.3 Training. If any TranServ Personnel require key card access to a Company restricted area or electronic access to a protected system, TranServ shall ensure that such personnel complete, and retake as requested, all necessary NERC training as requested by Company.

16.4.4 Personnel Risk Assessment. If any TranServ Personnel require key card access to a Company restricted area or electronic access to a protected system, TranServ shall ensure that Company receives necessary waivers and information from TranServ Personnel to complete, and repeat as necessary, such background checks as requested by Company.

16.4.5 Continuing Obligations. TranServ further acknowledges that its compliance with the NERC Standards referenced in this Section 16.4 is a continuing obligation during and after the Term. Upon written notice to TranServ, Company shall have the absolute right to audit and inspect any and all information regarding TranServ's compliance with this Section 16.4, and/or to require confirmation of the destruction of any documentation received from or regarding Company. TranServ is encouraged to contact Company's Compliance Department pursuant to Section 16.5 to ensure TranServ understands and complies with this Section 16.4.

16.5 Compliance Department. The Company has a Compliance Department. Should TranServ have actual knowledge of violations of any of the herein stated policies of conduct in this Section 16, or in standards of performance detailed in Section 1.3.1, or have a reasonable basis to believe that such violations have occurred, whether by TranServ Personnel or a TranServ Designee, TranServ has an affirmative obligation to immediately report, at least on an anonymous basis, any such known violations to the Company's Office of Compliance in care of Director, Compliance and Ethics, LG&E/KU Services, 220 West Main Street, Louisville, Kentucky 40202.

16.6 Equal Employment Opportunity. To the extent applicable, TranServ shall comply with all of the following provisions, which are incorporated herein by reference: (i) Equal Opportunity regulations set forth in 41 C.F.R. § 60-1.4(a) and (c), prohibiting employment discrimination against any employee or applicant because of race, color, religion, sex, or national origin; (ii) Vietnam Era Veterans Readjustment Assistance Act regulations set forth in 41 C.F.R. § 60-250.4 relating to the employment and advancement of disabled veterans and Vietnam era veterans; (iii) Rehabilitation Act regulations set forth in 41 C.F.R. § 60-741.4 relating to the employment and advancement of qualified disabled employees and applicants for employment; (iv) the clause known as "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals" set forth in 15 USC § 637(d)(3); and (v) the subcontracting plan requirement set forth in 15 USC § 637(d).

Section 17 - Miscellaneous Provisions.

17.1 Governing Law. This Agreement and the rights and obligations of the Parties hereunder shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky, without giving effect to its conflicts of law rules.

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17.2 Amendment. This Agreement shall not be varied or amended unless such variation or amendment is agreed to by the Parties in writing and accepted by applicable Regulatory Authorities. The Parties explicitly agree that neither Party shall unilaterally petition to FERC pursuant to the provisions of Sections 205 or 206 of the Federal Power Act to amend this Agreement or to request that FERC initiate its own proceeding to amend this Agreement. Nothing in this Section 17.2 shall be construed to limit or affect any other rights that the Parties may have as set forth in Section 8.4, the OATT or otherwise.

17.3 Liability of Affiliates. Any and all liabilities of Company and/or its Affiliates under this Agreement shall be several but not joint.

17.4 Publicity. TranServ shall not issue news releases, publicize or issue advertising pertaining to ITO Services or this Agreement without first obtaining the written approval of Company.

17.5 Assignment. Any assignment of this Agreement or any interest herein or delegation of all or any portion of a Party's obligations, by operation of law or otherwise, by either Party without the other Party's prior written consent shall be void and of no effect; provided, however, that consent will not be required for Company to assign this Agreement to an Affiliate or a successor entity that acquires all or substantially all of the operational business assets of the assigning entity whether by merger, consolidation, reorganization, sale, spin-off or foreclosure; provided, further, that such Affiliate or successor entity (a) agrees to assume all obligations hereunder from and after the date of such assignment and (b) has the legal authority and operational ability to satisfy the obligations under this Agreement. As a condition to the effectiveness of such assignment (i) the assignor shall promptly notify the other Party of such assignment, (ii) the Affiliate or successor entity shall provide a confirmation to the other Party of its assumption of assignor's obligations hereunder, and (iii) assignor shall promptly reimburse the other Party, upon receipt of an invoice, for any one-time incremental costs reasonably incurred as a result of such assignment. For the avoidance of doubt, nothing herein shall preclude Company from transferring any or all of its transmission facilities to another entity or disposing of or acquiring any other transmission assets. Notwithstanding anything to the contrary contained in this Section 17.5, TranServ shall be entitled to contract with one or more persons (each, an "TranServ Designee") to perform only those ITO Services which the OATT expressly provides for being performed by a "designee" of TranServ (as opposed to TranServ or TranServ Personnel), provided that TranServ shall not be relieved of any of its obligations, responsibilities or liabilities under this Agreement as a result of contracting with one or more TranServ Designees in accordance with this Section 17.5 and shall be responsible and liable for any ITO Services performed by TranServ Designees.

17.6 No Third Party Beneficiaries. Except as otherwise expressly provided in this Agreement, this Agreement is made solely for the benefit of the Parties and their successors and permitted assigns and no other person shall have any rights, interest or claims hereunder or otherwise be entitled to any benefits under or on account of this Agreement as third party beneficiary or otherwise.

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17.7 Waivers. No waiver of any provision of this Agreement shall be effective unless it is signed by the Party against which it is sought to be enforced. The delay or failure by either Party to exercise or enforce any of its rights or remedies under this Agreement shall not constitute or be deemed a waiver of that Party's right thereafter to enforce those rights or remedies, nor shall any single or partial exercise of any such right or remedy preclude any other or further exercise thereof or the exercise of any other right or remedy.

17.8 Enforcement of Rights. Each Party shall have the right to recover from the other Party all expenses, including fees for and expenses of inside and/or outside counsel, arising out of the other Party's breach of this Agreement or any other action to enforce or defend rights hereunder.

17.9 Severability; Renegotiation. The invalidity or unenforceability of any portion or provision of this Agreement shall in no way affect the validity or enforceability of any other portion or provision herein. If any provision of this Agreement is found to be invalid, illegal or otherwise unenforceable, the same shall not affect the other provisions hereof or the whole of this Agreement and shall not render invalid, illegal or unenforceable this Agreement or any of the remaining provisions of this Agreement. If any provision of this Agreement or the application thereof to any person, entity or circumstance is held by a court or regulatory authority of competent jurisdiction to be invalid, void or unenforceable, or if a modification or condition to this Agreement is imposed by such court or regulatory authority, the Parties shall in good faith negotiate such amendment or amendments to this Agreement as will restore the relative benefits and obligations of the Parties immediately prior to such holding, modification or condition.

17.10 Remedies. No remedy conferred by any of the provisions of this Agreement is intended to be exclusive of any other remedy available at law or equity or otherwise. The election of one or more remedies shall not constitute a waiver of the right to pursue any other available remedies.

17.11 Representations and Warranties. Each Party represents and warrants to the other Party as of the date hereof as follows:

17.11.1 Organization. It is duly organized, validly existing and in good standing under the laws of the State in which it was organized, and has all the requisite power and authority to own and operate its material assets and properties and to carry on its business as now being conducted and as proposed to be conducted under this Agreement.

17.11.2 Authority. It has the requisite power and authority to execute and deliver this Agreement and, subject to the procurement of applicable regulatory approvals, to perform its obligations under this Agreement. The execution and delivery of this Agreement by it and the performance of its obligations under this Agreement have been duly authorized by all necessary corporate action required on its part.

17.11.3 Binding Effect. Assuming the due authorization, execution and delivery of this Agreement by the other Party, this Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with its terms, except as the same may be limited by bankruptcy, insolvency or other similar applicable laws affecting

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creditors' rights generally, and by general principles of equity regardless of whether such principles are considered in a proceeding at law or in equity.

17.11.4 Regulatory Approval. It has obtained or will obtain by the Commencement Date, any and all approvals of, and acceptances for filing by, and has given or will give any notices to, any applicable federal or state authority, including FERC and the KPSC (as applicable), that are required for it to execute, deliver, and perform its obligations under this Agreement.

17.11.5 No Litigation. There are no actions at law, suits in equity, proceedings, or claims pending or, to its knowledge, threatened against it before or by any federal, state, foreign or local court, tribunal, or governmental agency or authority that might materially delay, prevent, or hinder the performance by such entity of its obligations hereunder.

17.11.6 No Violation or Breach. The execution, delivery and performance by it of its obligations under this Agreement do not and shall not: (a) violate its organizational documents; (b) violate any applicable law, statute, order, rule, regulation or judgment promulgated or entered by any applicable federal or state authority, which violation could reasonably be expected to materially adversely affect the performance of its obligations under this Agreement; or (c) result in a breach of or constitute a default of any material agreement to which it is a party.

17.11.7 No Other Warranties. EXCEPT AS PROVIDED IN THIS AGREEMENT, TRANSERV MAKES NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

17.12 Further Assurances. Each Party agrees that it shall execute and deliver such further instruments, provide all information, and take or forbear such further acts and things as may be reasonably required or useful to carry out the purpose of this Agreement and are not inconsistent with the provisions of this Agreement.

17.13 Entire Agreement. This Agreement and the Attachments hereto set forth the entire agreement between the Parties with respect to the subject matter hereof, and supersede all prior agreements, whether oral or written, related to the subject matter of this Agreement. The terms of this Agreement and the Attachments hereto are controlling, and no parole or extrinsic evidence, including to prior drafts and drafts exchanged with any third parties, shall be used to vary, contradict or interpret the express terms and conditions of this Agreement.

17.14 Good Faith Efforts. Each Party agrees that it shall in good faith take all reasonable actions necessary to permit it and the other Party to fulfill their obligations under this Agreement. Where the consent, agreement or approval of any Party must be obtained hereunder, such consent, agreement or approval shall not be unreasonably withheld, delayed or conditioned. Where a Party is required or permitted to act, or omit to act, based on its opinion or judgment, such opinion or judgment shall not be unreasonably exercised, other than where expressly provided for herein. To the extent that the jurisdiction of any federal or state authority applies to

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any part of this Agreement or the transactions or actions covered by this Agreement, each Party shall cooperate with the other Party to secure any necessary or desirable approval or acceptance of such authorities of such part of this Agreement or such transactions or actions.

17.15 Time of the Essence. With respect to all duties, obligations and rights of the Parties specified by Regulatory Authorities, time shall be of the essence in this Agreement.

17.16 Interpretation. Unless the context of this Agreement otherwise clearly requires:

17.16.1 all defined terms in the singular shall have the same meaning when used in the plural and vice versa;

17.16.2 the terms “hereof,” “herein,” “hereto” and similar words refer to this entire Agreement and not to any particular Section, Attachment or any other subdivision of this Agreement;

17.16.3 references to “Section” or “Appendix” refer to this Agreement, unless specified otherwise;

17.16.4 references to any law, statute, rule, regulation, notification or statutory provision shall be construed as a reference to the same as it applies to this Agreement and may have been, or may from time to time be, amended, modified or re-enacted;

17.16.5 references to “includes,” “including” and similar phrases shall mean “including, without limitation;”

17.16.6 the captions, section numbers and headings in this Agreement are included for convenience of reference only and shall not in any way affect the meaning or interpretation of this Agreement;

17.16.7 “or” may not be mutually exclusive, and can be construed to mean “and” where the context requires there to be a multiple rather than an alternative obligation; and

17.16.8 references to a particular entity include such entity’s successors and assigns to the extent not prohibited by this Agreement.

17.17 Joint Effort. Preparation of this Agreement has been a joint effort of the Parties and the resulting document shall not be construed more severely against one of the Parties than against the other and no provision in this Agreement is to be interpreted for or against any Party because that Party or its counsel drafted such provision. Each Party acknowledges that in executing this Agreement it has relied solely on its own judgment, belief and knowledge, and such advice as it may have received from its own counsel, and it has not been influenced by any representation or statement made by the other Party or its counsel not contained in this Agreement.

17.18 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the

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same instrument, binding upon Company and TransServ, notwithstanding that Company and TransServ may not have executed the same counterpart.

The Parties have caused this Independent Transmission Organization Agreement to be executed by their duly authorized representatives as of the dates shown below.

**LOUISVILLE GAS AND ELECTRIC COMPANY/
KENTUCKY UTILITIES COMPANY**

/s/ Stephanie R. Pryor

Name: Stephanie R. Pryor
Title: Manager Supply Chain
Date: 12/9/2016

TRANSERV INTERNATIONAL, INC.

Effective On: September 1, 2019

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/s/ Sasan Mokhtari, PhD

Name: Sasan Mokhtari, PhD
Title: President & CEO
Date: 12/8/2016

Appendix A

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**Louisville Gas and Electric
Company/**

Kentucky Utilities Company

INDEPENDENT TRANSMISSION

ORGANIZATION

SERVICE SPECIFICATION

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1. Overview

This Appendix A is intended to be consistent with the terms and conditions of the LG&E/KU Open Access Transmission Tariff (OATT), including Attachment P thereto. If there is any conflict between this Appendix A and the OATT, the OATT shall govern. TranServ shall

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perform its obligations under this Appendix A in accordance with Section 1.3.1 of this Agreement.

The services delegated to TranServ include the administration of the LG&E/KU Open Access Same-time Information System (OASIS), transmission service request evaluation process, Available Transfer Capability (ATC)/ Available Flowgate Capability (AFC) management, study queue administration, study performance, and stakeholder facilitation. TranServ, as the ITO, will administer the OATT granting of service for both short and long-term transmission requests, administer the large generator interconnection request queue, and perform transmission studies. TranServ will facilitate the LG&E/KU long-term transmission planning function and stakeholder processes.

2. Definitions

Company - Louisville Gas and Electric Company/Kentucky Utilities Company (LG&E/KU)

ITO - Independent Transmission Organization

ITO Services - The applicable functions to be performed as specified in the ITO Agreement

RC - Reliability Coordinator

Service Interruption - A Service Interruption is the loss of Service function, under the direct control of TRANSERV with no mutually agreed to work around provided within the Service

Normal Business Hours - TranServ normal business hours are between the hours of 0700 and 1700 CT, Monday-Friday on days other than the holidays listed below:

1. New Year's Day
2. Memorial Day
3. Independence Day
4. Labor Day
5. Thanksgiving
6. Day after Thanksgiving

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7. Day before Christmas
8. Christmas Day

3. Roles and Responsibilities for Providing ITO Services

3.1 TranServ

TranServ International, Inc. (TranServ) will provide services to LG&E/KU as the ITO. The services that TranServ will provide include:

3.1.1 Customer Interface

Responsibility for operating and maintaining OASIS website and keeping it up-to-date with Federal Energy Regulatory Commission (FERC) and North American Energy Standards Board (NAESB) posting requirements, including all Order No. 890 posting requirements (such as study performance metrics, Available Transfer Capability (ATC) calculations, etc.). This includes establishing an interface for customers to submit service requests, and oversight and evaluation of ATC values calculated using software procured from Open Access Technology International, Inc. (OATI) and information from the RC. TranServ's responsibilities and duties in administering OASIS will include the following:

- Performing the duties of a Responsible Party as defined in the Commission's OASIS regulations, 18 C.F.R. § 37.5 and FERC Order No. 676.
- Posting information required to be on the Transmission Provider's OASIS under the Commission's OASIS regulations, 18 C.F.R. § 37.6 and FERC Order No. 676.
- Maintaining and retaining information posted on OASIS in accordance with the Commission's regulations, including 18 C.F.R. Parts 37 and 125.
- Establishing and maintaining queues for processing transmission service requests and generator interconnection (GI) requests.
- Participating in the drafting and posting of Business Practices on the OASIS website, including any FERC or NAESB-required Business Practices. Company shall have final review, ownership, and approval for all Business Practices.

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- Participating in periodic reviews of, and providing expertise/comments on, the OATT. Company retains final authority over the OATT's content, including retaining the right and responsibility to file changes to the OATT.
- Participating in stakeholder meetings and/or conference calls as required. These stakeholder meetings will include TranServ, Company, Customers (as appropriate) the RC, and other entities as required, to address concerns regarding Company's system, administration of the OATT, and related issues.
- Responsibility for coordinating with third-party transmission system owners and operators as necessary to support customer service requests. This includes coordinating the provision of any data from Company to the third-party system.
- Management of ATC/AFC Calculation and Posting.
- Implementation of certain aspects of the Congestion Management Process (CMP) established by the Midcontinent Independent System Operator, Inc. (MISO), PJM Interconnection LLC (PJM), and TVA.
- Administration of request evaluations for LG&E/KU tariff service.
- Processing of e-Tags as the transmission provider.
- Reviewing software changes requested from OATI, verifying and testing for proper operations before OATI implements those changes.

3.1.2 Transmission Service and Generator Interconnection Requests and Studies

- Receive and process all applications for Point-to-Point, Network Integration Transmission Service (NITS), and for GIs.
- For short-term Point-to-Point Transmission Service requests (i.e., where the request is within the posted ATC horizon), evaluate and approve a request where the posted ATC is sufficient for the requested transaction. If ATC is insufficient, TranServ shall propose conditional service options to the customer in accordance with the OATT, or otherwise deny the service. If the customer accepts conditional service options, TranServ will be responsible for performing biennial reassessments, as provided under the OATT.
- For long-term Point-to-Point Transmission Service requests, NITS, or GI requests:

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- Determine whether a System Impact Study (SIS) is necessary to accommodate the request.
 - Render all study agreements (SIS, Interconnection Feasibility Studies (IFS), Facilities Study (FS), and Feasibility Analysis Studies (FAS)) to customers within the timeframe provided in the OATT.
 - Perform the SIS or FAS in the timeframe provided in the OATT, including clustered SISs when requested by customers and/or Company.
 - Perform the SIS or FAS using Company's planning criteria.
 - For any study that TranServ performs that requires information from Company (e.g., good faith construction estimates that are included in the SIS), request such information from Company no less than ten (10) business days before the expiration of the applicable study period.
 - Complete study reports and post on OASIS within the timeframe required under the OATT.
 - Notify the Company and individual customers of completed study reports, and alert the Company to initiate service agreements, if applicable.
 - Receive customer deposits.
 - Bill customers for SIS, IFS, FS, and FAS as required by the OATT, including provision of an itemized bill for services if requested by a customer.
 - Reimburse Company for any study costs incurred in contributing to the study and render payment to any third-party vendors for work performed.
- Responsible for receiving and processing requests to designate or un-designate Network Resources, as provided under the OATT.
 - If a customer requests a modification to its service, or if a customer assigns its transmission service to a third-party who request modification to the service, process those modification requests in accordance with the terms of the OATT.
 - Track all study metrics, including data submittals, input validations, modifications, time and costs associated to perform the study.

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- Track the performance of all studies and alert Company if a FERC filing requirement or penalty payment has been triggered due to late studies, as described under the OATT.

3.1.3 ATC Calculation

- Calculate ATC as provided for in Attachment C to the OATT. This includes receiving initial AFC values from the RC, calculating final AFC values using the algorithms included in Attachment C, and converting the AFC to ATC using OATI software.
- Post on OASIS the mathematical algorithms used to calculate firm and non-firm AFC. TranServ shall also post the results of the AFC calculations on OASIS.
- Daily review of transmission service requests (TSRs) and eTag action and statistics.
- Daily review of posted AFC/ATC information and investigation into any anomalies.
- Review, observation, and validation of the Total Transfer Capability (TTC) development process.

3.1.4 Interchange and Scheduling

- As the Transmission Service Provider, responsible for the following activities:
 - Confirm that each electronic schedule (e-Tag) has a confirmed transmission service request.
 - Approve the interchange schedules as the transmission service provider.
 - Curtail electronic schedules if requested by the RC or Balancing Authority (BA).
 - Monitor and validate the Net Scheduled Interchange (NSI), as processed by OATI software, to ensure timely creation of the NSI data file with a syntactical quality check on the data set.

3.1.5 Transmission Planning

- TranServ will participate in Company's transmission planning process as outlined in Attachment K to the OATT, including the following activities:
 - Review and approve Company's long-term (generally one year and beyond) plan for the reliability/adequacy of Company's Transmission System.

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- Review and approve Transmission System models (steady state, dynamics, and short circuit).
- Develop alternatives to Planning Redispatch service.
- Notify impacted transmission entities of any planned transmission changes that may influence their facilities.
- Participate with the SPC and associated SPC working groups, as required.
- Participate in the overall OATT Attachment K process as observer.
- The Parties agree that the final annual transmission plan and decision of whether/when to construct and expand the system rests with Company.
- Both parties will communicate openly and in a timely manner; each will perform their respective work; and both will continually work together to improve mutual and individual processes in a joint effort to assure work is completed pursuant to Company standards and deadlines.

3.1.6 Compliance

- Establish and adhere to a “culture of compliance” for TranServ Personnel and TranServ Designees consistent with FERC’s Policy Statement on Compliance, 125 FERC ¶ 61,058 (2008) as may be supplemented or amended by further FERC orders. TranServ shall take such reasonable steps requested by the Company in furtherance of such a culture of compliance.
- In accordance with *Louisville Gas and Electric Company*, 114 FERC ¶ 61,282 at P 152 (2006), provide FERC with semi-annual reports “detailing concerns expressed by stakeholders and [ITO’s] response to those concerns as well as any issues or tariff provisions that hinder [ITO] from performing its required duties” as requested.
- Maintain records and provide reports as required by the Kentucky Public Service Commission (KPSC), OATT, Department of Energy (DOE), FERC, NERC, SERC Reliability Corporation (SERC) or NAESB. Without limiting the foregoing, Company may from time-to-time provide TranServ with specific direction as to records that Company expects to support compliance efforts, and TranServ shall maintain such records as directed.
- Assist Company, as requested by Company, in the preparation of applications, audit materials, filings, reports or responses to any Regulatory Authority. Without limiting the

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foregoing, this assistance may include from time-to-time preparation for (and participation in, if appropriate) FERC or NERC audits and providing event analysis information for FERC, NERC or SERC. TranServ's support shall be provided in a time frame reasonably requested by Company.

- Monitor FERC, NERC, SERC, and NAESB activities for changes in standards or compliance requirements that may require modification to the ITO Services or other coordination with Company. To the extent possible, TranServ shall notify Company of any proposed or pending modifications prior to their implementation. The Parties shall work together to establish a work plan and timetable for implementation of any such changes. The Parties agree that all changes to ITO Services resulting from legal and regulatory developments as well Company requests, shall be assessed using the change order process detailed in Section 5 of this Appendix A.

3.2 Transmission Planner

TranServ will provide certain services to LG&E/KU, the Transmission Planner (TP). The services include:

3.2.1 Customer Interface

- TranServ will participate in the drafting of Business Practices; including any FERC or NAESB required Business Practices. Company shall have final review, ownership, and approval for all Business Practices.
- TranServ will participate in periodic reviews of, and provide expertise/comments on the OATT. Company retains final authority over the OATT's content, including retaining the right and responsibility to file changes to the OATT.
- Responsible for planning, coordinating and holding regular stakeholder meetings and/or conference calls. These stakeholder meetings will include TranServ, Company, and the RC, and other entities as required, to address concerns regarding Company's system, administration of the OATT, and related issues. This activity includes (as necessary) performing background checks for stakeholders who desire access to Critical Energy Infrastructure Information (CEII), preparing meeting materials, facilitating the meeting, and preparing post-meeting minutes for posting on OASIS.

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- Responsible for coordinating with third-party transmission system owners and operators as necessary to support customer service requests. This includes coordinating the provision of any data from Company to the third-party system.

3.3 LG&E/KU

TranServ understands that Company has the following responsibilities in support of the ITO Services under this Appendix A:

3.3.1 Customer Interface

- Contracting for the OATI webSmartOASIS service that meets FERC and NAESB requirements.
- Contracting for the OATI webTrans service used to evaluate and take actions on transmission service requests and e-Tags.
- Continuation of Agreement with the RC to provide necessary data for AFC/ATC calculation and posting processes.
- Final review, ownership, and approval for all Business Practices.
- Final authority over the OATT's content, including the right and responsibility to file changes to the OATT.
- Cooperate in the coordination with third-party systems as necessary to support customer service requests. This includes coordinating the provision of any data from Company to the third-party system.

3.3.2 Compliance

- From time-to-time provide TranServ with specific direction as to records that Company expects to support compliance efforts, TranServ shall maintain such records as directed in order to provide reports as required by the KPSC, OATT, DOE, FERC, NERC, SERC or NAESB.
- Respond to TranServ notifications of FERC, NERC, SERC, and NAESB activities for changes in standards or compliance requirements that may require modification to the ITO Services or other coordination with Company within requested response timelines.

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Work together with ITO to establish a work plan and timetable for implementation of any such changes. The Parties agree that all changes to ITO Services resulting from legal and regulatory developments as well Company requests, shall be assessed using the change order process detailed in Section 5 of this Appendix A.

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4. Customer Support

TranServ will provide support for Service 24-hours per day and 365-days per year by utilizing a single point of contact support staff. During Normal Business Hours the support staff can be contacted by telephone or by e-mail as outlined in published TranServ's ITO Support Information. After Normal Business Hours support is achieved through telephone only. TranServ will take all reasonable effort to ensure that reported problems or other Customer support related events are responded to within 30-minutes of the event notification when ITO Support Procedures are followed.

4.1 Problem Resolution

Problems or outages are reported to TranServ by following customer support processes. All problems or questions are assigned a severity level by mutual agreement of the parties. Problems which are considered Critical or High in severity should be reported to TranServ at any time. Problems considered Medium or Low severity should be reported by phone during business hours or by e-mail at any time. The severity level classifications are defined as follows:

- Critical - Problems or issues that are impacting business immediately or impacting grid reliability and action is required prior to next business day.
- High - Problems or issues that affect a key functionality of Service component and there is no work around available but immediate business or grid reliability impact is not present.
- Medium - Business processes are impacted, but satisfactory work around is in place to avoid business interruptions.
- Low - Customer inquiries or reported problems and issues that create nuisances or inconveniences for the customer. Minimal or no business impact is occurring.

Ticket Resolution		
Action	TranServ Responsibility	Time To Remedy
Correct a 'Critical' severity Problem or Issue	During normal business hours TranServ will respond to reported Critical severity problems and begin corrective action immediately until either a satisfactory work around is in place or problem is resolved. Outside of normal business hours TranServ will respond to reported Critical severity problems within 30-minutes of notification. Escalation to responsible TranServ senior management will occur in all cases.	TranServ will work continuously until resolution is in place. This may include a temporary work around until a permanent correction can be implemented. Performance goal is to resolve all Critical severity tickets within 4-hours.
Correct a 'High' severity Problem or	During normal business hours TranServ will respond to reported High severity	TranServ will provide an initial problem analysis

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Issue	problems and begin corrective action to resolve with either a satisfactory work around or problem resolution prior to end of business day. Outside of normal business hours TranServ will respond to reported High severity problems within 30-minutes of notification. Escalation to responsible TranServ senior management will occur in all cases.	update within 8-hours at all times. This may include a recommended temporary work around until a permanent correction can be implemented. Performance goal is to resolve all High severity tickets within 24-hours.
Correct a 'Medium' severity Problem or Issue	TranServ will schedule corrective action jointly with Customer. Problems of Medium severity should be reported by telephone during business hours or by e-mail at any time.	TranServ will provide an initial problem analysis update within 3-business days of notification of problem. An appropriate action plan and resolution schedule will be mutually agreed to with the Customer. Performance goal is to resolve all Medium severity tickets by agreed to commitment date.
Correct a 'Low' severity Problem or Issue	TranServ will schedule corrective action jointly with Customer. Problems of Low severity should be reported by telephone during business hours or by e-mail at any time.	TranServ will provide an initial problem analysis update within 5-business days. An appropriate action plan and resolution schedule will be mutually agreed to with the Customer. Performance goal is to resolve all Low severity tickets by agreed to commitment date.

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4.1.1 Tickets - OATI webSupport

To ensure all customers of TranServ receive a high level of customer service all calls or e-mails with questions or reported problems are documented in a Ticket. All TranServ staff members utilize OATI webSupport, an issue reporting and assignment platform allowing tracking and confirmed resolution of all issues reported to TranServ. Upon receiving a communication from a customer, TranServ will open a webSupport Ticket. The Ticket contains customer contact information, data metrics on the type of problem, an identification of the TranServ staff member to whom the Ticket is currently assigned, a detailed description of the problem, and a detailed description of the problem's current status which will eventually include a description of how the issue was resolved. The TranServ staff member provides the Ticket number to the customer for all issues not resolved immediately. If the issue cannot be resolved by the TranServ staff member creating the Ticket, the Ticket is reassigned to another member of the TranServ team. The TranServ staff member who initially created the Ticket is expected to use webSupport's monitoring capability to determine unresolved Tickets, and to reassign or escalate it as necessary at any time to promote prompt resolution within response timing guidelines.

4.1.2 Response Time

TranServ support staff will answer all calls as received during normal business hours and take all reasonable effort to resolve issues at the time of call. For issues and problems that are not immediately resolved, TranServ will follow normal processing for assigned severity level and notify customer once resolution occurs.

Calls to support staff outside of normal business hours will be answered as received and customer will be notified within 30-minutes on planned actions to be taken by TranServ support staff in accordance with normal processing for assigned severity level.

4.1.2.1 Ticket Escalation

Problem tickets that cannot be resolved in accordance with normal processing for assigned severity level will be escalated to appropriate TranServ management. Customers may request immediate ticket escalation to appropriate TranServ management.

4.1.2.2 Customer Satisfaction

Customer satisfaction inquiries are automatically sent to customers upon the closing of a ticket. The results of these surveys result in improved performance by customer support staff or changes in business processes.

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5. Service Modifications

From time to time Company may require a modification to an existing Service function. Such modifications may be prompted by changes in regulatory compliance requirements, or by a Company request. Minor modifications that require reasonably minimal resource commitment from TranServ staff will be included within a reasonable time period at no cost to Company. Modifications that may have more significant impact on Service design or will impact TranServ staff resource commitments more than minimally will be discussed with Company and may in some instances require additional payment by Company, or likewise, require a decrease in payment by Company. Each of these change requests will be described in a written Change Order. Each Change Order will be scheduled for implementation upon written agreement with Company as to scope, cost and schedule.

5.1 Minor Changes

Any change to an existing Service function that does not have a significant impact on Service design or require TranServ to staff or contract with additional personnel, if even for a brief period of time, to prepare for and/or meet the requirements of the change (a "Minor Change") will be integrated into Company's Service at no cost to Company. A written Change Order will be negotiated and executed between Company and TranServ prior to implementation of any Minor Change.

5.2 Major Changes

Any change to an existing Service function that has a significant impact on Service design or requires TranServ to staff additional or fewer personnel, if even for a brief period of time, in order to prepare for and/or meet the requirements of the change (a "Major Change") will require a written Change Order which must be negotiated and executed between Company and TranServ prior to implementation of any Major Change.

6. Reliability Coordination

TranServ will be required to coordinate its operations with the LG&E/KU designated RC. The RC is responsible for performing certain reliability related tasks for the LG&E/KU system, including acting as the NERC-registered Reliability Coordinator. The RC's responsibilities are detailed in the Reliability Coordinator Agreement and Attachment P to the LG&E/KU OATT.

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AMENDED AND RESTATED RELIABILITY COORDINATOR AGREEMENT

BETWEEN

**LOUISVILLE GAS AND ELECTRIC COMPANY
AND KENTUCKY UTILITIES COMPANY**

AND

TENNESSEE VALLEY AUTHORITY

Effective On: September 1, 2019

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RELIABILITY COORDINATOR AGREEMENT

This Amended and Restated Reliability Coordinator Agreement (this "Agreement"), including all appendices, exhibits, and attachments, appended hereto, is entered into this 22nd day of August, 2019 ("Execution Date"), between Louisville Gas and Electric Company and Kentucky Utilities Company, corporations organized pursuant to the laws of the State of Kentucky (collectively, "LG&E/KU"), and the Tennessee Valley Authority, a federal government corporation ("TVA") created by and existing under and by virtue of the Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831 *et seq.* (the "TVA Act"). LG&E/KU and TVA may sometimes be referred to herein individually as a "Party" and collectively as the "Parties." In its capacity as Reliability Coordinator (as such term is defined in the North American Electric Reliability Corporation ("NERC") Glossary of Terms Used in NERC Reliability Standards ("Glossary")) under this Agreement, TVA may also be referred to as the "Reliability Coordinator."

RECITALS

WHEREAS, LG&E/KU owns, among other things, an integrated electric transmission system ("Transmission System"), over which they currently provide open access transmission service to customers in the LG&E/KU Balancing Authority Area (as defined in Section 1.5 of LG&E/KU's Open Access Transmission Tariff, as on file with the Federal Energy Regulatory Commission ("FERC") and as may be changed from time to time (the "OATT"));

WHEREAS, TVA and LG&E/KU entered into to an Amended and Restated Reliability Coordinator Agreement on August 25, 2014 ("2014 RC Agreement") under which TVA has integrated the LG&E/KU Balancing Authority Area into the TVA Reliability Coordinator Area (as such term is defined in the NERC Glossary); performs the reliability coordination tasks of a registered Reliability Coordinator; performs transmission planning and regional coordination; approves LG&E/KU's maintenance schedules; identifies upgrades required to maintain reliability; makes non-binding recommendations relating to economic transmission system upgrades; and administers any seams agreements;

WHEREAS, LG&E/KU retains all remaining NERC obligations, including obligations associated with its status as a Balancing Authority and Transmission Operator (as such terms are defined in the NERC Glossary) and obligations to ensure the provision of transmission services under the OATT, and takes action necessary to protect reliability of the Transmission System, including circumstances where such action is necessary to protect, prevent or manage emergency situations;

WHEREAS, the Reliability Coordinator is: (i) a federal government corporation charged with providing electric power, flood control, navigational control, agricultural and industrial development, and other services to a region including Tennessee and parts of six contiguous states; and (ii) registered with and certified by NERC as a Reliability Coordinator;

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WHEREAS, the Reliability Coordinator is independent from LG&E/KU, possesses the necessary competence and experience to perform the functions provided for hereunder and is willing to perform such functions under the terms and conditions agreed upon by the Parties as set forth in this Agreement;

WHEREAS, as part of LG&E/KU's goal to maintain the requisite level of independence in the operation of its Transmission System to prevent any exercise of transmission market power, LG&E/KU has entered into an Independent Transmission Organization Agreement (the "Independent Transmission Organization Agreement"), including subsequent amendments thereto, with TranServ International, Inc., or its successor, (the "Independent Transmission Organization" or "ITO"), pursuant to which the Independent Transmission Organization provides to LG&E/KU certain key transmission-related functions under the OATT;

WHEREAS, TVA, LG&E/KU, and PJM Interconnection, L.L.C. ("PJM") participate in the Congestion Management Process ("CMP") through the amended Joint Reliability Coordination Agreement ("JRCA") with PJM;

WHEREAS, the Midcontinent Independent Operator, Inc. ("MISO"), through its Joint Operating Agreement with PJM, also participates in the CMP;

WHEREAS, by virtue of the reciprocity requirements found in Section 6.2 of the CMP, TVA will coordinate with MISO in order to manage regional coordination issues applicable under the CMP between the LG&E/KU system and MISO;

WHEREAS, TVA and LG&E/KU may choose to participate in similar reliability coordination agreements with other neighboring reliability coordination areas; and

WHEREAS, the Parties wish to amend and restate the 2014 RC Agreement to update the fee schedule, reflect the current CMP and amended JRCA, and otherwise clarify the roles and responsibilities of the Parties with respect to reliability coordination in operations.

NOW THEREFORE, in consideration of the mutual promises contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

Section 1 - Designation; Scope of Functions; Standards of Performance; Reliability Coordination Advisory Committee.

1.1 Designation. LG&E/KU appoints TVA to act as LG&E/KU's designated Reliability Coordinator pursuant to and in accordance with the terms and conditions of this Agreement. The Reliability Coordinator shall have no responsibility to LG&E/KU, except as specifically set forth in this Agreement.

1.2 Scope of Functions. The Reliability Coordinator shall perform the functions assigned to it and described in Attachment A and Attachment B (the "Functions") seven days a

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week, twenty-four hours a day, for the duration of the Term in accordance with the terms and conditions of this Agreement. In accordance with its obligations under this Section 1.2, the Reliability Coordinator is authorized to, and shall, direct and coordinate timely and appropriate actions by LG&E/KU, including curtailing transmission service or energy schedules, redispatching generation, and shedding load, in each case, in order to avoid adverse effects on interregional bulk power reliability.

1.2.1 Relationship Between this Agreement and Attachment P to LG&E/KU's OATT. The Parties recognize that the relationship between LG&E/KU and the Reliability Coordinator and the Functions to be performed by the Reliability Coordinator must be reflected in LG&E/KU's OATT. The Reliability Coordinator relationship and the Functions assigned to the Reliability Coordinator under Attachment A and Attachment B to this Agreement shall be reflected in Attachment P to LG&E/KU's OATT. To the extent that there is a conflict between Attachment A and/or Attachment B to this Agreement and Attachment P to LG&E/KU's OATT, Attachment P to LG&E/KU's OATT shall govern. Any changes proposed by LG&E/KU to FERC in Attachment P in LG&E/KU's OATT, pursuant to Section 5.3 of Attachment P in LG&E/KU's OATT, regarding the Functions or any other provisions that concern the Reliability Coordinator shall reflect the mutual agreement of the Parties. Notwithstanding this Section 1.2.1, nothing in this Agreement or Attachment P to LG&E/KU's OATT shall grant FERC any additional jurisdiction over TVA.

1.3 Reliability Coordinator Procedures. The Reliability Coordinator shall develop the procedures and guidelines by which it will perform the Functions (the "Reliability Coordinator Procedures") in coordination with the RCAC (as defined in Section 1.10) The Reliability Coordinator Procedures shall be documented in a NERC-approved reliability plan for the TVA Reliability Coordination Area or in TVA Standard Procedures and Policies. The Reliability Coordinator shall provide LG&E/KU advance written notice of any amendment or change to the Reliability Coordinator Procedures. For purposes of this Agreement, the term "TVA Standard Procedures and Policies" shall mean such procedures and policies related to TVA's operations as may be promulgated and published by TVA pursuant to its legal authorities and obligations.

1.4 Threat to Reliability. If the Reliability Coordinator determines that an actual or potential threat to transmission system reliability exists, and that such threat may impair the reliability of a transmission system, then the Reliability Coordinator shall direct that LG&E/KU take whatever actions are necessary, consistent with Good Utility Practice (as defined below) and in accordance with the applicable reliability criteria, policies, standards, rules, regulations and other requirements of NERC (collectively, the "NERC Standards") and any applicable regional entity(s) (as that term is defined in section 215 of the Federal Power Act, 16 U.S.C. § 824o) (collectively, "Regional Standards"), to avoid or mitigate the effects of the threat to transmission system reliability. For purposes of this Agreement, "Good Utility Practice" shall mean any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods, and acts that, in a person's exercise of reasonable judgment in light of the facts as known to that person at the time

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the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to include the range of acceptable practices, methods, or acts generally accepted in the region.

1.5 Reliability Coordinator Operating Instructions. Except as provided in the immediately succeeding sentence, LG&E/KU shall implement any operating instruction given by the Reliability Coordinator pursuant to Sections 1.2 or 1.4. LG&E/KU shall not be obligated to implement any operating instruction which LG&E/KU determines cannot be physically implemented or will violate safety, equipment, regulatory, or any state or federal statutory requirements applicable to LG&E/KU. LG&E/KU may review any operating instruction given by the Reliability Coordinator pursuant to Sections 1.2 or 1.4, to determine if it is, in LG&E/KU's judgment, in accordance with the requirements of Section 1.8. If LG&E/KU determines that any operating instruction is not in accordance with the requirements of Section 1.8, then it shall immediately so notify the Reliability Coordinator; provided, however, that, except as provided in the second sentence in this Section 1.5, LG&E/KU shall continue to implement the operating instruction until the Reliability Coordinator notifies LG&E/KU otherwise. LG&E/KU's notice to the Reliability Coordinator shall include: (a) information outlining the basis for LG&E/KU's determination that (i) the operating instruction is not in accordance with the requirements of Section 1.8 and, if applicable, (ii) that implementation of the operating instruction will violate any safety, equipment, regulatory, or any state or federal statutory requirements applicable to LG&E/KU; and (b) the alternative action that LG&E/KU would prefer to take to alleviate the problem addressed by the Reliability Coordinator's operating instruction. After prompt consideration of such information, the Reliability Coordinator shall issue an operating instruction to LG&E/KU in accordance with its obligations under this Agreement and LG&E/KU will, subject to the second sentence in this Section 1.5, act in accordance with such operating instruction.

1.6 Coordination with Independent Transmission Organization. In conjunction with its performance of the Functions, the Reliability Coordinator shall coordinate and cooperate with the Independent Transmission Organization and provide, subject to the terms and conditions of this Agreement, including the Reliability Coordinator's obligations with respect to Confidential Information in Section 10, any information that the Independent Transmission Organization may reasonably request in order to carry out its functions under the Independent Transmission Organization Agreement.

1.7 Expansion. Nothing in this Agreement is intended to prevent TVA from (a) coordinating, or cooperating in, interregional activities to relieve problems experienced by other transmission systems or (b) entering into other agreements with one or more third party transmission providers or operators to perform functions for such transmission providers or operators that are the same or similar to the Functions performed hereunder; provided, however, that it does not breach any of its obligations under this Agreement (including its obligations with respect to Confidential Information in Section 10) by entering into or performing any of its

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obligations under such other agreements; provided, further, that (i) any such other agreements shall provide for LG&E/KU to be reimbursed in an equitable manner for any capital expenditures made pursuant to this Agreement as well as for LG&E/KU's ongoing operations and maintenance expenditures to the extent such capital expenditures and operations and maintenance expenditures are used by the Reliability Coordinator in performing functions under such other agreements, (ii) LG&E/KU agrees to reimburse any such third party transmission providers or operators in an equitable manner for any capital expenditures made by such third parties as well as for such third parties' ongoing operations and maintenance expenditures to the extent such capital expenditures and operations and maintenance expenditures are used by the Reliability Coordinator in performing functions under this Agreement, and (iii) to the extent applicable, the Reliability Coordinator shall revise the compensation provided for in Section 3.1 in accordance with the terms therein.

1.8 Reliability Coordinator's Standard of Performance. The Reliability Coordinator shall perform its obligations under this Agreement in accordance with: (a) Good Utility Practice; (b) the NERC Standards and Regional Standards; (c) LG&E/KU's specific reliability requirements and operating guidelines (to the extent these are not inconsistent with other requirements specified in this Section 1.8); (d) TVA Standard Procedures and Policies; and, (e) all state and federal laws, including the TVA Act, and the terms of governmental approvals applicable to one or both of the Parties. In performing its responsibilities under this Agreement, the Reliability Coordinator shall not discriminate against similarly situated persons.

1.9 LG&E/KU's Standard of Performance. LG&E/KU shall perform its obligations under this Agreement in accordance with: (a) Good Utility Practice; (b) the NERC Standards and Regional Standards; (c) any other LG&E/KU-specific reliability requirements and operating guidelines (to the extent these are not inconsistent with other requirements specified in this Section 1.9); and (d) all state and federal laws and the terms of governmental approvals applicable to LG&E/KU.

1.10 Reliability Coordination Advisory Committee.

1.10.1 Each Party shall designate one representative to serve on a Reliability Coordination Advisory Committee ("RCAC"), which shall be composed of representatives of each Party and representatives from each entity that has executed a similar reliability coordination agreement designating TVA as its Reliability Coordinator. Each Party may also designate one alternate to act in the absence of its representative on the RCAC. Written notice of each representative and alternate appointment shall be provided to each RCAC entity, and each Party may change its representatives upon written notice to the other RCAC entities.

1.10.2 The RCAC shall assist the Reliability Coordinator in the development of the initial Reliability Coordinator Procedures and the modification of existing Reliability Coordinator Procedures. In connection with these activities, the Reliability Coordinator may provide the other RCAC members with access to necessary data and documents maintained by the Reliability Coordinator, provided that each such RCAC member has

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signed the NERC Data Confidentiality Agreement (as defined below) and that all Confidential Information is treated as transmission operations and transmission system information pursuant to the NERC Data Confidentiality Agreement.

The RCAC shall meet at least once per Contract Year (as defined below). For purposes of this Agreement, a "Contract Year" shall consist of a twelve (12) month period. "Contract Year 1" shall begin on the Effective Date. Contract Years 2, 3, and 4 shall consist of the next three successive 12-month periods after Contract Year 1.

Section 2 - Independence.

2.1 Key Personnel. All Functions shall be performed by employees of the Reliability Coordinator (the "Key Personnel"). No Key Personnel shall also be employed by LG&E/KU or any of its Affiliates (as defined in 18 C.F.R. § 35.34(b)(3) of FERC's regulations). The Reliability Coordinator and the Key Personnel shall be, and shall remain throughout the Term, Independent (as defined below) of LG&E/KU, its Affiliates and the Independent Transmission Organization. For purposes of this Agreement: "Independent" shall mean that the Reliability Coordinator and the Key Personnel are not subject to the control of LG&E/KU, its Affiliates or the Independent Transmission Organization, and have full decision making authority to perform all Functions in accordance with the provisions of this Agreement. Any Key Personnel owning securities in LG&E/KU, its Affiliates or the Independent Transmission Organization shall divest such securities within six (6) months of first being assigned to perform such Functions, provided that nothing in this Section 2.1 shall be interpreted or construed to preclude any such Key Personnel from indirectly owning securities issued by LG&E/KU, its Affiliates or the Independent Transmission Organization through a mutual fund or similar arrangement (other than a fund or arrangement specifically targeted toward the electric industry or the electric utility industry or any segment thereof) under which the Key Personnel does not control the purchase or sale of such securities. Participation by any Key Personnel in a pension plan of LG&E/KU, its Affiliates or the Independent Transmission Organization shall not be deemed to be a direct financial interest if the plan is a defined-benefit plan that does not involve the Key Personnel's ownership of the securities. For the avoidance of doubt, LG&E/KU shall not have an approval or consent right with respect to the selection of any Key Personnel.

2.2 Standards of Conduct Treatment. All Key Personnel shall be treated, for purposes of FERC's Standards of Conduct, as transmission employees. All restrictions relating to information sharing and other relationships between merchant employees and transmission employees shall apply to the Key Personnel.

Section 3 - Compensation, Billing and Payment.

3.1 Compensation. LG&E/KU shall pay to TVA an annual fee for performance of the Reliability Coordinator Services ("Annual Fee"). LG&E/KU shall pay to the Reliability Coordinator as compensation for the performance of the Functions under this Agreement as follows:

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<u>Subsequent Term Beginning</u>	<u>Amount</u>
September 1, 2019	\$2,685,999
September 1, 2020	\$2,872,835
September 1, 2021	\$2,872,835
September 1, 2022	\$2,872,835
September 1, 2023	\$2,872,835
September 1, 2024	\$2,872,835

The Reliability Coordinator agrees that if at any time during the Term it expands its Reliability Coordination Area by providing similar services to additional Transmission Operators, the Reliability Coordinator will review and revise, as appropriate, the above compensation rate. Such revised compensation shall enable the Reliability Coordinator to recover its incremental costs associated with providing the specific service by allocating the costs among those subscribing to the service in an equitable manner (*e.g.*, costs may be allocated using a load ratio share methodology (a participant's annual non-coincident peak load as a percentage of the total annual non-coincident peak load for those participating in the service)). Costs will be determined by the Reliability Coordinator based on its total cost of providing the service(s) as documented in the Reliability Coordinator's financial systems.

Compensation for Subsequent Terms (as defined in Section 4.2 herein) beyond those delineated above shall be based on the compensation in previous Contract Years and/or the methodology outlined above in this Section 3.1 and shall be negotiated by the Parties in good faith. Such negotiations shall begin not later than six months prior to, and shall be concluded no later than three months prior to, the beginning of the Subsequent Term.

Notwithstanding any provision to the contrary contained in this Agreement, if a Dispute should occur between the Parties with respect to the amount of compensation to be paid by LG&E/KU to the Reliability Coordinator (i) pursuant to this Sections 3.1 or (ii) in respect of additional services (other than the Functions) requested by LG&E/KU that the Reliability Coordinator elects, in its sole discretion, to provide, then, in each case, LG&E/KU shall file notice thereof with FERC. The Parties acknowledge that any FERC order issued with respect to such a dispute is only binding on LG&E/KU, not TVA.

3.2 Compensation After Termination. If LG&E/KU terminates this Agreement before the end of a Contract Year, then the Reliability Coordinator shall not be obligated to refund any amounts paid by LG&E/KU to the Reliability Coordinator as compensation for services provided by the Reliability Coordinator under this Agreement. If, however, the Reliability Coordinator terminates this Agreement before the end of a Contract Year or LG&E/KU and the Reliability Coordinator mutually agree to terminate this Agreement, then the Reliability Coordinator shall be obligated to refund to LG&E/KU an amount equal to the product of (a) any amounts paid by LG&E/KU to the Reliability Coordinator as compensation for services provided by the Reliability Coordinator under this Agreement during the Contract Year

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in which this Agreement is terminated and (b) the number of whole or partial months remaining in the Contract Year divided by twelve (12).

3.3 Reimbursement of Additional Costs. In addition to the compensation provided for in Section 3.1, LG&E/KU shall reimburse the Reliability Coordinator for (a) any additional costs incurred by the Reliability Coordinator at the request or direction of LG&E/KU or (b) any reasonable additional one-time costs necessarily incurred by Reliability Coordinator related to its activities under this Agreement that are not associated with services provided for in Section 3.1. Any costs under item (b) above shall be appropriately allocated by TVA among the Parties and those other entities that have executed similar reliability coordination agreements designating TVA as their reliability coordinator.

3.4 Payments. All payments by LG&E/KU to the Reliability Coordinator shall be made by the FedWire transfer method to the Reliability Coordinator's account at the U.S. Treasury in accordance with the wire instructions indicated below, and all such payments shall be deemed received as of the date the electronic funds transfer to the Reliability Coordinator's account is deemed effective.

Bank Name: TREAS NYC (official abbreviation)

Bank Address: New York Federal Reserve Bank, New York City
33 Liberty Street
New York, New York 10045

ABA Number: 021030004

Account No: 0004912

Beneficiary: Tennessee Valley Authority

Taxpayer ID: 62-0474417

OBI: Provide your organization name and invoice number or explanation of payment.

The Reliability Coordinator shall provide LG&E/KU with one or more contact persons for payment purposes and shall update such list of contact persons as necessary.

Section 4 - Effective Date; Term; Termination; Termination Fees; Transition Assistance Services.

4.1 Effective Date. The Parties acknowledge and agree that the effective date of this Agreement (the "Effective Date") shall be September 1, 2019 or such other date as permitted by FERC.

4.2 Term. This Agreement shall commence on Effective Date (as provided for in Section 4.1), and shall automatically continue for successive one-year terms (each, a "Subsequent Term") unless and until terminated pursuant to the termination provisions hereof.

Effective On: September 1, 2019

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All Subsequent Terms, together with the Transition Assistance Period, if any, shall collectively be referred to as the "Term."

4.3 Mutually-Agreed Termination. This Agreement may be terminated by mutual agreement of the Parties at any time during the Term.

4.4 Termination at End of Term. Either Party may terminate this Agreement at the end of any Subsequent Term upon three (3) year's prior written notice to the other Party.

4.5 Termination for Cause.

4.5.1 Termination by Either Party. Either Party may terminate this Agreement effective immediately upon thirty (30) days' prior written notice thereof to the other Party if:

(a) Material Failure or Default. The other Party fails to comply with, observe or perform, or defaults, in any material respect, in the performance of the terms and conditions of this Agreement, and such failure or default remains uncured for thirty (30) days after notice thereof, provided that such failure or default is susceptible to cure and the other Party is exercising reasonable diligence to cure such failure or default;

(b) Pattern of Failure. It determines, in its sole discretion, that there has been a pattern of failure by the other Party to comply with the standards of performance required under this Agreement;

(c) Gross Negligence, Willful Misconduct or Fraud. The other Party commits gross negligence, willful misconduct or fraud in the performance of its obligations under this Agreement;

(d) Material Misrepresentation. Any representation made by the other Party hereunder shall be false or incorrect in any material respect when made and such misrepresentation is not cured within thirty (30) days of such discovery or is incapable of cure;

(e) Bankruptcy. The other Party: (i) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause of action under any bankruptcy, insolvency, reorganization or similar law, or has any such petition filed or commenced against it; (ii) makes an assignment or any general arrangement for the benefit of creditors; (iii) otherwise becomes bankrupt or insolvent (however evidenced); (iv) has a liquidator, administrator, receiver, trustee, conservator or similar official appointed with respect to it or any substantial portion of its property or assets; or (v) is generally unable to pay its debts as they fall due;

(f) Dissolution. The other Party dissolves or is dissolved or its legal existence is otherwise terminated;

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(g) Failure to Negotiate Amendment. The Parties are unsuccessful in negotiating an amendment or amendments to this Agreement pursuant to Section 17.6;

(h) Regulatory Changes/Modifications. FERC, in accepting this Agreement for filing, makes any material changes, modifications, additions, or deletions to this Agreement; or

(i) Extended Force Majeure. A Party is excused because of Force Majeure (as defined in Section 11 herein) for more than thirty (30) days from performing any of its material obligations under this Agreement.

4.5.2 Termination by LG&E/KU. LG&E/KU may terminate this Agreement effective immediately upon thirty (30) days' prior written notice thereof to the Reliability Coordinator if:

(a) the Reliability Coordinator loses its NERC certification once obtained; or

(b) FERC issues an order determining that TVA should no longer serve as LG&E/KU's Reliability Coordinator pursuant to this Agreement.

4.5.3 Termination by the Reliability Coordinator. The Reliability Coordinator may terminate this Agreement effective immediately upon thirty (30) days' prior written notice thereof to LG&E/KU if:

(a) LG&E/KU determines to cease being a Balancing Authority and/or Transmission Operator, provided that LG&E/KU shall provide the Reliability Coordinator as much advance written notice of such determination as is practicable to allow the Reliability Coordinator to terminate this Agreement on or prior to the time LG&E/KU ceases to be a Balancing Authority or Transmission Operator;

(b) FERC or any other person or entity takes any action to subject the Reliability Coordinator to FERC's plenary jurisdiction under the Federal Power Act ("FPA"); or

(c) Effective Date has not occurred within eighteen (18) months of the Execution Date.

4.6 Return of Materials. Upon any termination of this Agreement or the conclusion of any Transition Assistance Period pursuant to Section 4.8.1, whichever is later, the Reliability Coordinator shall timely and orderly turn over to LG&E/KU all materials that were prepared or developed prior thereto pursuant to this Agreement, and return or destroy, at the option of LG&E/KU, all Data and other information supplied by LG&E/KU to the Reliability Coordinator or created by the Reliability Coordinator on behalf of LG&E/KU.

4.7 Survival. All provisions of this Agreement which are by their nature or terms intended to survive the termination of this Agreement, including the obligations set forth in Sections 7 and 10, shall survive termination of this Agreement.

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4.8 Transition Assistance Services.

4.8.1 Transition Assistance Period. Commencing on the date this Agreement is terminated and continuing for up to one (1) year thereafter (the "Transition Assistance Period"), the Reliability Coordinator shall (a) provide the Functions (and any replacements thereof or substitutions therefor), to the extent LG&E/KU requests such Functions to be performed during the Transition Assistance Period, and (b) cooperate with LG&E/KU in the transfer of the Functions (collectively, the "Transition Assistance Services"). During the Transition Assistance Period, the Parties shall use good faith efforts to ensure a smooth transition.

4.8.2 Transition Assistance Services. The Reliability Coordinator shall, upon LG&E/KU's request, provide the Transition Assistance Services during the Transition Assistance Period at the Reliability Coordinator's actual cost for such services. The quality and level of performance of the Functions by the Reliability Coordinator during the Transition Assistance Period shall not be degraded. After the expiration of the Transition Assistance Period, the Reliability Coordinator shall answer questions from LG&E/KU regarding the Functions on an "as needed" basis at the Reliability Coordinator's then-standard billing rates.

4.8.3 Key Personnel. During the Transition Assistance Period, the Reliability Coordinator shall not terminate, reassign or otherwise remove any Key Personnel without providing LG&E/KU thirty (30) days' prior notice of such termination, reassignment or removal unless such employee (a) voluntarily resigns from the Reliability Coordinator, (b) is dismissed by the Reliability Coordinator for cause, or (c) dies or is unable to work due to his or her disability.

4.9 Change in Reliability Entity. This Agreement is based on the existence of NERC and the applicability of the NERC Standards. If NERC ceases to exist in its current form or is replaced with an entity with authority over a Party's transmission system, the Parties shall promptly meet to determine whether to revise this Agreement to reflect the new reliability entity, if any, and the Parties' obligations in light of the new reliability entity or to terminate this Agreement in accordance with Section 4.2.

4.10 Prior Obligations and Liabilities Unaffected by Termination. Termination of this Agreement shall not relieve the Parties of any of their respective cost obligations or other obligations and liabilities related to this Agreement that were incurred prior to the effective date of termination of this Agreement.

Section 5 - Data Management.

5.1 Supply of Data. During the Term, LG&E/KU shall supply to the Reliability Coordinator, and/or grant the Reliability Coordinator access to all Data that the Reliability Coordinator reasonably requires to perform the Functions. The Parties shall agree upon the initial format and manner in which such Data shall be provided. For purposes of this Agreement, "Data" means all information, text, drawings, diagrams, images or sounds which are embodied in any electronic or tangible medium and which (a) are supplied or in respect of which access is granted to the Reliability Coordinator by LG&E/KU under this Agreement, which shall be

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LG&E/KU's Data, (b) are prepared, stored or transmitted by the Reliability Coordinator solely on behalf of LG&E/KU, which shall be LG&E/KU's Data; or (c) are compiled by the Reliability Coordinator by aggregating Data owned by LG&E/KU and Data owned by third parties, which shall be Reliability Coordinator's Data.

5.2 Property of Each Party. Each Party acknowledges that the other Party's Data and the other Party's software, base data models and operating procedures for software or base data models ("Processes") are the property of such other Party and agrees that it will do nothing inconsistent with such ownership, including preserving all intellectual property and/or proprietary rights in such other Party's Data and Processes as provided in Section 6.

5.3 Data Integrity. Each Party shall reasonably assist the other Party in establishing measures to preserve the integrity and prevent any corruption or loss of Data, and the Parties shall reasonably assist each other in the recovery of any corrupted or lost Data. Each Party shall retain and preserve any of the other Party's Data that are supplied to it during the Term, and shall exercise commercially reasonable efforts to preserve the integrity of the other Party's Data that are supplied to it during the Term, in order to prevent any corruption or loss of the other Party's Data.

5.4 Confidentiality. Each Party's Data shall be treated as Confidential Information in accordance with the provisions of Section 10.

Section 6 - Intellectual Property.

6.1 Pre-Existing Intellectual Property. Each Party shall own (and continue to own) all trade secrets, Processes and designs and other intellectual property that it owned prior to entering this Agreement, including any enhancements thereto ("Pre-Existing Intellectual Property"). Each Party acknowledges the ownership of the other Party's Pre-Existing Intellectual Property and agrees that it will do nothing inconsistent with such ownership. Each Party agrees that nothing in this Agreement shall give it any right, title or interest in the other Party's Pre-Existing Intellectual Property, other than the rights set forth in this Agreement. The Reliability Coordinator's Pre-Existing Intellectual Property shall include the Reliability Coordinator Retained Rights set forth in Section 6.3. LG&E/KU's Pre-Existing Intellectual Property shall include LG&E/KU Retained Rights set forth in Section 6.4.

6.1.1 Exclusion. Nothing in this Agreement shall prevent either Party from using general techniques, ideas, concepts and know-how gained by its employees during the performance of its obligations under this Agreement in the furtherance of its normal business, to the extent that it does not result in disclosure of the other Party's Data or any data generated from the other Party's Data or other Confidential Information or an infringement by LG&E/KU or the Reliability Coordinator of any intellectual property right. For the avoidance of doubt, the use by a Party of such general techniques, ideas, concepts and know-how gained by its employees during the performance of its obligations under this Agreement shall not be deemed to be an infringement of the other Party's intellectual property rights so long as such matters are retained in the unaided memories of such employees and any Confidential Information is treated in accordance with the provisions of Section 10.

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6.2 Jointly-Owned Intellectual Property. Except for the Data described in Section 5.1, all deliverables, whether software or otherwise, to the extent originated and prepared by the Reliability Coordinator exclusively in connection with the performance of its obligations under this Agreement shall be, upon payment of all amounts that may be due from LG&E/KU to the Reliability Coordinator, jointly owned by LG&E/KU and Reliability Coordinator (“Jointly-Owned Intellectual Property”). Each Party shall have the right to use the Jointly-Owned Intellectual Property without any right or duty or accounting to the other Party, except as provided in this Section 6.2. Upon the Reliability Coordinator using, transferring or licensing Jointly-Owned Intellectual Property for or to a third party, the Reliability Coordinator shall reimburse LG&E/KU in an equitable manner as determined by the Parties in good faith for the actual amounts paid by LG&E/KU to the Reliability Coordinator that relate to such Jointly-Owned Intellectual Property. Except as stated in the foregoing sentence, the Reliability Coordinator shall have no other obligation to account to LG&E/KU for any such use, transfer, license, disclosure, copying, modifying or enhancing of the Jointly-Owned Intellectual Property. Notwithstanding anything herein to the contrary, LG&E/KU may use the Jointly-Owned Intellectual Property for its internal business purposes, including licensing or transferring its interests therein to a third party for purposes of operating or performing functions in connection with LG&E/KU’s transmission business.

6.3 Reliability Coordinator Retained Rights. The Reliability Coordinator shall retain all right, title and interest in its proprietary know-how, concepts, techniques, processes, materials and information that were or are developed entirely independently of this Agreement (“Reliability Coordinator Retained Rights”), whether or not such Reliability Coordinator Retained Rights are embodied in a deliverable, whether software or otherwise originated and prepared by the Reliability Coordinator in connection with the performance of its obligations under this Agreement. With respect to the Reliability Coordinator Retained Rights embodied in any deliverable, whether software or otherwise originated and prepared by the Reliability Coordinator in connection with the performance of its obligations under this Agreement, LG&E/KU is hereby granted a nonexclusive, perpetual, worldwide, royalty-free, fully paid-up license under such Reliability Coordinator Retained Rights to use such deliverable for LG&E/KU’s internal business purposes only, including licensing or transferring its interests therein to an Affiliate of LG&E/KU or a third party for purposes of operating or performing functions in connection with LG&E/KU’s transmission business.

6.4 LG&E/KU Retained Rights. LG&E/KU shall retain all right, title and interest in its proprietary know-how, concepts, techniques, processes, materials and information that were or are developed entirely independently of this Agreement (“LG&E/KU Retained Rights”), whether or not such LG&E/KU Retained Rights are embodied in a deliverable, whether software or otherwise originated and prepared by LG&E/KU in connection with the performance of its obligations under this Agreement. With respect to LG&E/KU Retained Rights embodied in any software or otherwise originated and prepared by LG&E/KU in connection with the performance of its obligations under this Agreement, the Reliability Coordinator is hereby granted a nonexclusive, worldwide, royalty-free, fully paid-up license under such LG&E/KU Retained Rights to use such deliverable for the Reliability Coordinator’s performance of its obligations under this Agreement only; provided that LG&E/KU shall not be liable in any way for the use of

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or reliance on such Reliability Coordinator Retained Rights by the Reliability Coordinator's Affiliate or third party for any purpose whatsoever.

6.5 Reliability Coordinator Non-Infringement; Indemnification. The Reliability Coordinator warrants to LG&E/KU that all Reliability Coordinator's Data and Processes, Reliability Coordinator Pre-Existing Intellectual Property, Reliability Coordinator Retained Rights, and deliverables prepared, produced or first developed by the Reliability Coordinator in connection with the performance of its obligations under this Agreement shall not infringe on any third party patent, copyright, trade secret or other third party proprietary rights. The Reliability Coordinator shall defend, hold harmless and indemnify LG&E/KU and its Affiliates and their respective employees, officers, directors, principals, owners, partners, shareholders, agents, representatives, consultants, and subcontractors (collectively, "LG&E/KU Representatives") from and against all claims, lawsuits, penalties, awards, judgments, court arbitration costs, attorneys' fees, and other reasonable out-of-pocket costs incurred in connection with such claims or lawsuits based upon the actual or alleged infringement of any of the foregoing rights; provided that LG&E/KU gives prompt written notice of any such claim or action to the Reliability Coordinator, permits the Reliability Coordinator to control the defense of any such claim or action with counsel of its choice, and cooperates with the Reliability Coordinator in the defense thereof; and further provided that such claim or action is not based on any alteration, modification or combination of the deliverable with any item, information or process not provided by the Reliability Coordinator, where there would be no infringement in the absence of such alteration, modification or combination. If any infringement action results in a final injunction against LG&E/KU or the LG&E/KU Representatives with respect to Reliability Coordinator's Data and Processes, Reliability Coordinator Pre-Existing Intellectual Property, Reliability Coordinator Retained Rights or deliverables prepared, produced or first developed by the Reliability Coordinator in connection with the performance of its obligations under this Agreement or in the event the use of such matters or any part thereof, is, in such lawsuit, held to constitute infringement, the Reliability Coordinator agrees that it shall, at its option and sole expense, either (a) procure for LG&E/KU or the LG&E/KU Representatives the right to continue using the infringing matter, or (b) replace the infringing matter with non-infringing items of equivalent functionality or modify the same so that it becomes non-infringing and retains its full functionality. If the Reliability Coordinator is unable to accomplish (a) or (b) above, the Reliability Coordinator shall reimburse LG&E/KU for all costs and fees paid by LG&E/KU to the Reliability Coordinator for the infringing matter. The above constitutes the Reliability Coordinator's complete liability for claims of infringement relating to any the Reliability Coordinator's Data and Processes, Reliability Coordinator Pre-Existing Intellectual Property, Reliability Coordinator Retained Rights, and deliverables prepared, produced or first developed by the Reliability Coordinator in connection with the performance of its obligations under this Agreement.

6.6 LG&E/KU Non-Infringement; Indemnification. LG&E/KU warrants to the Reliability Coordinator that, to its knowledge, all LG&E/KU's Data (except for Data created by the Reliability Coordinator on behalf of LG&E/KU) and Processes, LG&E/KU Pre-Existing Intellectual Property, and LG&E/KU Retained Rights shall not infringe on any third party patent, copyright, trade secret or other third party proprietary rights. LG&E/KU shall defend, hold

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harmless and indemnify the Reliability Coordinator and its Affiliates and their respective employees, officers, directors, principals, owners, partners, shareholders, agents, representatives, consultants, and subcontractors against all claims, lawsuits, penalties, awards, judgments, court costs, and arbitration costs, attorneys' fees, and other reasonable out-of-pocket costs incurred in connection with such claims or lawsuits based upon the actual or alleged infringement of any of the foregoing rights; provided that the Reliability Coordinator gives prompt written notice of any such claim or action to LG&E/KU, permits LG&E/KU to control the defense of any such claim or action with counsel of its choice, and cooperates with LG&E/KU in the defense thereof; and further provided that such claim or action is not based on any alteration, modification or combination of the deliverable with any item, information or process not provided by LG&E/KU to the Reliability Coordinator, where there would be no infringement in the absence of such alteration, modification or combination. The above constitutes LG&E/KU's complete liability for claims of infringement relating to any of the LG&E/KU's Data and Processes, LG&E/KU Pre-Existing Intellectual Property, and LG&E/KU Retained Rights.

Section 7 - Indemnification.

7.1 Indemnification by the Parties. Each Party ("Indemnifying Party") shall indemnify, release, defend, reimburse and hold harmless the other Party and its Affiliates, and their respective directors, officers, employees, principals, representatives and agents (collectively, the "Indemnified Parties") from and against any and all claims, demands, liabilities, losses, causes of action, awards, fines, penalties, litigation, administrative proceedings and investigations, costs and expenses, and attorney fees (each, an "Indemnifiable Loss") asserted against or incurred by any of the Indemnified Parties arising out of, resulting from or based upon (a) a breach by the Indemnifying Party of its obligations under this Agreement, (b) claims of bodily injury or death of any person or damage to real and/or tangible personal property caused by the negligence or willful misconduct of the Indemnifying Party and its Affiliates and their respective directors, officers, employees, principals, representatives, agents or contractors during the Term, or (c) the acts or omissions of the Indemnifying Party and its Affiliates and their respective directors, officers, employees, principals, representatives, agents or contractors during the Term.

7.2 No Consequential Damages. Neither Party shall be liable to the other Party under this Agreement (by way of indemnification, damages or otherwise) for any indirect, incidental, exemplary, punitive, special or consequential damages, except in the case of gross negligence or willful misconduct.

7.3 Cooperation Regarding Claims. If an Indemnified Party receives notice or has knowledge of any Indemnifiable Loss that may result in a claim for indemnification by such Indemnified Party against an Indemnifying Party pursuant to this Section 7, such Indemnified Party shall as promptly as possible give the Indemnifying Party notice of such Indemnifiable Loss, including a reasonably detailed description of the facts and circumstances relating to such Indemnifiable Loss, a complete copy of all notices, pleadings and other papers related thereto, and in reasonable detail the basis for its claim for indemnification with respect thereto. Failure to promptly give such notice or to provide such information and documents shall not relieve the Indemnifying Party from the obligation hereunder to respond to or defend the Indemnified Party

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against such Indemnifiable Loss unless such failure shall materially diminish the ability of the Indemnifying Party to respond to or to defend the Indemnified Party against such Indemnifiable Loss. The Indemnifying Party, upon its acknowledgment in writing of its obligation to indemnify the Indemnified Party in accordance with this Section 7, shall be entitled to assume the defense or to represent the interest of the Indemnified Party with respect to such Indemnifiable Loss, which shall include the right to select and direct legal counsel and other consultants, appear in proceedings on behalf of such Indemnified Party and to propose, accept or reject offers of settlement, all at its sole cost. If and to the extent that any such settlement is reasonably likely to involve injunctive, equitable or prospective relief or materially and adversely affect the Indemnified Party's business or operations other than as a result of money damages or other money payments, then such settlement will be subject to the reasonable approval of the Indemnified Party. Nothing herein shall prevent an Indemnified Party from retaining its own legal counsel and other consultants and participating in its own defense at its own cost and expense.

Section 8 - Contract Managers; Dispute Resolution.

8.1 LG&E/KU Contract Manager. LG&E/KU shall appoint an individual (the "LG&E/KU Contract Manager") who shall serve as the primary LG&E/KU representative under this Agreement. The LG&E/KU Contract Manager shall (a) have overall responsibility for managing and coordinating the performance of LG&E/KU's obligations under this Agreement, and (b) be authorized to act for and on behalf of LG&E/KU with respect to all matters relating to this Agreement. Notwithstanding the foregoing, the LG&E/KU Contract Manager may, upon prior written notice to the Reliability Coordinator, delegate such of his or her responsibilities to other LG&E/KU employees, as the LG&E/KU Contract Manager deems appropriate. LG&E/KU may, upon prior written notice to the Reliability Coordinator, change the LG&E/KU Contract Manager.

8.2 Reliability Coordinator Contract Manager. The Reliability Coordinator shall appoint, among the Key Personnel, an individual (the "Reliability Coordinator Contract Manager") who shall serve as the primary Reliability Coordinator representative under this Agreement. The Reliability Coordinator Contract Manager shall (a) have overall responsibility for managing and coordinating the performance of the Reliability Coordinator's obligations under this Agreement, and (b) be authorized to act for and on behalf of the Reliability Coordinator with respect to all matters relating to this Agreement. Notwithstanding the foregoing, the Reliability Coordinator Contract Manager may, upon prior written notice to LG&E/KU, delegate such of his or her responsibilities to other Key Personnel, as the Reliability Coordinator Contract Manager deems appropriate. The Reliability Coordinator may, upon prior written notice to LG&E/KU, change the Reliability Coordinator Contract Manager. For the avoidance of doubt, LG&E/KU shall not have an approval or consent right with respect to the selection of the Reliability Coordinator Contract Manager.

8.3 Resolution of Disputes. Any dispute, claim or controversy between the Parties arising out of or relating to this Agreement (each, a "Dispute") shall be resolved in accordance with the procedures set forth in this Section 8.3; provided, however, that this Section 8.3 shall not apply to Disputes arising from or relating to (a) the amount of compensation to be paid by

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LG&E/KU pursuant to the last sentence of Section 3.1, which shall be resolved pursuant thereto, or (b) confidentiality or intellectual property rights (in which case either Party shall be free to seek available legal or equitable remedies).

8.3.1 Notice of Dispute. Each Party shall provide written notice to the other party of any Dispute, including a description of the nature of the Dispute.

8.3.2 Dispute Resolution by Contract Managers. Any Dispute shall first be referred to the LG&E/KU Contract Manager and the Reliability Coordinator Contract Manager, who shall negotiate in good faith to resolve the Dispute.

8.3.3 Dispute Resolution by Executive Management Representatives. If the Dispute is not resolved within fifteen (15) days of being referred to the LG&E/KU Contract Manager and the Reliability Coordinator Contract Manager pursuant to Section 8.3.2, then each Party shall have five (5) days to appoint an executive management representative who shall negotiate in good faith to resolve the Dispute.

8.3.4 Exercise of Remedies at Law or in Equity. If the Parties' executive management representatives are unable to resolve the Dispute within thirty (30) days of their appointment, then each Party shall be free to pursue any remedies available to it and to take any action in law or equity that it believes necessary or convenient in order to enforce its rights or cause to be fulfilled any of the obligations or agreements of the other Party.

8.4 LG&E/KU Rights Under FPA Unaffected. Nothing in this Agreement is intended to limit or abridge any rights that LG&E/KU may have to file or make application before FERC under Section 205 of the FPA to revise any rates, terms or conditions of the OATT or any other FPA jurisdictional agreement.

8.5 Reliability Coordinator Rights Under the TVA Act and FPA Unaffected. Nothing in this Agreement is intended to limit or abridge any rights that the Reliability Coordinator may have under the TVA Act or the FPA, nor to require the Reliability Coordinator to violate the area limitations set forth in the TVA Act.

8.6 Statute of Limitations; Continued Performance. The Parties agree to waive the applicable statute of limitations during the period of time that the Parties are seeking to resolve a Dispute pursuant to Sections 8.3.2 and 8.3.3, and the statute of limitations shall be tolled for such period. The Parties shall continue to perform their obligations under this Agreement during the resolution of a Dispute.

Section 9 - Insurance.

9.1 Requirements. The Reliability Coordinator shall provide and maintain during the Term insurance coverage in the form and with minimum limits of liability as specified below, unless otherwise agreed to by the Parties.

9.1.1 Worker's compensation insurance in accordance with the Federal Employees Compensation Act (FECA).

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9.1.2 Commercial general liability or equivalent insurance with a combined single limit of not less than \$1,000,000 per occurrence. Such insurance shall include products/completed operations liability, owners protective, blanket contractual liability, personal injury liability and broad form property damage.

9.2 Insurance Matters. All insurance coverages required pursuant to Section 9.1 shall (a) be provided by insurance companies that have a Best Rating of A or higher, (b) provide that LG&E/KU is an additional insured (other than the workers' compensation insurance), (c) provide that LG&E/KU will receive at least thirty (30) days' written notice from the insurer prior to the cancellation or termination of or any material change in any such insurance coverages, and (d) include waivers of any right of subrogation of the insurers thereunder against LG&E/KU. Certificates of insurance evidencing that the insurance required by Section 9.1 is in force shall be delivered by the Reliability Coordinator to LG&E/KU prior to the Effective Date.

9.3 Compliance. The Reliability Coordinator shall not commence performance of any Functions until all of the insurance required pursuant to Section 9.1 is in force, and the necessary documents have been received by LG&E/KU pursuant to Section 9.2. Compliance with the insurance provisions in Section 9 is expressly made a condition precedent to the obligation of LG&E/KU to make payment for any Functions performed by the Reliability Coordinator under this Agreement. The minimum insurance requirements set forth above shall not vary, limit or waive the Reliability Coordinator's legal or contractual responsibilities or liabilities under this Agreement.

Section 10 - Confidentiality.

10.1 Definition of Confidential Information. For purposes of this Agreement, "Confidential Information" shall mean, in respect of each Party, all activities by such Party and information and documentation of such Party, whether disclosed to or accessed by the other Party, in each case, in connection with this Agreement; provided, however, that the term "Confidential Information" shall not include information that: (a) is independently developed by the recipient, as demonstrated by the recipient's written records, without violating the disclosing Party's proprietary rights; (b) is or becomes publicly known (other than through unauthorized disclosure); (c) is disclosed by the owner of such information to a third party free of any obligation of confidentiality; (d) is already known by the recipient at the time of disclosure, as demonstrated by the recipient's written records, and the recipient has no obligation of confidentiality other than pursuant to this Agreement or any confidentiality agreements between the Parties entered into before the Effective Date; or (e) is rightfully received by a Party free of any obligation of confidentiality.

10.2 Protection of Confidential Information. All Confidential Information shall be held in confidence by the recipient to the same extent and in at least the same manner as the recipient protects its own confidential information, and such Confidential Information shall be used only for purposes of performing obligations under this Agreement. Except as otherwise provided in Section 10.4, neither Party shall disclose, publish, release, transfer, or otherwise make available Confidential Information of, or obtained from, the other Party in any form to, or for the use or benefit of, any person or entity without the disclosing Party's prior written consent. Each Party shall be permitted to disclose relevant aspects of the other Party's Confidential

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Information to its officers, directors, agents, professional advisors, contractors, subcontractors and employees and to the officers, directors, agents, professional advisors, contractors, subcontractors and employees of its Affiliates, to the extent that such disclosure is reasonably necessary for the performance of its duties and obligations or the determination, preservation or exercise of its rights and remedies under this Agreement; provided, however, that the recipient shall take all reasonable measures to ensure that Confidential Information of the disclosing Party is not disclosed or duplicated in contravention of the provisions of this Agreement by such officers, directors, agents, professional advisors, contractors, subcontractors and employees. The obligations in this Section 10 shall not restrict any disclosure pursuant to any local, state or federal governmental agency or authority if such release is necessary to comply with applicable laws, governmental regulations or orders of regulatory bodies or courts; provided that, other than in respect of disclosures pursuant to Section 10.4, the recipient shall give prompt notice to the disclosing Party in reasonable time to exercise whatever legal rights the disclosing Party may have to prevent or limit such disclosure. Further, the recipient shall cooperate with the disclosing Party in preventing or limiting such disclosure.

10.3 NERC Data Confidentiality Agreement. In addition to, and not in limitation of, the confidentiality restrictions in Section 10.2, each Party shall sign the NERC Confidentiality Agreement for Electric System Operating Reliability Data approved by Board of Trustees on May 6, 2009, including subsequent amendments thereto, (“NERC Data Confidentiality Agreement”) and shall treat all Confidential Information as transmission operations and transmission system information pursuant to the NERC Data Confidentiality Agreement.

10.4 FERC Requests for Confidential Information. Notwithstanding anything in this Agreement to the contrary, if FERC or its staff, during the course of an investigation or otherwise, requests information from the Reliability Coordinator related to services provided by the Reliability Coordinator to LG&E/KU that the Reliability Coordinator is otherwise required to maintain in confidence pursuant to this Agreement, the Reliability Coordinator shall provide the requested information to FERC or its staff within the time provided for in the request for information. In providing such information to FERC or its staff, the Reliability Coordinator shall, consistent with 18 C.F.R. §§ 388.112 and 388.113, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. The Reliability Coordinator shall notify LG&E/KU when it is notified by FERC or its staff that a request for public disclosure of, or decision to publicly disclose, confidential information has been received, at which time either the Reliability Coordinator or LG&E/KU may respond before such information is made public, pursuant to 18 C.F.R. §§ 388.112 and 388.113.

Section 11 - Force Majeure.

11.1 Neither Party shall be liable to the other Party for any failure or delay of performance hereunder due to causes beyond such Party’s reasonable control, which by the exercise of reasonable due diligence such Party is unable, in whole or in part, to prevent or overcome (a “Force Majeure”), including acts of God, act of the public enemy, fire, explosion, vandalism, cable cut, storm or other catastrophes, weather impediments, national emergency, insurrections, riots, wars or any law, order, regulation, direction, action or request of any

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government or authority or instrumentality thereof. Neither Party shall be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure, except for the obligation to pay any amount when due, provided that the affected Party:

11.1.1 gives notice to the other Party of the event or circumstance giving rise to the event of Force Majeure;

11.1.2 affords the other Party reasonable access to information about the event or circumstances giving rise to the event of Force Majeure;

11.1.3 takes commercially reasonable steps to restore its ability to perform its obligations hereunder as soon as reasonably practicable, provided that the affected Party shall not be obligated to take any steps that are not otherwise in accordance with Good Utility Practice; and

11.1.4 exercises commercially reasonable efforts to perform its obligations hereunder.

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Section 12 - Reporting; Audit.

12.1 Reporting. The Reliability Coordinator shall make regular reports to FERC and LG&E/KU's retail regulators as may be required by applicable law and regulations or as may be requested by such authorities.

12.2 Books and Records. The Reliability Coordinator shall maintain full and accurate books and records pertinent to this Agreement, and the Reliability Coordinator shall maintain such books and records for three (3) years following the expiration or early termination of this Agreement or longer if necessary to resolve a pending Dispute. LG&E/KU will have the right, at reasonable times and under reasonable conditions, to inspect and audit, or have an independent third party inspect and audit, the Reliability Coordinator's operations and books to (a) ensure compliance with this Agreement, (b) verify any cost claims or other amounts due hereunder, and (c) validate the Reliability Coordinator's internal controls with respect to the performance of the Functions. The Reliability Coordinator shall maintain an audit trail, including all original transaction records, of all financial and non-financial transactions resulting from or arising in connection with this Agreement as may be necessary to enable LG&E/KU or the independent third party, as applicable, to perform the foregoing activities. LG&E/KU shall be responsible for any costs and expenses incurred in connection with any such inspection or audit, unless such inspection or audit discovers that LG&E/KU was charged inappropriate or incorrect costs and expenses, in which case, the Reliability Coordinator shall be responsible for a percentage of the costs and expenses incurred in connection with such inspection or audit equal to the percentage variance by which LG&E/KU was charged inappropriate or incorrect costs and expenses. The Reliability Coordinator shall provide reasonable assistance necessary to enable LG&E/KU or an independent third party, as applicable, and shall not be entitled to charge LG&E/KU for any such assistance. Amounts incorrectly or inappropriately invoiced by the Reliability Coordinator to LG&E/KU, whether discovered prior to or subsequent to payment by LG&E/KU, shall be adjusted or reimbursed to LG&E/KU by the Reliability Coordinator within twenty (20) days of notification by LG&E/KU to the Reliability Coordinator of the error in the invoice.

12.3 Regulatory Compliance. The Reliability Coordinator shall comply with all reasonable requests by LG&E/KU to comply with Section 404 of the Sarbanes-Oxley Act and related regulatory requirements. LG&E/KU may hire, at its expense, or LG&E/KU may direct the Reliability Coordinator to hire, at LG&E/KU expense, an independent auditor to review, audit and prepare audit reports associated with the Reliability Coordinator's controls and systems relating to the Functions and LG&E/KU's financial statements and reports, in accordance with SAS No. 70, Type II. Such reports may not be required more frequently than twice per Contract Year. The Reliability Coordinator shall notify LG&E/KU prior to or at the time of any significant or material change to any internal process or financial control of the Reliability Coordinator that would or might impact the Functions performed for or on behalf of LG&E/KU or that would, or might, have a significant or material effect on such process's mitigation of risk or upon the integrity of LG&E/KU's financial reporting or disclosures and provide sufficient details of the change so as to enable LG&E/KU and/or its independent auditors to review the change and evaluate its impact on its internal controls and financial reporting. The Reliability

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Coordinator shall cooperate with the independent auditors and LG&E/KU to enable the preparation of the reports necessary to comply with Section 404 of the Sarbanes-Oxley Act, consistent with the other provisions of this Agreement.

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Section 13 - Independent Contractor.

The Reliability Coordinator shall be and remain during the Term an independent contractor with respect to LG&E/KU, and nothing contained in this Agreement shall be (a) construed as inconsistent with that status, or (b) deemed or construed to create the relationship of principal and agent or employer and employee, between the Reliability Coordinator and LG&E/KU or to make either the Reliability Coordinator or LG&E/KU partners, joint ventures, principals, fiduciaries, agents or employees of the other Party for any purpose. Neither Party shall represent itself to be an agent, partner or representative of the other Party. Neither Party shall commit or bind, nor be authorized to commit or bind, the other Party in any manner, without such other Party's prior written consent. Personnel employed, provided or used by any Party in connection herewith will not be employees of the other Party in any respect. Each Party shall have full responsibility for the actions or omissions of its employees and shall be responsible for their supervision, direction and control.

Section 14 - Taxes.

Each Party shall be responsible for the payment of its own taxes, including taxes based on its net income, employment taxes of its employees, taxes on any property it owns or leases, and sales, use, gross receipts, excise, value-added or other transaction taxes.

Section 15 - Notices.

15.1 Notices. Except as otherwise specified herein, any notice required or authorized by this Agreement shall be deemed properly given to a Party when sent to its designated representative by facsimile or other electronic means (with a confirmation copy sent by United States mail, first-class postage prepaid), by hand delivery, or by United States mail, first-class postage prepaid. The Parties' designated representatives are as follows:

If to LG&E/KU:

Louisville Gas and Electric Company
220 West Main St.
Louisville, Kentucky 40202
Facsimile: (502) 627-4002

And

Kentucky Utilities Company
220 West Main St.
Louisville, Kentucky 40202
Facsimile: (502) 627-4002

If to the Reliability Coordinator:

Tennessee Valley Authority

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1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801
Facsimile: (423) 697-4120

15.2 Changes. Either Party may, from time to time, change the names, addresses, facsimile numbers or other notice information set out in Section 15.1 by notice to the other Party in accordance with the requirements of Section 15.1.

Section 16 - Key Personnel; Work Conditions.

16.1 Key Personnel. All Key Personnel shall be properly certified and licensed, if required by law, and be qualified and competent to perform the Functions.

16.2 Conduct of Key Personnel and Reporting. The Reliability Coordinator agrees to require that the Key Personnel comply with the Reliability Coordinator's employee code of conduct, a current copy of which has been provided to LG&E/KU. The Reliability Coordinator may amend its employee code of conduct at any time, provided that the Reliability Coordinator shall promptly provide the LG&E/KU Contract Manager with a copy of the amended employee code of conduct. If any Key Personnel commits fraud or engages in material violation of the Reliability Coordinator's employee code of conduct, the Reliability Coordinator shall promptly notify LG&E/KU as provided above and promptly remove any such Key Personnel from the performance of the Functions.

16.3 Personnel Screening. The Reliability Coordinator shall be responsible for conducting, in accordance with applicable law (including the Fair Credit Reporting Act, The Fair and Accurate Credit Transactions Act, and Title VII of the Civil Rights Act of 1964), adequate pre-deployment screening of the Key Personnel prior to commencing performance of the Functions. By deploying Key Personnel under this Agreement, the Reliability Coordinator represents that it has completed the Screening Measures (as defined below) with respect to such Key Personnel. To the extent permitted by applicable law, the term "Screening Measures" shall include, at a minimum, a background check including: (a) a Terrorist Watch Database Search; (b) a Social Security Number trace; (c) motor vehicle license and driving record check; and (d) a criminal history check, including, a criminal record check for each county/city and state/country in the employee's residence history for the maximum number of years permitted by law, up to seven (7) years. Unless prohibited by law, if, prior to or after assigning a Key Personnel to perform the Functions, the Reliability Coordinator learns of any information that the Reliability Coordinator considers would adversely affect such Key Personnel's suitability for the performance of the Functions (including based on information discovered from the Screening Measures), the Reliability Coordinator shall not assign the Key Personnel to the Functions or, if already assigned, promptly remove such Key Personnel from performing the Functions and immediately notify LG&E/KU of such action.

16.4 Security. LG&E/KU shall have the option of barring from LG&E/KU's property any Key Personnel whom LG&E/KU determines is not suitable in accordance with the applicable laws pursuant to Sections 16.1 through 16.3.

Section 17 - Miscellaneous Provisions.

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17.1 Governing Law. This Agreement and the rights and obligations of the Parties hereunder shall be governed by and construed in accordance with applicable state and federal laws, without regard to the laws requiring the applicability of the laws of another jurisdiction.

17.2 Amendment. This Agreement shall not be varied or amended unless such variation or amendment is agreed to by the Parties in writing.

17.3 Assignment. Neither Party shall sell, assign, or otherwise transfer any or all of its respective rights hereunder, or delegate any or all of its respective obligations under this Agreement.

17.4 No Third Party Beneficiaries. Nothing in this Agreement is intended to confer any benefits upon any person or entity not a Party to this Agreement. This Agreement is made solely for the benefit of the Parties and nothing herein shall be construed as a stipulation for the benefit of others, and no third party shall be entitled to enforce this Agreement against any Party hereto.

17.5 Waivers. No waiver of any provision of this Agreement shall be effective unless it is signed by the Party against which it is sought to be enforced. The delay or failure by either Party to exercise or enforce any of its rights under this Agreement shall not constitute or be deemed a waiver of that Party's right thereafter to enforce those rights, nor shall any single or partial exercise of any such right preclude any other or further exercise thereof or the exercise of any other right.

17.6 Severability; Renegotiation. The invalidity or unenforceability of any portion or provision of this Agreement shall in no way affect the validity or enforceability of any other portion or provision herein. If any provision of this Agreement is found to be invalid, illegal or otherwise unenforceable, the same shall not affect the other provisions hereof or the whole of this Agreement and shall not render invalid, illegal or unenforceable this Agreement or any of the remaining provisions of this Agreement. If any provision of this Agreement or the application thereof to any person, entity or circumstance, is held by a court or regulatory authority of competent jurisdiction to be invalid, void or unenforceable, or if a modification, condition or other change to this Agreement is imposed by a court or regulatory authority of competent jurisdiction which materially affects the benefits or obligations of the Parties, then the Parties shall in good faith negotiate such amendment or amendments to this Agreement as will restore the relative benefits and obligation of the Parties immediately prior to such holding, modification or condition. If such negotiations are unsuccessful, then either Party may terminate this Agreement pursuant to Section 4.5.1.

17.7 Representations and Warranties. Each Party represents and warrants to the other Party as of the Execution Date and the Effective Date as follows:

17.7.1 Organization. It is duly organized, validly existing and in good standing under the laws of the State in which it was organized or applicable Federal law, and has all the requisite power and authority to own and operate its material assets and properties and to carry on its business as now being conducted and as proposed to be conducted under this Agreement.

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17.7.2 Authority. It has the requisite power and authority to execute and deliver this Agreement and, subject to the procurement of applicable regulatory approvals, to perform its obligations under this Agreement. The execution and delivery of this Agreement by it and the performance of its obligations under this Agreement have been duly authorized by all necessary corporate action required on its part.

17.7.3 Binding Effect. Assuming the due authorization, execution and delivery of this Agreement by the other Party, this Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with its terms, except as the same may be limited by bankruptcy, insolvency or other similar applicable laws affecting creditors' rights generally, and by general principles of equity regardless of whether such principles are considered in a proceeding at law or in equity.

17.7.4 Regulatory Approval. It has obtained or will obtain by the Effective Date, any and all approvals of, and acceptances for filing by, and has given or will give any notices to, any applicable federal or state authority, that are required for it to execute, deliver, and perform its obligations under this Agreement.

17.7.5 No Litigation. There are no actions at law, suits in equity, proceedings, or claims pending or, to its knowledge, threatened against it before or by any federal, state, foreign or local court, tribunal, or governmental agency or authority that might materially delay, prevent, or hinder the performance by such entity of its obligations hereunder.

17.7.6 No Violation or Breach. The execution, delivery and performance by it of its obligations under this Agreement do not and shall not: (a) violate its organizational documents; (b) violate any applicable law, statute, order, rule, regulation or judgment promulgated or entered by any applicable federal or state authority, which violation could reasonably be expected to materially adversely affect the performance of its obligations under this Agreement; or (c) result in a breach of or constitute a default of any material agreement to which it is a party.

17.8 Further Assurances. Each Party agrees that it shall execute and deliver such further instruments, provide all information, and take or forbear such further acts and things as may be reasonably required or useful to carry out the purpose of this Agreement and are not inconsistent with the provisions of this Agreement.

17.9 Entire Agreement. This Agreement and the Attachments hereto set forth the entire agreement between the Parties with respect to the subject matter hereof, and supersede all prior agreements, whether oral or written, related to the subject matter of this Agreement, including that certain Reliability Coordinator Agreement, dated as of January 10, 2006, between the Parties. The terms of this Agreement and the Attachments hereto are controlling, and no parole or extrinsic evidence, including to prior drafts and drafts exchanged with any third parties, shall be used to vary, contradict or interpret the express terms, and conditions of this Agreement.

17.10 Good Faith Efforts. Each Party agrees that it shall in good faith take all reasonable actions necessary to permit it and the other Party to fulfill their obligations under this Agreement. Where the consent, agreement or approval of any Party must be obtained hereunder, such consent, agreement or approval shall not be unreasonably withheld, delayed or conditioned.

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Where a Party is required or permitted to act, or omit to act, based on its opinion or judgment, such opinion or judgment shall not be unreasonably exercised. To the extent that the jurisdiction of any federal or state authority applies to any part of this Agreement or the transactions or actions covered by this Agreement, each Party shall cooperate with the other Party to secure any necessary or desirable approval or acceptance of such authorities of such part of this Agreement or such transactions or actions.

17.11 Time of the Essence. With respect to all duties, obligations and rights of the Parties, time shall be of the essence in this Agreement.

17.12 Interpretation. Unless the context of this Agreement otherwise clearly requires:

17.12.1 all defined terms in the singular shall have the same meaning when used in the plural and vice versa;

17.12.2 the terms “hereof,” “herein,” “hereto” and similar words refer to this entire Agreement and not to any particular Section, Attachment or any other subdivision of this Agreement;

17.12.3 references to “Section” or “Attachment” refer to this Agreement, unless specified otherwise;

17.12.4 references to any law, statute, rule, regulation, notification or statutory provision shall be construed as a reference to the same as it applies to this Agreement and may have been, or may from time to time be, amended, modified or re-enacted;

17.12.5 references to “includes,” “including” and similar phrases shall mean “including, without limitation;”

17.12.6 the captions, section numbers and headings in this Agreement are included for convenience of reference only and shall not in any way affect the meaning or interpretation of this Agreement;

17.12.7 “or” may not be mutually exclusive, and can be construed to mean “and” where the context requires there to be a multiple rather than an alternative obligation; and

17.12.8 references to a particular entity include such entity’s successors and assigns to the extent not prohibited by this Agreement.

17.12.9 any capitalized terms used in this Agreement, including the Appendices, that are not defined in this Agreement or in the Appendices, shall have the meaning established in the applicable NERC documentation.

17.13 Joint Effort. Preparation of this Agreement has been a joint effort of the Parties and the resulting document shall not be construed more severely against one of the Parties than against the other and no provision in this Agreement is to be interpreted for or against any Party because that Party or its counsel drafted such provision. Each Party acknowledges that in executing this Agreement it has relied solely on its own judgment, belief and knowledge, and such advice as it may have received from its own counsel, and it has not been influenced by any representation or statement made by the other Party or its counsel not contained in this Agreement.

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17.14 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument, binding upon LG&E/KU and the Reliability Coordinator, notwithstanding that LG&E/KU and the Reliability Coordinator may not have executed the same counterpart.

Section 18 – Confidential Critical Infrastructure Information Protection. Notwithstanding any other applicable confidentiality provisions in this RC Agreement including Section 10 above, the following provisions of this Section 18 shall apply with respect to LG&E/KU's Protected Assets and Information. Any capitalized terms in this provision not otherwise defined herein shall have the meaning assigned in the NERC Glossary of Terms. "LG&E/KU's Protected Assets and Information" is defined as: (i) LG&E/KU's BES Cyber Assets and BES Cyber Systems, (ii) LG&E/KU's Cyber Assets used in access control and monitoring of LG&E/KU's Electronic Security Perimeter(s), (iii) LG&E/KU's Cyber Assets that authorize or log access to LG&E/KU's Physical Security Perimeter(s) or (iv) any information identified by LG&E/KU as BES Cyber System Information, disaster recovery plans, incident response plans, and any other confidential information relating to the reliability or operability of the Bulk Electric System. LG&E/KU's Protected Assets and Information and information generated or otherwise developed by the Reliability Coordinator in connection with its performance of the Reliability Coordinator functions that is related to LG&E/KU's Protected Assets and Information, collectively, shall be treated as "Confidential Critical Infrastructure Information" for the purposes of this RC Agreement. The Reliability Coordinator shall not disclose any Confidential Critical Infrastructure Information (which will be clearly marked or otherwise identified by LG&E/KU as Confidential Critical Infrastructure Information) to any person or entity, except strictly on a need-to-know basis, and shall take all necessary actions to protect the Confidential Critical Infrastructure Information, including, without limitation, ensuring that appropriate electronic and/or password access controls are in place; ensuring such information is handled, stored, and labelled in accordance with applicable regulatory requirements (including applicable NERC Reliability Standards); encrypting all such information stored on laptops or removable media (such as a USB drive); and maintaining any such hard copy information in a secure, locked storage container and not permitting any unauthorized individual to view, handle or possess such information. The Reliability Coordinator shall provide to LG&E/KU a list of all the Reliability Coordinator employees, subcontractors or other persons associated with the Reliability Coordinator with access to any Confidential Critical Infrastructure Information when and as requested by LG&E/KU. The Reliability Coordinator will provide notification by contacting the LG&E/KU's NERC Compliance representative identified below immediately upon becoming aware that it has disclosed any Confidential Critical Infrastructure Information in violation of this Section 18. The Reliability Coordinator shall ensure that each recipient of any Confidential Critical Infrastructure Information understands and complies with the requirements to protect Confidential Critical Infrastructure Information from inappropriate disclosure as set forth in this Section 18. Notwithstanding anything to the contrary in the Contract, with respect to any Confidential Critical Infrastructure Information, the restrictions set forth in this Section 18 shall remain in effect indefinitely from the date such Confidential Critical Infrastructure Information was first disclosed to or obtained or

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discovered by the Reliability Coordinator. The Reliability Coordinator shall, upon request and as directed by LG&E/KU, promptly return to LG&E/KU, or otherwise properly dispose of, any and all Confidential Critical Infrastructure Information that is in the possession of the Reliability Coordinator or any of its employees or subcontractors. Notwithstanding the foregoing, LG&E/KU shall not provide and the Reliability Coordinator shall not require LG&E/KU to provide Confidential Critical Infrastructure Information that also constitutes BES Cyber System Information without the Parties first agreeing on such other protective measures as will be applied to such BES Cyber System Information in accordance with applicable NERC Standards.

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The parties have caused this Reliability Coordinator Agreement to be executed by their duly authorized representatives as of the dates shown below.

LOUISVILLE GAS AND ELECTRIC COMPANY

/s/ Tom Jessee
Name: Tom Jessee
Title: Vice President, Transmission
Date: 8/20/19

KENTUCKY UTILITIES COMPANY

/s/ Tom Jessee
Name: Tom Jessee
Title: Vice President, Transmission
Date: 8/20/19

TENNESSEE VALLEY AUTHORITY

/s/ Aaron P. Melda
Name: Aaron P. Melda
Title: Vice President, Transmission Operations & Power Supply
Date: 8/22/19

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**ATTACHMENT A
TO THE RELIABILITY COORDINATOR AGREEMENT**

DESCRIPTION OF THE PRIMARY FUNCTIONS

The Reliability Coordinator is responsible for bulk transmission reliability and power supply reliability functions. Bulk transmission reliability functions include reliability analysis, loading relief procedures, re-dispatch of generation and ordering curtailment of transactions and/or load. Power supply reliability functions include monitoring Balancing Authority Area performance and ordering the Balancing Authority to take actions, including load curtailment and increasing/decreasing generation in situations where an imbalance between generation and load places the system in jeopardy. The procedures to be followed by the Reliability Coordinator shall be consistent with those of NERC and are spelled out in the NERC Approved Reliability Plan for the TVA Reliability Coordinator Area and TVA Standard Programs and Processes.

I. Reliability Coordinator General Functions:

The Reliability Coordinator shall perform the following functions:

- a) Serving as the certified and registered NERC Reliability Coordinator and represent the TVA Reliability Coordinator Area at the NERC and regional entity level.
- b) Implementing applicable NERC and regional entity initiatives, such as maintaining a connection to the Eastern Interconnect Data Sharing Network ("EIDSN"), day-ahead load-flow analysis, transmission loading relief procedures, and information exchange.
- c) Developing and coordinating with the Reliability Coordination Advisory Committee ("RCAC") new Reliability Coordinator Procedures and revisions to existing Reliability Coordinator Procedures.
- d) Exchanging timely, accurate, and relevant Transmission System information with LG&E/KU, the ITO, and with other reliability coordinators.
- e) Developing and maintaining system models and tools needed to perform analysis needed to develop operational plans.
- f) Coordinating with neighboring reliability coordinators and other operating entities as appropriate to ensure regional reliability.
- g) All other reliability coordinator functions as required for compliance with applicable NERC Reliability Standards and Regional Standards, as the same may be amended or modified from time to time.

II. Real-time Operations:

A. Reliability Coordinator Functions:

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The Reliability Coordinator shall perform the following functions:

- a) Monitoring, analyzing, and coordinating the reliability of LG&E/KU's facilities and interfaces with other Balancing Authorities, Transmission Operators, and other reliability coordinators.
- b) Performing analyses to develop an evaluation of system conditions. LG&E/KU will provide necessary information (e.g., outages and transactions) and Transmission System conditions, as applicable, to the Reliability Coordinator in accordance with applicable NERC Reliability Standards. The results of these analyses will be provided to LG&E/KU and neighboring reliability coordinators in accordance with applicable NERC Standards and Regional Standards.
- c) Determining, directing, and documenting appropriate actions to be taken by LG&E/KU, the ITO and Reliability Coordinator for real-time contingency analysis ("RTCA") and real-time overloads in accordance with the NERC Reliability Standards, including curtailment of transmission service or energy schedules, re-dispatch of generation and load shedding as necessary to alleviate facility overloads and abnormal voltage conditions, and other circumstances that affect interregional bulk power reliability.
- d) Coordinating transmission loading relief and voltage correction actions with LG&E/KU and with other reliability coordinators.
- e) The Reliability Coordinator will perform Real Time Assessments ("RTA") of the LG&E/KU Transmission Operator and Balancing Authority Areas if LG&E/KU notifies the Reliability Coordinator of a loss of tools or functionality. If ICCP data is available from LG&E/KU, the Reliability Coordinator will perform an RTA within the time period prescribed by NERC and Regional Standards using real time data. If ICCP data is interrupted or unavailable, the Reliability Coordinator will perform the RTA within the prescribed time period using last best available data. Based upon output of contingency analysis tools and knowledge of real time operating conditions, pre- or post-contingency actions shall be taken as necessary. This will ensure the reliability of the LG&E/KU Transmission Operator and Balancing Authority Areas and operating conditions are within acceptable reliability criteria in preventing SOL and IROL exceedances. To ensure timely implementation of applicable Operating Plans, the Reliability Coordinator will share the results of the RTA through tools or other mutually agreed upon means. The Reliability Coordinator will notify LG&E/KU of any system outage or service interruption that impacts the tools used to perform the RTA or communicate the RTA results.

B. LG&E/KU Responsibilities:

LG&E/KU shall have the following responsibilities:

- a) Ensuring appropriate telemetry and providing Reliability Coordinator real-time

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- operational information for monitoring.
- b) Receiving from the Reliability Coordinator all reliability alerts for TVA Reliability Coordinator Area and neighboring reliability coordinator areas.
 - c) Following Reliability Coordinator operating instructions (e.g., curtailments or load shedding) during system emergencies or to implement Transmission Loading Relief procedures.
 - d) Receiving from Reliability Coordinator all notices regarding Transmission System limitations or other reliability issues, as appropriate.
 - e) Providing data updates with system changes for ICCP studies within a timely manner during RTA or other data loss instances.

III. Forward Operations:

A. Reliability Coordinator Functions:

The Reliability Coordinator shall perform the following functions:

- a) Performing analyses and develop an evaluation of the expected next-day Transmission System operations. The results of these analyses shall be provided to LG&E/KU, the ITO and neighboring reliability coordinators in accordance with applicable NERC Reliability Standards and Regional Standards.
- b) Performing analysis of planned transmission and generation outages and coordination of outages with NERC, participants in reliability coordination agreements, and other reliability coordinators as appropriate and as required by NERC. This entails analysis and coordination of planned outages which are beyond next day and intra-day outages.
- c) Analyzing and approving all planned maintenance schedules on facilities 100kV and above and planned maintenance of generation facilities submitted by LG&E/KU in conjunction with other work on the regional transmission grid to determine the impact of LG&E/KU's planned maintenance schedule on the reliability of the facilities under TVA's purview as Reliability Coordinator, and the purview of neighboring reliability coordinators, and any other relevant effects; and coordinate impacts on available transfer capability with the ITO.
- d) Coordinating, as required by either NERC or other agreements, planned maintenance schedules with all adjacent reliability coordination areas and/or Balancing Authority Areas and Transmission Providers; as well as the ITO.

B. LG&E/KU Responsibilities:

LG&E/KU shall have the following responsibilities:

- a) Providing generation-related information (e.g., outages and transactions) and expected Transmission System conditions (e.g., transmission facility outages and

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transactions), as applicable, to the Reliability Coordinator for the next-day operation in accordance with applicable NERC Reliability Standards and Regional Standards.

- b) Submitting facility ratings and operational data for all generators and transmission facilities in the LG&E/KU footprint.
- c) Coordinating with the ITO and submitting to the Reliability Coordinator generation dispatch information for the LG&E/KU footprint and following Reliability Coordinator operating instructions regarding dispatch adjustments to mitigate congestion.
- d) Submitting to the Reliability Coordinator generation operation plans and commitments for reliability analysis.
- e) Submitting to the Reliability Coordinator transmission maintenance plans for reliability analysis.
- f) Following Reliability Coordinator requests to revise transmission maintenance plans as required to ensure grid reliability.
- g) Receiving from Reliability Coordinator all notices regarding reliability analyses for the TVA Reliability Area as well as neighboring reliability coordinators.
- h) Representing LG&E/KU on the RCAC and in all RCAC deliberations.

IV. Regional Congestion Management

For the purposes of this section IV, capitalized terms will have the definitions used in the Congestion Management Process (“CMP”), unless otherwise noted in this section IV.

A. Reliability Coordinator Functions:

The following functions to be performed by the Reliability Coordinator shall be performed in conjunction with the functions to be performed by the Independent Transmission Operator under the Independent Transmission Organization Agreement and will fully incorporate the LG&E/KU operations into the procedures and protocols governing other facilities in the Reliability Coordinator’s Reliability Coordination Area in accordance with the CMP:

- a) Identifying Coordinated Flowgates and determination of flowgates requiring Reciprocal Coordination (twice annually).
- b) Performing Historic Firm Flow Calculations -- implement transmission service reservation set and designated resources provided by LG&E/KU for established freeze date; calculate historic firm flow values and ratios for all coordinated flowgates on LG&E/KU’s system (bi-annually).
- c) Developing reciprocal coordination agreements that establish how each Operating Entity will consider its own flowgates as well as the usage of other Operating

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Entities when it determines the amount of flowgate or constraint capacity remaining. This process will include both operating horizon determination as well as forward looking capacity allocation.

- d) Implementing AFC Process -- determine Available Flowgate Capability ("AFC") attribute requirements; obtain NNL Impact Data; implement Allocation Calculation Process; implement AFC calculation process.
- e) The Reliability Coordinator will provide the ITO flowgate AFCs on an hourly basis and flowgate allocations on a daily basis.

B. LG&E/KU Responsibilities:

LG&E/KU is obligated to uphold the terms and conditions of the CMP, and providing the Reliability Coordinator with the information and support it needs in order to carry out its duties as LG&E/KU's Reliability Coordinator. LG&E/KU shall have the following responsibilities. LG&E/KU will be responsible for coordinating with the ITO and providing Transmission System data to the Reliability Coordinator including, but not limited to:

Operating information:

- (i) Transmission Service Reservations;
- (ii) Load forecast requirements;
- (iii) Flowgates requirements;
- (iv) AFC data requirements;
- (v) PSSE Models Requirements;
- (vi) Designated Network Resources requirements;
- (vii) Jointly owned units;
- (viii) Dynamic schedules;
- (ix) NNL allocations requirements; and,
- (x) NNL Evaluator Requirements.

Projected operating information:

- (i) Unit commitment/merit order;
- (ii) Firm purchase and sales (including grandfathered agreements);
- (iii) Independent power producer information including current operating level, projected operating levels, Scheduled Outage start and end dates;
- (iv) Planned and actual operational start-up dates for any permanently added, removed, or significantly altered transmission segments; and
- (v) Planned and actual start-up testing and operational start-up dates for any permanently added, removed, or significantly

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altered generation units.

C. ITO Responsibilities:

The ITO shall have the following responsibilities in support of the CMP:

- a) Providing to the Reliability Coordinator all transmission facility plans and facility upgrade schedules.
- b) Providing to the Reliability Coordinator the status of all transmission service requests and all new transmission service agreements.
- c) Receiving from the Reliability Coordinator all flowgate AFCs on an hourly basis and flowgate allocations on a daily basis.
- d) Converting flowgate information provided by the Reliability Coordinator to ATC values for posting on OASIS and for analyzing TSRs.
- e) Implementing CMP business rules for AFC vs. ASTFC.
- f) Honoring all AFC allocations and AFC over-rides from other CMP participants in the evaluation and granting of transmission service.

V. Reliability Coordination Planning

A. Reliability Coordinator Functions:

The Reliability Coordinator will ensure a long-term (one year and beyond) plan is available for adequate resources and transmission within the TVA Reliability Coordinator Area. The Reliability Coordinator will coordinate the Reliability Coordinator Area Plan with those of neighboring reliability coordinators and Planning Coordinators (including LG&E/KU as the Planning Coordinator) to ensure wide-area grid reliability.

In addition, the Reliability Coordinator will review the long-term Annual Transmission Plan (“Annual Plan”) provided by the ITO to consider how the Annual Plan aligns with the TVA Reliability Coordinator Area Plan and the plans of other operating entities in the Reliability Coordinator Area in order to assess whether the plans meet NERC Standards and applicable Regional Standards. The Reliability Coordinator will advise the ITO of potential solutions in the event the Annual Plan does not meet those standards or does not align with the TVA Reliability Coordinator Area Plan.

More specifically, the Reliability Coordinator functions include:

- a) Integrating the transmission and resource (demand and capacity) system models provided by the ITO with those of other Reliability Coordinator Area operating entities to ensure Transmission System reliability and resource adequacy.
- b) Applying methodologies and tools to assess and analyze the Transmission

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- System's expansion plans and the resource adequacy plans.
- c) Collecting all information and data required for modeling and evaluation purposes.
 - d) Verifying that the respective plans of the Resource Planners and Transmission Planners within the TVA Reliability Coordinator Area meet NERC Standards and applicable Regional Standards and integrating those plans into the Reliability Coordinator Area Plan, as appropriate.
 - e) Coordinating the Reliability Coordinator Area Plan with neighboring reliability coordinators, as appropriate.
 - f) Coordinating the Reliability Coordinator Area Plan with neighboring Planning Coordinators/reliability coordinators' plans, as appropriate, to provide a broad multi-regional bulk system planning view.

B. LG&E/KU Responsibilities:

LG&E/KU shall have the following responsibilities:

- a) Providing to the Reliability Coordinator demand and energy end-use customer forecasts, capacity resources, and demand response programs.
- b) Providing to the Reliability Coordinator generator unit performance characteristics and capabilities.
- c) Providing to Reliability Coordinator long-term capacity purchases and sales.

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ATTACHMENT B

DIVISION OF RESPONSIBILITIES FOR THE PLANNING FUNCTION

Overview

This Attachment B to the Reliability Coordinator Agreement is designed to provide a division of responsibilities between LG&E/KU, the ITO and the Reliability Coordinator. Long-term Transmission Planning for LG&E/KU's footprint will be conducted as an iterative process as follows: 1) LG&E/KU will develop the Annual Plan and submit the Annual Plan to the ITO for initial approval; 2) The ITO will review and conduct an engineering assessment of the Annual Plan; and if it is approved, the ITO will submit the Annual Plan to the Reliability Coordinator; 3) The Reliability Coordinator will conduct a regional assessment of the Annual Plan, subject to the conditions below; 4) The Reliability Coordinator will submit any changes based on its regional assessment to the ITO for final review and approval. The ITO will ensure that transmission planning on the Transmission Owner's system is done on an independent, non-discriminatory basis. This process is further detailed below.

1. Plan Development by LG&E/KU

LG&E/KU will be responsible for the following tasks:

1.1 System Models for Transmission Planning. LG&E/KU will develop and maintain all transmission and resource (demand and capacity) system models, to evaluate Transmission System performance and resource adequacy. As part of these duties LG&E/KU is responsible for:

1.1.1 Creating the Base Case Model for the Transmission System. This Model will include all existing long-term, firm uses of the Transmission System, including: (i) Network Integration Transmission Service; (ii) firm transmission service for LG&E/KU's Native Load; (iii) Long-Term Point-to-Point Transmission Service; and (iv) firm transmission service provided in accordance with grandfathered agreements. The Base Case Model will be developed pursuant to the modeling procedures used in developing the NERC multi-regional and SERC regional models.

1.1.2 Providing the Base Case Model to the ITO for review and approval according to the iterative process outlined in the overview to this Attachment B.

1.1.3 Maintaining other transmission models including, but not limited to steady-state, dynamic and short circuit models.

1.2 Assess, develop, and document Resource and Transmission Expansion plans. LG&E/KU will assess, develop, and document Resource and Transmission Expansion plans including the Annual Plan. These plans include the following

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responsibilities:

- 1.2.1 Maintaining and apply methodologies and appropriate tools for the development, analysis and simulation of the Transmission System in the assessment and development of transmission expansion plans and the analysis and development of resource adequacy plans.
 - 1.2.2 Developing a long-term (generally one year and beyond) plan for the reliability (adequacy) of the Transmission System.
 - 1.2.3 Defining system protection and control needs and requirements, including special protection systems (remedial action schemes), to meet reliability standards.
 - 1.2.4 Developing and report, as appropriate, on the Annual Plan for assessment and compliance with reliability standards.
 - 1.2.5 Monitoring and report, as appropriate, its Annual Plan implementation.
- 1.3 **Information.** LG&E/KU will define, collect and develop information required for planning purposes, including:
- 1.3.1 **Transmission facility characteristics and ratings.** Collect and maintain specific transmission information regarding characteristics of transmission facilities, lines, equipment, and methodologies, for determining the appropriate thermal ratings of circuits and transformers, including information on transmission line design temperature, voltage and stability limits and other transformer test data.
 - 1.3.2 **Demand and energy end-use customer forecasts, capacity resources, and demand response programs.** Including:
 - i. Load forecasts for all existing delivery points for the following ten years, including transmission (wholesale and retail) connected substations and distribution substations, and coincident and non-coincident peak demands and power factor at each delivery point;
 - ii. Plans for new delivery points for the following ten years;
 - iii. Resource plans for the following 10 years;
 - iv. Expectations for market access to on- and off-system generation resources;
 - v. All planned on-system distributed generation resources; and
 - vi. Information on all interruptible loads.
 - 1.3.3 **Generator unit performance characteristics and capabilities.** LG&E/KU shall provide the ITO with all necessary data, information, and applicable requirements that govern the operation of any generating facilities interconnected with the Transmission System, as the ITO may

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require for performance of its various functions. LG&E/KU shall submit and coordinate generator unit schedules as necessary to permit the ITO to assess transmission transfer capability and to permit the Reliability Coordinator to assess transmission reliability. LG&E/KU shall submit, on an annual basis, data concerning projected loads, designated network resources, generation and transmission maintenance schedules, and other such operating data as the ITO may require for performance its various functions.

1.3.4 Long-term capacity purchases and sales. LG&E/KU will maintain a list of all long-term capacity purchases and sales and include this information in its model development and the Annual Plan.

2 ITO Review and Assessment

The ITO will be responsible for the following tasks:

- 2.1 Independently reviewing and approving LG&E/KU's Planning Guidelines. If the ITO concludes that additional explanatory detail is required, LG&E/KU will modify the appropriate business practice documents to include the additional detail. The ITO will ensure that the final versions of the Planning Criteria are posted on OASIS;
- 2.2 Reviewing and approving LG&E/KU's Base Case Model; reviewing, evaluating, and commenting on the Annual Plan as developed by LG&E/KU. This review and evaluation will be based on all applicable planning criteria and statewide or multi-state transmission planning requirements;
- 2.3 Monitoring LG&E/KU's transmission facility ratings based on access to data necessary to evaluate such ratings;
- 2.4 Performing an Independent assessment of the Transmission System using the Planning Guidelines and the Base Case Model. As part of this assessment, the ITO will independently evaluate whether: (i) LG&E/KU's Annual Plan complies with the Planning Guidelines and the Base Case Model; and (ii) whether there are upgrade projects in the Annual Plan that are not necessary to meet the Planning Guidelines and the Base Case Model;
- 2.5 Holding a Transmission Planning Conference to gather input and consider the planning process and LG&E/KU's Annual Plan; and
- 2.6 Providing LG&E/KU with its conclusions regarding the reliability assessment and evaluation of the Annual Plan, including any outstanding issues that the ITO believes LG&E/KU should address. LG&E/KU will have the opportunity to review the ITO's conclusions and may submit a revised Annual Plan and supporting documentation to the ITO to address any outstanding issues. Once the Annual Plan has been finalized by LG&E/KU, the ITO will submit the Annual

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Plan to the Reliability Coordinator for regional coordination.

3 Regional Coordination

The Reliability Coordinator will be responsible for the following tasks:

- 3.1 Integrating and verifying that the respective plans for the regional area meet reliability standards.
- 3.2 Identifying and reporting on potential Transmission System and resource adequacy deficiencies in the regional area, and provide alternate plans that mitigate these deficiencies.
- 3.3 Reviewing and reporting, as appropriate, on LG&E/KU's Annual Plan for assessment and compliance with reliability standards within their regional area.
- 3.4 Notifying impacted transmission entities within their regional area of any planned transmission changes that may impact their facilities.
- 3.5 Submitting Annual Plan, including any changes based on the regional coordination, to the ITO for final approval.

4 Final Review and Assessment

- 4.1 The ITO shall have final review and assessment of all plans. If the ITO cannot approve a plan after regional coordination, then the ITO will return the plan to LG&E/KU for further development as appropriate. The process for final approval of any previously rejected plan will follow the same iterative process as outlined above.
- 4.2 The ITO will post LG&E/KU's finalized Annual Plan on OASIS.

5 Implementation of Plan and Construction of Upgrades

- 5.1 LG&E/KU is responsible for the implementation of the Annual Plan. LG&E/KU will make a good faith effort to design, certify, and build facilities approved by the ITO in the Annual Plan.
- 5.2 In the case where the Reliability Coordinator or the ITO does not agree with the Annual Plan, nothing in this Attachment B shall prevent LG&E/KU from constructing those facilities it deems necessary to reliably meet its obligation to serve its Transmission Customers, point-to-point, Network Integration Service, and Native Load Customers.

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EXHIBIT 1
TO THE RELIABILITY COORDINATOR AGREEMENT

LG&E and KU hereby incorporate the Baseline Congestion Management Process (Version 1.11), dated June 1, 2017, which is attached hereto.

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**Congestio
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(CMP)
MASTER**

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Executive Summary

This Congestion Management Process document provides significant detail in the areas of Market Flow Calculation. These additional details are the result of discussions between multiple Operating Entities.

As Operating Entities expand and implement their respective markets, one of the primary seams issues that must be resolved is how different congestion management methodologies (market-based and traditional) will interact to ensure that parallel flows and impacts are recognized and controlled in a manner that consistently ensures system reliability. This proposed solution will greatly enhance current Interchange Distribution Calculator (IDC) granularity by utilizing existing real-time applications to monitor and react to Flowgates external to an Operating Entity's footprint.

In brief, the process includes the following concepts:

- Participating Operating Entities will agree to observe limits on an extensive list of coordinated external Flowgates.
- Like all Control Areas (CA), Market-Based Operating Entities will have Firm Market Flows upon those Flowgates.
- Market-Based Operating Entities will determine Firm Market Flows and constrain their operations to limit Firm Market Flows on the Coordinated Flowgates to no more than the calculated Firm Flow Limit established in the analysis.
- In real-time, Market-Based Operating Entities will calculate and monitor one-hour ahead projected and actual flows.
- Market-Based Operating Entities will post to the IDC the actual and the one-hour ahead projected Market Flow, consisting of the Firm Market Flow and the additional Non-Firm Market Flow, for both internal and external Coordinated Flowgates.
- Market-Based Operating Entities will provide to the IDC detailed representation of their marginal units, so that the IDC can continue to effectively compute the effects of all tagged transactions regardless of the size of the market area. These tagged transactions will include transactions into the market, transactions out of the market, transactions through the market, and tagged grandfathered transactions within the market.
- When there is a Transmission Loading Relief (TLR) 3a request or higher called on a

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Coordinated Flowgate, and the Market-Based Operating Entity's actual/one-hour ahead projected Market Flows exceed the Firm Flow Limits, Market-Based Operating Entities will respond to their relief obligations by redispatching their systems in a manner that is consistent with how non-market entities respond to their share of Network and Native Load (NNL) relief obligations per the IDC congestion management report.

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- Because the IDC will have the real-time/one-hour ahead projected flows throughout the Market-Based Operating Entity's system (as represented by the impacts upon various Coordinated Flowgates), the effectiveness of the IDC will be greatly enhanced
- The above processes refer to the "Congestion Management" portion of the paper, which will be implemented by Market-Based Operating Entities.
- Additional entities may choose to enter into similar Reciprocal Coordination Agreements that describe how Available Transfer Capability (ATC)/Available Flowgate Capability (AFC), Firm Flows, and outage maintenance will be coordinated on a forward basis.
- The complete process will allow participating Operating Entities to address the reliability aspects of congestion management seams issues between all parties whether the seams are between market to non-market operations or market-to-market operations.

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Change Summary

Generate baseline Congestion Management Process (CMP) document based on CMP documents executed by:

- Manitoba Hydro and Midcontinent Independent System Operator, Inc. (MISO)
- Mid-Continent Area Power Pool (MAPP) and MISO
- MISO and PJM Interconnection, L.L.C. (PJM)
- MISO, PJM and Tennessee Valley Authority (TVA)
- MISO and Southwest Power Pool, Inc. (SPP)

The document also includes subsequent changes agreed upon by a majority of the Congestion Management Process Council (CMPC). For items which are specific to a limited number of agreements, the CMP members have used an approach of documenting these unique items in separate appendices rather than in the base document. The CMPC members reserve all rights with respect to the different options identified in the appendices attached hereto without any obligation to adopt or support such options. The CMPC members reserve the right to oppose any position taken by another CMPC member in a FERC filing or otherwise with respect to the choice of options listed in the appendices. Nothing contained herein shall be construed to indicate the support or agreement by the CMPC members to an option presented in the appendices.

Revision 1.1 (November 30, 2007)

Per FERC Order ER07-1417-000, in the “Forward Coordination Processes” section 6.6 added the word “outage” between “unit” and “scheduling” in the following sentence, “Market-Based Operating Entities will use the Flowgate limit to restrict unit outage scheduling for a Coordinated Flowgate when maintenance outage coordination indicates possible congestion and there is recent TLR activity on a Flowgate.”

Revision 1.2 (May 2, 2008)

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The Market Flow Threshold is changing from 3% to 5%. The NERC Standards Committee approved changing the Market Flow Threshold for the field test at its April 10, 2008 meeting.

Revision 1.3 (July 16, 2008)

Per FERC Order issued in Docket Nos. ER08-884-000 and ER08-913-000, *Appendix H (Market Flow Threshold Field Test Terms And Conditions)* was added.

Revision 1.4 (October 31, 2008)

The percentages were changed in Sections 4.4 (*Firm Market Flow Calculation Rules*) and 5.5 (*Market-Based Operating Entity Real-time Actions*) to be consistent with changes made under

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Revision 1.2. *Appendix H – Market Flow Threshold Field Test Terms And Conditions* was updated to reflect the NERC approved Market Flow Threshold Field Test extension to October 31, 2009.

Revision 1.5 (December 18, 2008)

Updated Section 5.2 (*Quantify and Provide Data for Market Flow*) and *Appendix B – Determination of Marginal Zone Participation Factors* to support changes to the manner in which MISO uses marginal zones and submits marginal zone information to the IDC.

Revision 1.6 (February 19, 2009)

Appendix H – Market Flow Threshold Field Test Terms And Conditions was updated to reflect that MISO no longer has a contractual obligation to observe a 0% threshold for MISO Market Flows on Flowgates where both MAPP and MISO are reciprocal.

Revision 1.7 (November 1, 2009)

Applied updates based on the results of the Market Flow Threshold Field Test including clarifications that allocations are calculated down to zero percent. Changes have been applied to the *Executive Summary, Section 4.1 Market Flow Determination, Section 4.4 Firm Market Flow Calculation Rules, Section 5.5 Market-Based Operating Entity Real-time Actions, Section 6.6 Forward Coordination Processes, Section 6.6.3 Limiting Firm Transmission Service, Section 6.7 Sharing or Transferring Unused Allocations, and Appendix H – Application of Market Flow Threshold Field Test Conditions.*

Revision 1.8 (May 31, 2010)

Applied updates to further standardize the “Allocation Adjustment for New Transmission Facilities and/or Designated Network Resources” process. Changes have been made to *Appendix F – FERC Dispute Resolution and Appendix G – Allocation Adjustments for New Transmission Facilities and/or Designated Network Resources.*

Revision 1.9 (January 4, 2011)

Modified to incorporate the revisions to the JOA, including revisions to Attachments 2 and 3, submitted as part of the Settlement Agreement and Offer of Settlement in Docket Nos. EL10-45-000, EL10-46-000, and EL10-60-000.

Revision 1.10 (July 25, 2016)

Generated updated baseline CMP document executed by the following entities:

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- Manitoba Hydro and MISO
- Minnkota Power Cooperative, Inc. and MISO
- MISO and PJM

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- PJM and TVA
 - o Louisville Gas and Electric Company/Kentucky Utilities Company (LG&E/KU) and Associated Electric Cooperative, Inc. (AECI) executed separate agreements with TVA stipulating the CMP provisions executed by PJM and TVA apply to AECI and LG&E/KU as Reciprocal Entities.
- MISO and SPP
- MISO Attachment LL

Section	Revision Description
3.2	Clarified language on inclusion of Coordinated Flowgates in AFC process. Removed consideration of reverse impacts when performing Flowgate studies.
3.2.1	Revised language to better describe how the four Flowgate studies used to identify Coordinated Flowgates are performed.
3.2.6	Added a new section requiring coordination between Parties before making a Flowgate permanent that includes a Tie Line monitored element.
4.1	Revised language to require a Market-Based Operating Entity to consistently account for export and import tagged transactions in the identified calculations using one of the three methodologies set forth in the new Section 4.1.1. Revisions have previously been accepted by FERC in the CMP documents executed between MISO and PJM, MISO and SPP, and PJM and TVA.
4.1.1	
6.10	Added a new section listing the requirements that must be satisfied for a Combining Party to incorporate a Non-Reciprocal Entity's load and the associated generation serving that load into the Reciprocal's Entity's Allocation calculations.
Appendix A	Added the following defined terms: Agreement, Combining Party, Non-Reciprocal Entity, Party, Third-Party, and Tie Line.
Appendix B	Revised language addressing how a Market-Based Operating Entity using the Marginal Zone methodology will determine marginal zone participation factors. Revisions have previously been accepted by FERC in the CMP documents executed between MISO and PJM, MISO and SPP, and PJM and TVA.
Appendix C	Clarified in Figure C-1 and Table C-1 the steps on inclusion of Coordinated Flowages in the AFC process.

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Revision 1.11 (June 1, 2017)

Per NERC Operating Reliability Subcommittee applied updates necessary for MISO to incorporate External Asynchronous Resources into MISO Market Flows.

Section	Revision Description
3.2	Updated the number of Coordination Flowgate studies from four to five.
3.2.1	Clarified Study 4 applies internal CA/CA permutations and added a new Study 5 specific to External Asynchronous Resources.
3.2.2	Updated the number of Coordination Flowgate studies from four to five.
3.2.5	
4.1	Added how the External Asynchronous Resources will be considered in Market Flow and the exclusion of the related tags from IDC.
6.2	Updated the number of Coordination Flowgate studies from four to five.
6.8	Specified the priority of the Market Flow will correspond to the priority of the tag.
Appendix A	Added a new definition specific to MISO, External Asynchronous Resources. Updated the number of Coordination Flowgate studies from four to five.
Appendix C	Updated the number of Coordination Flowgate studies from four to five in Table C-1.

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Section 1 – Introduction

It is the intention of the Reciprocal Entities to utilize the processes within this document. It is further the intention to develop this process in a way that will allow other regional entities with similar concerns to utilize the concepts within this process to aid in the resolution of their own seams issues.

1.1 Problem Definition

1.1.1 The Nature of Energy Flows

Energy flows are distinctly different from the manner in which the energy commodity is purchased, sold, and ultimately scheduled. In the current practice of “contract path” scheduling, schedules identify a source point for generation of energy, a series of wheeling agreements being utilized to transport that energy, and a specific sink point where that energy is being consumed by a load. However, due to the electrical characteristics of the Eastern Interconnection, energy flows are more dispersed than what is described within that schedule. This disconnect becomes of concern when there is a need to take actions on contract-path schedules to effect changes on the physical system (for example, the curtailment of schedules to relieve transmission constraints).

In the Eastern Interconnection, much of this concern has been addressed through the use of the North American Electric Reliability Corporation (NERC) and/or North American Energy Standards Board (NAESB) TLR process. Through this process, Reliability Coordinators utilize the IDC to determine appropriate actions to provide that relief. The IDC bases its calculations on the use of transaction tags: electronic documents that specify a source and a sink, which can be used to estimate real power flows through the use of a network model. In order to change flows, the IDC is given a particular constraint and a desired change in flows. The IDC returns back all source to sink transactions that contribute to that constraint and specifies schedule changes to be made that will effect that change in flows.

In other parts of the Eastern Interconnection, however, the use of centralized economic dispatch results in a solution that does not focus on changing entire transactions (effectively redispatching through the use of imbalance energy), but rather redispatch itself. In this procedure, the party attempting to provide relief does not need to know that a balanced source to sink transaction should be adjusted; rather, they are aware of a net generation to load balance and the impacts of different generators on various constraints. Bid-based security constrained central dispatch based on Locational Marginal Pricing is a regional implementation of this practice.

Currently, these two practices are somewhat incompatible. Due to the electrical characteristics of the Interconnection and geographic scope of the regions, this incompatibility has been of

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limited concern. However, regional market expansion has begun to draw attention to this operational disjoint, as the expansion itself exacerbates the negative effects of the incompatibility.

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Granularity in the IDC

The IDC uses an approximation of the Interconnection to identify impacts on a particular transmission constraint that are caused by flows between Control Areas. This approximation allows for a Reliability Coordinator to identify tagged transactions with specific sources and sinks that are contributing to the constraint. While tagged transactions may specify sources and sinks in a very specific manner, the IDC in general cannot respect this detail, and instead consolidates the impacts of several generators and loads into a homogenous representation of the impacts of a single Control Area. This is referred to as the granularity of the IDC. Current granularity is typically defined to the Control Area level; finer granularity is present in certain special situations as deemed necessary by NERC.

1.1.2 Reduced Data and Granularity Coarseness

As centrally dispatched energy markets expand their footprint, two related changes occur with regard to the above process. In some cases, data previously sent to the IDC is no longer sent due to the fact that it is no longer tagged. In others, transactions remain tagged, but the increased market footprint results in an increase in granularity coarseness within the IDC; that is, the apparent Control Area boundary becomes the same as the market boundary so that what had been historically 30 or more Control Areas now appears as one.

In the first change, transactions contained entirely within the market footprint are considered to be utilizing network service (even when the market spans multiple Control Areas). As such, there is no requirement for them to be tagged (or such requirement is waived by NERC), and therefore, no requirement that they be sent to the IDC. This is of concern from a reliability perspective, as the IDC will no longer have a large pool of transactions from which to provide relief, although the energy flows may remain consistent with those prior to the market expansion. In other words, flows subject to TLR curtailment prior to the market expansion are no longer available for that process.

In the second change, the expansion of the footprint itself results in a dilution of the approximation utilized by the IDC. When a market region is relatively small (or isolated), the Control Area to Control Area approximation of that region's impact on transmission constraints is acceptable; actions within the market footprint generally have a similar and consistent impact on all transmission facilities outside the footprint. However, when the market footprint expands significantly, and is co-mingled with non-market Control Areas, the ability to utilize the historic approximation of electrically representative flows fails to effectively predict energy flow. Impacts on external facilities can vary significantly depending on the dispatch of the resources within the market footprint. With regard to the IDC, this information is effectively lost within the expanded footprint, and results in an increase in the level of granularity coarseness, or a "loss of granularity."

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1.1.3

1.1.4 Accounting for Loop Flows

The processes for accounting for loop flows caused by uses of the transmission system between Control Areas are different under a market environment. Absent a market, loop flows from Transmission Service reservations between Control Areas are identified and accounted for by importing transmission reservations from surrounding systems. Under a market environment, the market will not have explicit transmission reservations for evolving market dispatch conditions between market Control Areas. Thus, a mechanism for accounting for anticipated Market Flows on non-market systems is necessary.

1.1.5 Conclusion

The net effect of these changes is that reliability must be managed through different processes than those used before the market region's expansion. While relief can still be requested using the current process, both the ability to predict the effectiveness of a curtailment to provide that relief and the general pool of transactions available for curtailment are reduced. This CMP offers a strategy for eliminating this concern through a process that provides more information (finer granularity) to the NERC IDC for the market area. This new congestion management process will ensure that reliability is not adversely affected as markets expand by providing information and relief opportunities previously unavailable to the IDC.

1.2 Process Scope and Limitations

1.2.1 Vision Statement

As Operating Entities become Market-Based Operating Entities, and expand their various markets, one of the primary seams issues that must be resolved is how different congestion management methodologies (market-based and traditional TLR) will interact to ensure parallel flows and impacts are recognized and controlled in a manner that consistently ensures system reliability and equitability. Reliability Coordinators can mandate emergency procedures to maintain safe operating limits, however, without coordination agreements that maintain flow limits in advance, the market would become volatile and the burden for relieving excess flow would ignore the economics of the entities which would be required to redispatch. For these entities, this process will offer a manner in which Market-Based Operating Entities can coordinate parallel flows with Operating Entities that have not yet or do not contemplate implementing markets. This process will provide more proactive management of transmission resources, more accurate information to Reliability Coordinators, and more candidates for providing relief when reliability is threatened due to transmission overload conditions.

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1.2.2 Process Scope

This process has been written specifically with the goal of coordinating seams between Reciprocal Entities and their respective neighbors.

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1.3

1.4 Goals and Metrics

This document focuses on a solution to meet the following goals and requirements:

1. Develop a congestion management process whereby transmission overloads can be prevented through a shared and effective reduction in Flowgate or constraint usage by Reciprocal Entities and adjoining Reliability Coordinators.
2. Agree on a predefined set of Flowgates or constraints to be considered by all Reciprocal Entities, and a process to maintain this set as necessary.
3. Determine the best way to calculate flow due to market impacts on a defined set of Flowgates.
4. Develop Reciprocal Coordination Agreements that establish how each Operating Entity will consider its own Flowgate or constraint usage as well as the usage of other Operating Entities when it determines the amount of Flowgate or constraint capacity remaining. This process will include both operating horizon determination as well as forward looking capacity allocation.
5. Develop a procedure for managing congestion when Flowgates are impacted by both tagged and untagged energy flow.
6. Develop a procedure for determining the priorities of untagged energy flows (created through parallel flows from the market).
7. Agree on steps to be taken by Operating Entities to unload a constraint on a shared basis.
8. Determine whether procedure(s) for managing congestion will differ based on where the Flowgate is located (*i.e.*, inside Reciprocal Entity A, inside Reciprocal Entity B, or outside both Reciprocal Entity A and Reciprocal Entity B).
9. Confirm that the solution will be equitable, transparent, auditable, and independent for all parties.
10. Develop methodology to preserve and accommodate grandfathered transmission rights, contract rights, and other joint-use agreements.
11. Develop methodology to address changes in Total Transfer Capability (TTC), such as future system topology changes, new Designated Network Resources (DNRs), facility uprates/derates, prior outage limitations, etc., with respect to Allocation implications.
12. Develop a methodology for releasing Allocations if other parties do not join the process or if there is ATC going unused.

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1.5 Assumptions

The processes set forth in this document were based on the following assumptions:

- Point-to-point schedules sinking in, sourcing from, or passing through a Market- Based Operating Entity will be tagged.

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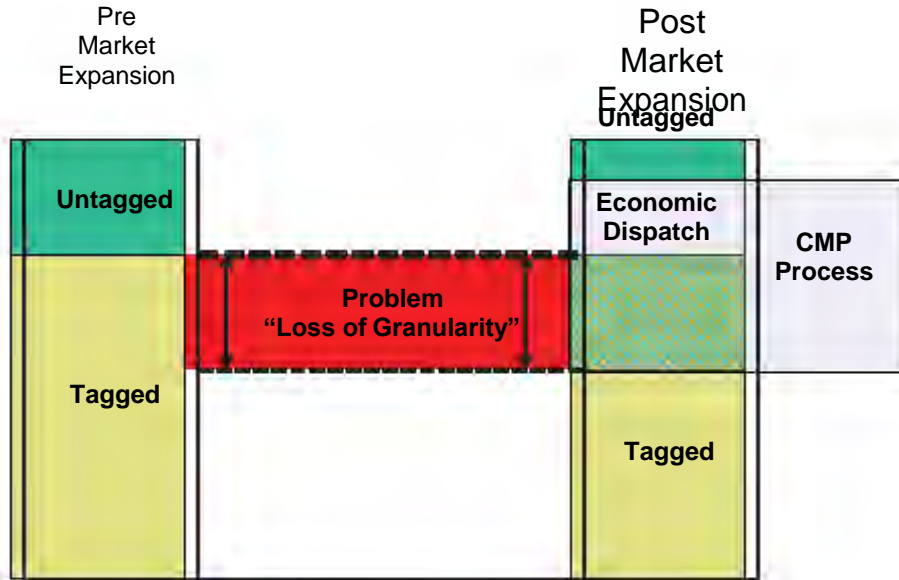
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- The IDC or a similar repository of schedules is needed at the Interconnection's current state and for the foreseeable future.
- The Market-Based Operating Entity can compute the impacts of the untagged market dispatch on the Flowgates as currently required by the IDC.
- The Market-Based Operating Entity's Energy Management System (EMS) has the capability to monitor and respond to real-time and projected flows created by its real-time dispatch.
- The Reliability Coordinator of the area in which a Flowgate exists will be responsible for monitoring the Flowgate, determining any amount of relief needed, and entering the required relief in the IDC.
- The IDC has been modified to accept the calculated values of the impact of real-time generation in order to determine which schedules require curtailment in conjunction with the required Market-Based Operating Entity's redispatch.
- The IDC can calculate the total amount of MW relief required by the Market-Based Operating Entity (schedule curtailments required plus the relief provided by redispatch).

2.1 Summary of Process

In order to coordinate congestion management, a bridge must be established that provides for comparable actions between Operating Entities. Without such a bridge, it is difficult, if not impossible, to ensure reliability and system coordination in an efficient and equitable manner. To effect this coordination of congestion management activities, we propose a methodology for determining both firm and non-firm flows resulting from Market-Based Operating Entity dispatch on external parties' Flowgates.

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Market Flows are defined as the calculated energy flows on a specified Flowgate as a result of dispatch of generating resources serving market load within a Market-Based Operating Entity’s market. (Note: For the purposes of the Reciprocal Coordination process discussed later, Firm Transmission Service (7F) will be combined with the untagged firm component of Market Flows in the calculation of Historic Firm Flow. The Historic Firm Flow is described later in this document).

Market Flows can be divided into Firm Market Flows and Non-Firm Market Flows. Firm Market Flows are considered as firm use of the transmission system for congestion management purposes and will be curtailed on a proportional basis with other firm uses during periods of firm curtailments and are equivalent to Firm Transmission Service. Non-Firm Market Flows are considered as non-firm use of the transmission system for congestion management purposes and will be curtailed on a proportional basis with other non-firm uses during periods of non-firm curtailments and are equivalent to non-firm Transmission Service. As such, Reliability Coordinators can request Market-Based Operating Entities to provide relief under TLR based on these transmission priorities.

By applying the above philosophy to the problem of coordinating congestion management, we can determine not only the impacts of a Market-Based Operating Entity’s dispatch on a particular Flowgate; we can also determine the appropriate firmness of those flows. This results in the ability to coordinate both proactive and reactive congestion management

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between operating entities in a way that respects the current TLR process, while still allowing for the flexibility of internal congestion management based on market prices.

There are two areas that must be defined in order for this process to work effectively:

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-
- **Coordinated Flowgate Definition.** In order to ensure that impacts of dispatch are properly recognized, a list of Flowgates must be developed around which congestion management may be effected and coordination can be established.
- **Congestion Management.** By coordinating congestion management efforts and enhancing the TLR process to recognize both untagged energy flows and data of finer granularity, we can ensure that when TLR is called, the appropriate non-firm flows are reduced before Firm Flows. This coordination will result in a reduction of TLR 5 events, as more relief will be available in TLR 3 to mitigate a constraint. This is accomplished through the calculation of flows due to economic dispatch, as well as by providing marginal unit information to aid in interchange transaction management.

The next sections of this document discuss each of these areas in detail.

Section 3 – Impacted Flowgate Determination

3.1 Flowgates

Flowgates are facilities or groups of facilities that may act as significant constraint points on the system. As such, they are typically used to analyze or monitor the effects of power flows on the bulk transmission grid. Operating Entities utilize Flowgates in various capacities to coordinate operations and manage reliability. For the purpose of this process, there are three kinds of Flowgates: AFC Flowgates, which are defined in Appendix A, Coordinated Flowgates (CFs), which are defined below, and Reciprocal Coordinated Flowgates (RCFs), which are defined in “Reciprocal Operations” Section 6. A diagram illustrating how these three categories of Flowgates are determined is included as Appendix C.

3.2 Coordinated Flowgates

An Operating Entity will conduct sensitivity studies to determine which Flowgates are significantly impacted by the flows of the Operating Entity’s Control Zones (historic Control Areas that existed in the IDC). An Operating Entity identifies these Flowgates by performing the following five studies to determine which Flowgates the Operating Entity will monitor and help control. As set forth in Appendix C, a Flowgate passing any one of these studies will be considered a Coordinated Flowgate and AFCs shall be computed for these Flowgates, unless mutually agreed otherwise by the Operating Entities and any Reciprocal Entities for the Flowgate. An Operating Entity shall add a Coordinated Flowgate to its AFC process as soon as practical in accordance with the Operating Entity’s processes. Nothing in this section precludes an Operating Entity or Reciprocal Entity from calculating AFCs for any Flowgates.

An Operating Entity may also specify additional Flowgates that have not passed any of the

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five studies to be Coordinated Flowgates where the Operating Entity expects to utilize the TLR process to manage congestion. For a list of Coordinated Flowgates between Reciprocal Entities, see each Reciprocal Entity's Open Access Same-Time Information System (OASIS) website.

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Coordinated Flowgates are identified to determine which Flowgates an entity impacts significantly. This set of Flowgates may then be used in the congestion management processes and/or Reciprocal Operations defined in this document.

When performing the five Flowgate studies, a 5% threshold will be used based on the positive impact. Use of a 5% threshold in the studies may not capture all Flowgates that experience a significant impact due to operations. The Operating Entities have agreed to adopt a lower threshold at the time NERC and/or NAESB implements the use of a lower threshold in the TLR process.

3.2.1 Flowgate Studies

Study 1) – IDC GLDF

(using the IDC tool)

Upon request by an Operating Entity, a study will be performed using the IDC reflecting the topology of the system from the System Data Exchange (SDX) or any industry-accepted system with similar capabilities. The IDC can provide a list of Flowgates for any user- specified Control Area whose Generator to Load Distribution Factor (GLDF) NNL impact is 5% or greater. Using the historic Control Area representation in the IDC, if any one generator has a GLDF that is 5% or greater as determined by the IDC, this Flowgate will be considered a Coordinated Flowgate.

Study 2) – IDC PSS/E Base Case GLDF

(no transmission outages – offline study)

Upon request by an Operating Entity, the Operating Entity to which the request is made will perform a generator analysis to determine which Flowgates impacted by those CAs will be included in the list of Coordinated Flowgates. To provide better confidence that the Operating Entity has effectively captured the subset of Flowgates upon which its generators have a significant impact, the Operating Entity will perform an offline study utilizing Managing and Utilizing System Transmission (MUST) or other industry-accepted software with similar capabilities. The Operating Entity will perform off-line studies using the IDC PSS/E base case. If any generator has a GLDF that is 5% or greater as determined by this Study 2, this Flowgate will be considered a Coordinated Flowgate. Study 1 above and this Study 2 are separate studies. There is no requirement that a Flowgate must pass both studies in order to be coordinated.

Study 3) – IDC PSS/E Base Case GLDF

(transmission outage - offline study)

Upon request by an Operating Entity, the Operating Entity to which the request is made

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will perform a Flowgate analysis to determine which Flowgates impacted by those CAs will be included in the list of Coordinated Flowgates. The Flowgates determined using Study 2 above or Study 4 below that have a 3% to 5% distribution factor will be analyzed in this Study 3 against prior outage conditions. The Operating Entity will perform off-line studies using the IDC PSS/E base case utilizing MUST or other industry- accepted software with

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similar capabilities. The Operating Entity, in consultation with affected operating authorities, will perform a prior outage analysis, including both internal and external outages, by applying one of the following:

1. transmission facilities operated at 100kV and above, in the CA where the Flowgate's monitored facility(ies) is located and in CAs that are first tier to the CA where the Flowgate's monitored facility(ies) is located; or
2. transmission facilities operated at 100kV and above within 10 buses from the monitored facility(ies).

If any Flowgates with a 3% to 5% distribution factor from Study 2 or Study 4 are impacted by 5% or more from a prior outage condition (Line Outage Distribution Factor (LODF) from this Study 3, the Flowgate will be added to the list of Coordinated Flowgates.

Study 4) – IDC Base Case Transfer Distribution Factors

(no transmission outages – offline study)

Upon request by an Operating Entity, the Operating Entity to which the request is made will perform a Flowgate analysis to determine which Flowgates impacted by those CAs will be included in the list of Coordinated Flowgates. The Operating Entity performing this analysis will analyze internal transactions between each historic CA/CA permutation.

OTDF Flowgates will be analyzed with the contingent element out of service. The Operating Entity will perform off-line studies using the IDC PSS/E base case utilizing MUST, or other industry-accepted software with similar capabilities to determine the Transfer Distribution Factors (TDFs). Flowgates that are impacted by 5% or greater by Study 4 will be considered a Coordinated Flowgate.

Study 5) – External Asynchronous Resource (EAR)

Upon request by an Operating Entity, MISO shall rerun Study 4 (no outage scenario) to determine the flowgates impacted by its EAR. Additionally, a second study will be performed using the IDC reflecting the topology of the system from the System Data Exchange (SDX) or any industry-accepted system with similar capabilities. Both studies performed under Study 5 shall utilize the following assumptions: 1) the source to sink TDF calculation of the EAR shall be evaluated in the same way IDC would evaluate the impacts of the associated tag (e.g., source and sink of the EAR); and 2) any flowgate that is determined to be impacted by the EAR by 5% or greater will be considered a Coordinated Flowgate.

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3.2.2

3.2.3 Disputed Flowgates

If a Reciprocal Entity believes that another Reciprocal Entity implementing the congestion management portion of this process has a significant impact on one of their Flowgates, but that Flowgate was not included in the Coordinated Flowgate list, the involved Reciprocal Entities will use the following process.

- If an operating emergency exists involving the candidate Flowgate, the Reciprocal Entities shall treat the facilities as a temporary Coordinated Flowgate prior to the study procedure below. If no operating emergency or imminent danger exists, the study procedure below shall be pursued prior to the candidate Flowgate being designated as a Coordinated Flowgate.
- The Reciprocal Entity conducts studies to determine the conditions under which the other Reciprocal Entity would have a significant impact on the Flowgate in question. The Reciprocal Entity conducting the study then submits these studies to the other Reciprocal Entity implementing this process. The Reciprocal Entity's studies should include each of the five studies described above; in addition to any other studies they believe illustrate the validity of their request. The other Reciprocal Entity will review the studies and determine if they appear to support the request of the Reciprocal Entity conducting the study. If they do, the Flowgate will be added to the list of Coordinated Flowgates.
- If, following evaluation of the supplied studies, any Reciprocal Entity still disputes another Reciprocal Entity's request, the Reciprocal Entity will submit a formal request to the NERC Operations Reliability Subcommittee (ORS) asking for further review of the situation. The ORS will review the studies of both the requesting Reciprocal Entity and the other Reciprocal Entity, and direct the participating Reciprocal Entities to take appropriate action.

3.2.4 Third Party Request Flowgate Additions

Each Party shall provide opportunities for Third Parties or other entities to propose additional Coordinated Flowgates and procedures for review of relevant non-confidential data in order to assess the merit of the proposal. The current procedure for the review and maintenance of Coordinated Flowgates is set forth in Appendix C.

3.2.5 Frequency of Coordinated Flowgate Determination

The determination of Coordinated Flowgates will be performed at the initial implementation of the CMP and then on a periodic basis, as described in Appendix C.

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3.2.6 Dynamic Creation of Coordinated Flowgates

For temporary Flowgates developed “on the fly,” the IDC will utilize the current IDC methodology for determining NNL contribution until the Market-Based Operating Entity has begun reporting data for the new Flowgate. Interchange transactions into, out of, or across the Market-Based Operating Entity will continue to be E-tagged and available for curtailment in TLR 3, 4, or 5.

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Market-Based Operating Entities will study the Flowgate in a timely manner and begin reporting Flowgate data within no more than two business days (where the Flowgate has already been designated as an AFC Flowgate). This will ensure that the Market-Based Operating Entity has the time necessary to properly study the Flowgate using the five studies detailed earlier in this document and determine the Flowgate's relationship with the Market-Based Operating Entity's dispatch. For internal Flowgates, the Market-Based Operating Entity will redispatch during a TLR 3 to manage the constraint as necessary until it begins reporting the Firm and Non-Firm Market Flows; during a TLR 5, the IDC will request NNL relief in the same manner as today. Alternatively, for internal and external Flowgates, an Operating Entity may utilize an appropriate substitute Coordinated Flowgate that has similar Market Flows and tag impacts as the temporary Flowgate. In this case, an Operating Entity would have to realize relief through redispatch and TLR 3. An example of an appropriate substitute would be a Flowgate with a monitored element directly in series with a temporary Flowgate's monitored element and with the same contingent element. If the Flowgate meets the necessary criteria, the Market-Based Operating Entity will begin to provide the necessary values to the IDC in the same manner as Market Flow values are provided to the IDC for all other Coordinated Flowgates. The necessary criteria for adding a Flowgate are defined in Appendix C. If in the event of a system emergency (TLR 3b or higher) and the situation requires a response faster than the process may provide, the Market-Based Operating Entities will coordinate respective actions to provide immediate relief until final review.

3.2.7 Coordination of Tie Line Flowgate Additions

The Parties shall follow the coordination process outlined in this section for Flowgates that include a Tie Line between the Parties as a monitored element. The provisions in this section shall not apply to any temporary Flowgates.

Procedures:

1. Unless otherwise agreed to by the Parties, the managing entity for a Tie Line Flowgate is the Party that has functional control over the most limiting equipment for the Flowgate.
2. The managing entity for a Tie Line Flowgate shall calculate AFCs, post AFCs, process requests for transmission service, manage real-time congestion, and calculate Allocations for the Tie Line Flowgate.
3. Before the creation of a new Tie Line Flowgate in the IDC, the managing entity for the Tie Line Flowgate must notify the other Party no less than sixty (60) days in advance of the addition of the Tie Line Flowgate in the IDC. The new Flowgate will initially be created as a temporary Flowgate in the IDC by the managing entity. If all

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other requirements outlined in this Section 3.2.6 are completed during the sixty (60) days following notice, the Flowgate can be made permanent before the sixty (60) day deadline by mutual agreement of the Parties.

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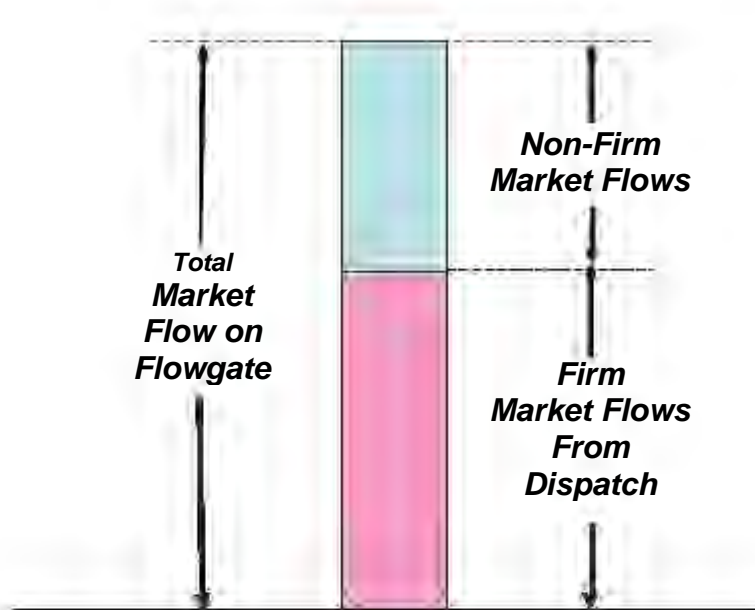
- 4.
5. A Party that identifies a new Tie Line Flowgate through a study shall provide the study assumptions, methodology, and all other relevant data to the other Party in a timely manner.
6. AFC Calculation and Posting AFCs:
 - a. The managing entity will calculate and post AFCs for Tie Line Flowgates in accordance with the managing entity's processes (i.e., the managing entity will treat the Flowgates as internal Flowgates).
 - b. The managing entity will post AFC files for Tie Line Flowgates for use by other transmission providers.
 - c. The managing entity will apply AFC factors for Tie Line Flowgates (e.g., TRM, CBM, "a" and "b" multipliers, etc.) using the managing entity's own processes.
7. Upon the completion of items 1 through 5, the managing entity may create a permanent Tie Line Flowgate.
8. The Party that is not the managing entity will replace the temporary Tie Line Flowgate with the permanent Tie Line Flowgate in its applicable operating system(s).

Section 4 – Market-Based Operating Entity Flow Calculations: Market Flow, Firm Market Flow, and Non- Firm Market Flow

Market Flows on a Coordinated Flowgate can be quantified and considered in each direction. Market Flow is then further designated into two components: Firm Market Flow, which is energy flow related to contributions from the Network and Native Load serving aspects of the dispatch, and Non-Firm Market Flow, which is energy flow related to the Market-Based Operating Entity's market operations.

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Note: Market flows equal generation to load flows in market areas.

Each Market-Based Operating Entity will calculate their actual real-time and projected directional Market Flows, as well as their directional Firm and Non-Firm Market Flows, on each Coordinated Flowgate. The following sections outline how these flows will be computed.

4.1 Market Flow Determination

The determination of Market Flows builds on the “Per Generator” methodologies that were developed by the NERC Parallel Flow Task Force. The “Per Generator Method Without Counter Flow” was presented to and approved by both the NERC Security Coordinator Subcommittee (SCS) and the Market Interface Committee (MIC).¹ This methodology is presently used in the IDC to determine NNL contributions.

Similar to the Per Generator Method, the Market Flow calculation method is based on Generator Shift Factors (GSFs) of a market area’s assigned generation and the Load Shift Factors (LSFs) of its load on a specific Flowgate, relative to a system swing bus. The GSFs are calculated from a single bus location in the base case (e.g. the terminal bus of each generator) while the LSFs are defined as a general scaling of the market area’s load. The Generator to Load Distribution Factor (GLDF) is determined through superposition by

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subtracting the LSF from the GSF.

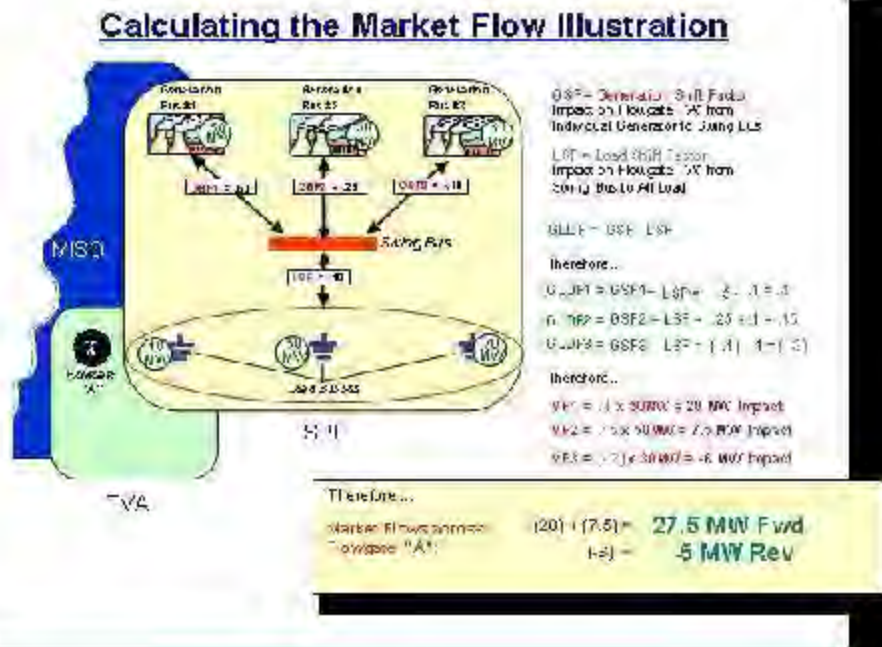
¹ "Parallel Flow Calculation Procedure Reference Document," NERC Operating Manual. 11 Feb, 2003.
<<http://www.nerc.com/~oc/opermanl.html>>

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The determination of the Market Flow contribution of a unit to a specific Flowgate is the product of the generator's GLDF multiplied by the actual output (in megawatts) of that generator. The total Market Flow on a specific Flowgate is calculated in each direction; forward Market Flows is the sum of the positive Market Flow contributions of each generator within the market area, while reverse Market Flow is the sum of the negative Market Flow contributions of each generator within the market area.

For purposes of the Market Flow determination, the market area may be either: (1) the entire RTO footprint, as in the following illustration; or (2) a subset of the RTO region, such as a pre-integration NERC-recognized Control Area, as necessary to ensure accurate determinations and consistency with pre-integration flow determinations. Each Market-Based Operating Entity shall choose only one of these two options to calculate its Market Flows. With regard to the second option, the total Market Flow of an RTO shall be the sum of the flows from and between such market areas.



The Market Flow calculation differs from the Per Generator Method in the following ways:

- The contribution from all market area generators will be taken into account.

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- In the Per Generator Method, only generators having a GLDF 5% or greater are included in the calculation. Additionally, generators are included only when the sum of the maximum generating capacity at a bus is greater than 20 MW. The Market Flow

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calculations will use all flows, in both directions, down to a 5% threshold for the IDC to assign TLR curtailments and down to a 0% threshold for information purposes. Forward flows and reverse flows are determined as discrete values.

- The contribution of all market area generators is based on the present output level of each individual unit.
- The contribution of the market area load is based on the present demand at each individual bus.

By expanding on the Per Generator Method, the Market Flow calculation evolves into a methodology very similar to the “Per Generator Method,” while providing granularity on the order of the most granular method developed by the IDC Granularity Task Force.

Directional flows are required for this process to ensure a Market-Based Operating Entity can effectively select the most effective generation pattern to control the flows on both internal and external constraints, but are considered as distinct directional flows to ensure comparability with existing NERC and/or NAESB TLR processes. Under this process, the use of real-time values in concert with the Market Flow calculation effectively implements one of the more accurate and detailed methods of the six IDC Granularity Options considered by the NERC IDC Granularity Task Force.

Each Market-Based Operating Entity shall choose one of the three methodologies set forth in Section 4.1.1 (*Methodologies to Account for Tagged Transactions*) below to account for import and export tagged transactions and shall apply it consistently for each of the following calculations:

1. the Market Flow calculation;
2. the Firm Flow Limit calculation;
3. the Firm Flow Entitlement calculation; and
4. the tagged transaction impact calculation which occurs in the IDC.

Market Flows represent the impacts of internal generation (including generators pseudo-tied into the market area and excluding generators pseudo-tied out of the market area) serving internal load (including load pseudo-tied into the market area and excluding load pseudo-tied out of the market area) and tagged grandfathered transactions within the market area. Market Flows shall not include the impacts from import tagged transaction(s) into and export tagged transaction(s) out of the market area where the impacts of the interchange transactions are accounted for by the IDC. A Market-Based Operating Entity shall utilize the IDC to calculate the impacts of import tagged transactions into and export tagged transactions out of the market area that are not captured in the Market Flow calculation. The impact of the EAR shall be included in the Market Flow calculation using the methodology selected in Section 4.1.1 (*Methodologies to Account for Tagged Transactions*); the related tags will be excluded in IDC.

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For an import EAR, load will be adjusted, and for an export EAR, generation will be adjusted, in accordance with the methodology selected in Section 4.1.1 (*Methodologies to Account for Tagged Transactions*).

Units assigned to serve a market area's load do not need to reside within the market area's footprint to be considered in the Market Flow calculation. Units outside of the market area that are pseudo-

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tied into the market to serve the market area's load will be included in the Market Flow calculation. However, units outside of the market area will not be considered when those units will have tags associated with their transfers (i.e., where pseudo-tie does not exist).

Additionally, there may be situations where the participation of a generator in the market that is not modeled as a pseudo-tie may be less than 100% (e.g., a unit jointly owned in which not all of the owners are participating in the market). This situation occurs when the generator output controlled by the non-participating parties is represented as interchange with a corresponding tag(s) and not as a pseudo-tie generator internal to each party's Control Area. Except for the generator output represented by qualifying interchange transactions from jointly owned units described in the following paragraph, such situations will be addressed by including the generator output in that Market-Based Operating Entity's Market Flow calculation with the amount of generator output not participating in the market being scaled down within the Market-Based Operating Entity's region or regions in accordance with one of the following three methodologies described and defined below in Section 4.1.1: the Marginal Zone Method, POR-POD Method, or Slice-of-System Method.

When a jointly owned unit, which is also listed as a Designated Network Resource for the Historic Firm Flow calculation, participates in more than one market (each of which report Market Flow to the IDC), and the generator output from that unit between the two markets is represented as interchange with a corresponding tag(s) that is accounted for by the IDC and not as a pseudo-tie generator internal to each market's Control Area, its modeling in the Market Flow calculation will be aligned with that in the Historic Firm Flow calculation. The amount of generator output from that unit scheduled between the two markets will be treated as a unit-specific export tagged transaction in the Market Flow calculation of the Market-Based Operating Entity where the generator is located and will be treated as a load-specific import tagged transaction in the Market Flow calculation of the other Market-Based Operating Entity.

- For exports out of one market area associated with the jointly owned unit(s), the generator output of jointly owned unit will be scaled down by an amount which is the lesser of the corresponding export tagged transaction(s) and unit ownership of an owner participating in other market area.
- For imports into the other market area associated with the jointly owned external unit(s), the Control Zone load or bus load(s) will be scaled down by an amount which is the lesser of the corresponding import tagged transaction(s) and unit ownership of an owner participating in the market area.

Import tagged transactions, export tagged transactions, and grandfathered tagged transactions within the market area, must be properly accounted for in the determination of Market Flows.

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Below is a summary of the calculations discussed above.

For a specified Flowgate, the Market Flow impact of a market area is given as:

Total Directional “Market Flows” = \sum (Directional “Market Flow” contribution of each unit in the Market-Based Operating Entity’s area), grouped by impact direction

where,

“Market Flow” contribution of each unit in the Market-Based Operating Entity’s area = $(GLDF_{Adj})$ (Adjusted Real-Time generator output)

and,

$GLDF_{Adj}$ is the Generator to Load Distribution Factor

Where the generator shift factor (GSF_{Adj}) uses Adjusted Real-Time generator output and the load shift factor (LSF_{Adj}) uses Adjusted Real-Time bus loads.

$GLDF_{Adj} = GSF_{Adj} - LSF_{Adj}$

Adjusted Real-Time generator output is the output of an individual generator as reported by the state estimator solution that has been adjusted for exports associated with joint ownership, if any, and then further adjusted for the remaining exports utilizing the chosen methodology in Section 4.1.1.

Adjusted Real-Time bus load is the sum of all bus loads in the market as reported by the state estimator solution that have been adjusted for imports associated with joint ownership, if any, and then further adjusted for the remaining imports utilizing the chosen methodology in Section 4.1.1..

The real-time and one-hour ahead projected “Market Flows” will be calculated on-line utilizing the Market-Based Operating Entity’s state estimator model and solution. This is the same solution presently used to determine real-time market prices as well as providing on-line reliability assessment and the periodicity of the Market Flow calculation will be on the same order. Inputs to the state estimator solution include the topology of the transmission system and actual analog values (e.g., line flows, transformer flows, etc...). This information is provided to the state estimator automatically via SCADA systems such as NERC’s ISN link.

Using an on-line state estimator model to calculate “Market Flows” provides a more accurate assessment than using an off-line representation for a number of reasons. The calculation incorporates a significant amount of real-time data, including:

- **Actual real-time and projected generator output.** Off-line models often assume an output level based on a nominal value (such as unit maximum capability), but there is no guarantee that the unit will be operating at that assumed level, or even on-line. Off-

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line models may not reflect the impact of pumped-storage units when in pumping mode; these units may be represented as a generator even when pumping. Additionally off-line models may not reflect the impact of units such as wind generators. A real-time calculation explicitly represents the actual operating modes of these units.

- **Actual real-time bus loads.** Off-line assessments may not be able to accurately account for changes in load diversity. Off-line models are often based on seasonal winter and summer peak load base cases. While representative of these peak periods, these cases

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may not reflect the load diversity that exists during off-peak and shoulder hours as well as off-peak and shoulder months. A real-time calculation explicitly accounts for load diversity. Off-line assessments may also reflect load reduction programs that are only in effect during peak periods.

- **Actual real-time breaker status.** Off-line assessments are often bus models, where individual circuit breakers are not represented. On-line models are typically node models where switching devices are explicitly represented. This allows for the real-time calculation to automatically account for split bus conditions and unusual topology conditions due to circuit breaker outages.

Additionally, the calculation rate of the on-line assessment is much quicker and accurate than an off-line assessment, as the on-line assessment immediately incorporates changes in system topology and generators. Facility outages are automatically incorporated into the real-time assessment.

In order to provide reliable and consistent flow calculations, entities utilizing this process as the basis for coordination must ensure that the modeling data and assumptions used in the calculation process are consistent. Reciprocal Entities will coordinate models to ensure similar computations and analysis. Reciprocal Entities will each utilize real-time ICCP and ISN data for observable areas in each of their respective state estimator models and will utilize NERC data for areas outside the observable areas to ensure their models stay synchronized with each other and the NERC IDC.

4.1.1 Methodologies to Account for Tagged Transactions

A Market-Based Operating Entity shall choose one of the following methodologies to account for export and import tagged transactions in the Market Flow reported to the IDC and utilized for market-to-market, and shall also use the same methodology to account for export and import tagged transactions in the Firm Flow Limit and Firm Flow Entitlement calculations, as well as calculated tag impacts by the IDC:

1. Point-of-receipt (POR) / point-of-delivery (POD) Method (POR-POD Method) - Export tagged transactions, excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to the IDC), shall be accounted for based on the POR of the transmission service reservation, as the transmission service was originally sold, that is listed on the export tagged transaction by proportionally offsetting the MW output of all units (i) in the Market-Based Operating Entity's Control Area, (ii) pre-integration NERC-recognized Control Area(s), or (iii) sub- regions within its Control Area. Import tagged transactions, excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to IDC),

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shall be accounted for based on the POD of the transmission service reservation, as the transmission service was originally sold, that is listed on the export tagged transaction by proportionally offsetting the MW load of all load buses (i) in the Market Based Operating Entity's Control Area, (ii) pre-integration NERC-recognized Control Area(s), or (iii) sub-regions within the Control Area; or

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- 2.
3. Marginal Zone Method – Export tagged transactions, excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to IDC), shall be accounted for by adjusting the MW output of the units in the Market-Based Operating Entity’s Control Area, regions, or subregions within its Control Area by the total MW amount of all the Market-Based Operating Entity’s export tagged transactions excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to IDC) using: (1) marginal zone participation factors, as defined and calculated in Appendix B (*Determination of Marginal Zone Participation Factors*); and (2) the anticipated availability of a generator to participate in the interchange of the marginal zone. Import tagged transactions, excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to the IDC), shall be accounted for by adjusting the MW load of the load buses in the Market-Based Operating Entity’s Control Area, regions or subregions within the Control Area, by the total MW amount of all the Market-Based Operating Entity’s import tagged transactions excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to IDC) using marginal zone participation factors, as defined and calculated in Appendix B (*Determination of Marginal Zone Participation Factors*); or
4. Slice of System Method – Export tagged transactions, excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to IDC), shall be accounted for by proportionately adjusting the MW output of each of the units in the Market-Based Operating Entity’s Control Area by the total MW amount of all the Market-Based Operating Entity’s export tagged transactions excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to the IDC). Import tagged transactions, excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to the IDC), shall be accounted by proportionately adjusting the MW load of each of the load buses in the Market-Based Operating Entity’s Control Area by the total MW amount of all the Market-Based Operating Entity’s import tagged transactions excluding tagged transactions associated with jointly owned units participating in more than one market (each of which report Market Flow to IDC).

Each Market-Based Operating Entity shall post and maintain a document on its public website that describes calculations and assumptions used in those calculations regarding the chosen methodology and its application to the treatment of import and export transactions to the calculation of Market Flows, Firm Flow Limits, and Firm Flow Entitlements, and tag impacts calculated by the IDC.

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4.2

4.3 Firm Flow Determination

Firm Market Flows represent the directional sum of flows created by Designated Network Resources serving designated network loads within a particular market area. They are based primarily on the configuration of the system and its associated flow characteristics; utilizing generation and load values as its primary inputs. Therefore, these Firm Market Flows can be determined based on expected usage and the Allocation of Flowgate capacity.

An entity can determine Firm Market Flows on a particular Flowgate using the same process as utilized by the IDC. This process is summarized below:

1. Utilize a reference base case to determine the Generation Shift Factors for all generators in the current Control Areas' respective footprints to a specific swing bus with respect to a specific Flowgate.
2. Utilize the same base case to determine the Load Shift Factors for the Control Area's load to a specific swing bus with respect to that Flowgate.
3. Utilize superposition to calculate the Generation to Load Distribution Factors (GLDF) for the generators with respect to that Flowgate.
4. Multiply the expected output used to serve native load from each generator by the appropriate GLDF to determine that generator's flow on the Flowgate.
5. Sum these individual contributions by direction to create the directional Firm Market Flow impact on the Flowgate.

4.4 Determining the Firm Flow Limit

Given the Firm Market Flow determinations described in the previous section, Market-Based Operating Entities can assume them to be their Firm Flow Limits. These limits define the maximum value of the Market Flows that can be considered as firm in each direction on a particular Flowgate. Prior to real time, a calculation will be done based on updated hourly forecasted loads and topology. The results should be an hourly forecast of directional Firm Market Flows. This is a significant improvement over current IDC processes, which uses a peak load value instead of an hourly load more closely aligned with forecasted data.

4.5 Firm Flow Limit Calculation Rules

The Firm Flow Limits for both 0% Market Flows and 5% Market Flows will be calculated based on certain criteria and rules. The calculation will include the effects of firm network service in both forward and reverse directions. The process will be similar to that of the IDC but will include one set of impacts down to 0% and another set down to 5%. The down to 0% impacts will be used to determine Firm Flow Limits on 0% Market Flows. The down to 5%

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impacts will be used to determine Firm Flow Limits on 5% Market Flows. The following points form the basis for the calculation.

1. The generation-to-load calculation will be made on a Control Area basis. The impact of generation-to-load will be determined for Coordinated Flowgates.

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- 2.
3. The Flowgate impact will be determined based on individual generators serving aggregated CA load. Only generators that are Designated Network Resources for the CA load will be included in the calculation.
4. Forward Firm Flow Limits for 0% Market Flows will consider impacts in the additive direction down to 0%, and reverse Firm Flow Limits for 0% Market Flows will consider impacts in the counter flow direction down to 0%. Forward Firm Flow Limits for 5% Market Flows will be determined by subtracting impacts between 0% and 5% in the additive direction from the Forward Firm Flow Limit for 0% Market Flows. Reverse Firm Flow Limits for 5% Market Flows will be determined by subtracting the impacts between 0% and 5% in the counter-flow direction from the reverse Firm Flow Limit for 0% Market Flows. Market Flow impacts and allocations using a 5% threshold are reported to the IDC to assign TLR curtailments. Market Flow impacts and allocations using a 0% threshold are reported to the IDC for information purposes.
5. Designated Network Resources located outside the CA will not be included in the generation-to-load calculation if OASIS reservations exist for these generators.
6. If a generator or a portion of a generator is used to make off-system sales that have an OASIS reservation, that generator or portion of a generator should be excluded from the generation-to-load calculation.
7. Generators that will be off-line during the calculated period will not be included in the generation-to-load calculation for that period.
8. CA net interchange will be computed by summing all Firm Transmission Service reservations and all Designated Network Resources that are in effect throughout the calculation period. Designated Network Resources are included in CA net interchange to the extent they are located outside the CA and have an OASIS reservation. The net interchange will either be positive (exports exceed imports) or negative (imports exceed exports).
9. If the net interchange is negative, the period load is reduced by the net interchange.
10. If the net interchange is positive, the period load is not adjusted for net interchange.
11. The generation-to-load calculation will be made using generation-to-load distribution factors that represent the topology of the system for the period under consideration.
12. P_{MAX} of the generators should be net generation (excluding the plant auxiliaries) and the CA load should not include plant auxiliaries.
13. The portion of jointly owned units that are treated as schedules will not be included in the generation-to-load calculation if an OASIS reservation exists.

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Section 5 – Market-Based Operating Entity Congestion Management

Once there has been an establishment of the Firm Flow Limit that is possible given Firm Market Flow calculation, that data will be used in the operating environment in a manner that relates to real time energy flows.

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Market- Based Operating En - MISO-JOA Att 2 Section 5.1 Calculating Market Flows

5.1 Calculating Market Flows

On a periodic basis, the Market-Based Operating Entity will calculate directional Market Flows for all Coordinated Flowgates. These flows will represent the actual flows in each direction at the time of the calculation, and be used in concert with the previously calculated Firm Flow Limits to determine the portion of those flows that should be considered firm and non-firm.

5.2 Quantify and Provide Data for Market Flow

Every fifteen minutes, the Market-Based Operating Entity will be responsible for providing to Reliability Coordinators the following information:

- Firm Market Flows for all Coordinated Flowgates in each direction
- Non-Firm Market Flows for all Coordinated Flowgates in each direction

The Firm Market Flow (Priority 7-FN) will be equivalent to the calculated Market Flow, up to the Firm Flow Limit. In real time, any Market Flow in excess of the Firm Flow Limit will be reported as Non-Firm Market Flow (Priority 6-NN) (note that under reciprocal operations, some of this Non-Firm Market Flow may be quantified as Priority 2-NH).

This information will be provided for both current hour and next hour, and is used in order to communicate to Reliability Coordinators the amount of flows to be considered firm on the various Coordinated Flowgates in each direction. When the Firm Flow Limit forecast is calculated to be greater than Market Flow for current hour or next hour, actual Firm Flow Limit (used in TLR5) will be set equal to Market Flow.

Additionally, as frequently as once an hour, but no less frequently than once every three months, the Market-Based Operating Entity will submit to the Reliability Coordinator sets of data describing the marginal units and associated participation factors for generation within the market footprint. The level of detail of the data may vary, as different Operating Entities will have different unique situations to address. However, this data will at a minimum be supplied for imports to and exports from the market area, and will contain as much information as is determined to be necessary to ensure system reliability. This data will be used by the Reliability Coordinators to determine the impacts of schedule curtailment requests when they result in a shift in the dispatch within the market area.

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5.3

5.4 Day-Ahead Operations Process

The Market-Based Operating Entities will use a day-ahead operations process to establish the Firm Flow Limit on Coordinated Flowgates. If the Market-Based Operating Entities utilize a day-ahead unit commitment, they will supplement the day-ahead unit commitment with a security constrained economic dispatch tool, which uses a network analysis model that mirrors the real-time model found within their state estimators. As such, the day-ahead unit commitment and its associated Security Constrained Economic Dispatch respects facility limits and forecasted system constraints. Facility limits of Coordinated Flowgates under the functional control of Market-Based Operating Entities and the allocations of all Reciprocal Coordinated Flowgates will be honored.

For Coordinated Flowgates, a Market-Based Operating Entity can only use one of the following two methods to establish Firm Flow Limit. A Market-Based Operating Entity must use either the day-ahead unit commitment and its associated Security Constrained Economic Dispatch, or a Market-Based Operating Entity's GTL and unused Firm Transmission Service impacts, up to the Flowgate Limit, on the Coordinated Flowgate. At any given time, a Market Based Operating Entity must use only one method for all Coordinated Flowgates and must give ninety days notice to all other Reciprocal Entities, if it decides to switch from one method to the other method. On a case by case basis, with agreement by all Reciprocal Entities the ninety-day notice period may be waived.

5.5 Real-time Operations Process – Operating Entity Capabilities

Operating Entities' real-time EMSs have very detailed state estimator and security analysis packages that are able to monitor both thermal and voltage contingencies every few minutes. State estimation models will be at least as detailed as the IDC model for all the Coordinated and Reciprocal Coordinated Flowgates. Additionally, Reciprocal Entities will be continually working to ensure the models used in their calculation of Market Flow are kept up to date.

The Market-Based Operating Entities' state estimators and Unit Dispatch Systems (UDS) will utilize these real-time internal flows and generator outputs to calculate both the actual and projected hour ahead flows (i.e., total Market Flows, Non-Firm Market Flows, and Firm Market Flows) on the Coordinated Flowgates. Using real-time modeling, the Market-Based Operating Entity's internal systems will be able to more reliably determine the impact on Flowgates created by dispatch than the NERC IDC. The reason for this difference in accuracy is that the IDC uses static SDX data that is not updated in real-time. In contrast to the SDX data, the Market-Based Operating Entity's calculations of system flows will utilize each unit's actual output, updated at least every 15 minutes on an established schedule.

5.6 Market-Based Operating Entity Real-time Actions

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The Market-Based Operating Entity will upload the real-time and one-hour ahead projected Firm Market Flows (7-FN) and Non-Firm Market Flows (6-NN) on these Flowgates to the IDC every 15 minutes, as requested by the NERC IDCWG and OATI (note that under reciprocal operations, some of this 6-NN may be quantified as Priority 2-NH). Market Flows will be calculated, down to five percent and down to zero percent, and uploaded to the IDC. When the real-time actual flow exceeds the Flowgate limit and the Reliability Coordinator, who has responsibility for that Flowgate, has declared a TLR 3a or higher, the IDC will determine tag curtailments, Market Flow relief obligations and NNL relief obligations using a 5% tag impact, Market Flow impact and NNL impact threshold. The Market-Based Operating Entity will respond to the relief obligation by redispatching their system in a manner that is consistent with how non-market entities respond to their NNL relief obligations. Note the Market-Based Operating Entity and the non-market-entities may provide relief through either: (1) a reduction of flows on the Flowgate in the direction required, or (2) an increase of reverse flows on the Flowgate.

Market-Based Operating Entities will implement this redispatch by binding the Flowgate as a constraint in their Unit Dispatch System (UDS). UDS calculates the most economic solution while simultaneously ensuring that each of the bound constraints is resolved reliably. Additionally, the Market-Based Operating Entity will make any point-to-point transaction curtailments as specified by the NERC IDC. The Reliability Coordinator calling the TLR will be able to see the relief provided on the Flowgate as the Market-Based Operating Entity continues to upload its contributions to the real-time flows on this Flowgate.

Section 6 - Reciprocal Operations

Reciprocal Coordination Agreements can be executed on a market-to-market basis, a market-to- non-market basis, and a non-market-to-non-market basis. While the congestion management portions of this document are intended to apply specifically to Market-Based Operating Entities, the agreement to allocate Flowgate capability is not dependent on an entity operating a centralized energy market. Rather, it simply requires that a set of Flowgates be defined upon which coordination shall occur and an agreement to perform such coordination.

6.1 Reciprocal Coordinated Flowgates

In order to coordinate congestion management on a proactive basis, Operating Entities may agree to respect each other's Flowgate limitations during the determination of AFC/ATC and the calculation of firmness during real-time operations. Entities agreeing to coordinate this future- looking management of Flowgate capacity are Reciprocal Entities. The Flowgates used in that process are Reciprocal Coordinated Flowgates.

6.2 The Relationship Between Coordinated Flowgates and Reciprocal Coordinated Flowgates

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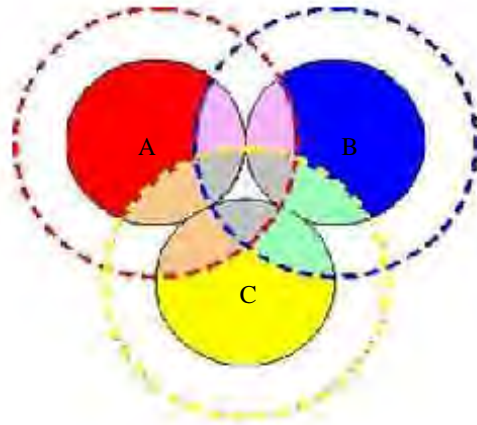
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Coordinated Flowgates are associated with a specific Operating Entity's operational sphere of influence. Reciprocal Coordinated Flowgates are associated with the implementation of a Reciprocal Coordination Agreement between two Reciprocal Entities. By virtue of having executed such an agreement, a Flowgate Allocation can occur between these two Reciprocal Entities as well as all other Reciprocal Entities that have executed Reciprocal Coordination Agreements with at least one of these two Reciprocal Entities. When considering an implementation between two Reciprocal Entities, it is generally expected that each of the Reciprocal Coordinated Flowgates will meet the following three criteria:

- It will meet the criteria for Coordinated Flowgate status for both the Reciprocal Entities,
- It will be under the functional control of one of the two Reciprocal Entities and
- Both Reciprocal Entities have executed Reciprocal Coordination Agreements either with each other or with a Third Party Reciprocal Entity.

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As shown in the illustration above, Operating Entity A, Operating Entity B and Operating Entity C each have their own set of Coordinated Flowgates (represented by the blue, yellow and red dotted-line circles). Where those sets of Coordinated Flowgates overlap AND they are in either Operating Entity A's, Operating Entity B's or Operating Entity C's service territory (the gray area), they will be considered Reciprocal Coordinated Flowgates between all three entities. Where those sets of Coordinated Flowgates overlap AND they are in either Operating Entity A's or Operating Entity B's service territory (the purple area), they will be considered Reciprocal Coordinated Flowgates between Operating Entity B and Operating Entity A only. Where those sets of Coordinated Flowgates overlap AND they are in either Operating Entity B's or Operating Entity C's service territory (the green area), they will be considered Reciprocal Coordinated Flowgates between Operating Entity B and Operating Entity C only. Where those sets of Coordinated Flowgates overlap AND they are in either Operating Entity A's or Operating Entity C's service territory (the orange area), they will be considered Reciprocal Coordinated Flowgates between Operating Entity A and Operating Entity C only.

To the extent that entities other than Market-Based Operating Entities may enter into a Reciprocal Coordination Agreements, they may offer to coordinate on Flowgates that are Coordinated Flowgates (i.e., have passed one of the five tests defined within this document or otherwise been deemed to be a Coordinated Flowgate).

6.3 Coordination Process for Reciprocal Flowgates

The following process and timing will be used for coordinating the ATC/AFC calculations and Firm Flow Limit calculations/Allocations between Reciprocal Entities. Further, the process quantifies and limits Priority 6 – NN service on the Reciprocal Coordinated Flowgates, as well as determines priority 2-NH service. All Reciprocal Entities' Firm Flow Limits will be calculated on the same basis.

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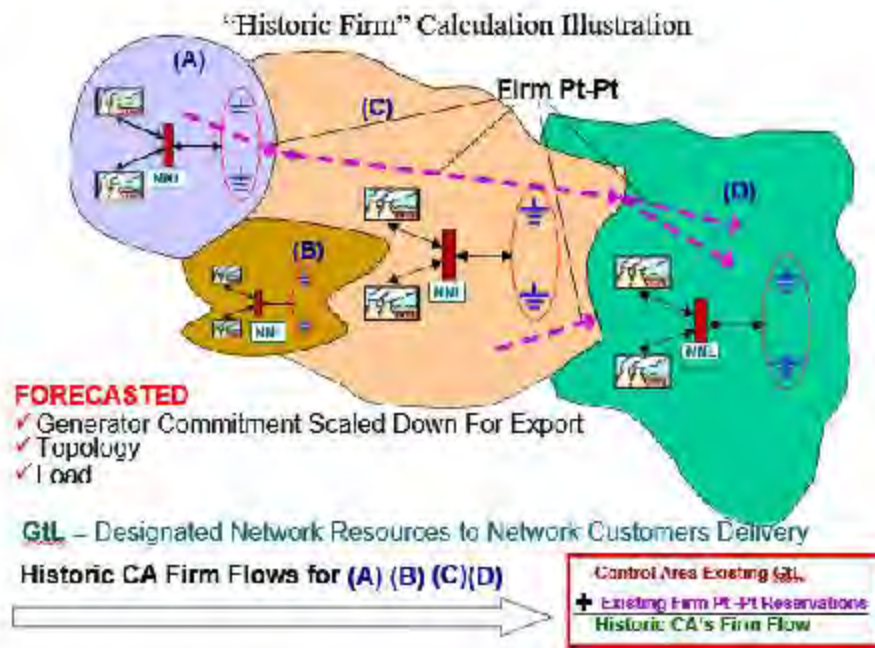
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6.4 Calculating Historic Firm Flows

As a starting point for identifying Allocations, an understanding must be developed of what Firm Flows would be in the historic Control Area structure. In other words, there must be a quantification of the Firm Flows that would have occurred if all Control Areas maintained their current configuration and continued to: (1) serve their native load with their Designated Network

Resources, and (2) import and export energy at historical levels (based upon Firm Transmission Service reservations as of the Freeze Date, which is currently set as April 1, 2004. This flow is referred to as Historic Firm Flow.



Reciprocal Entities will utilize the IDC Base Case model, or a mutually agreed upon alternative model as the reference base case for these calculations.

6.5 Recalculation of Initial Historic Firm Flow Values and Ratios

The Firm Transmission Service and Designated Network Resource to customer load defined by the Historic Firm Flow calculation will be updated in the recalculation of Historic Firm

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Flow utilizing any new Designated Network Resources, updated customer loads, and new transmission facilities. The original historic Control Areas will be retained for the recalculation of Historic Firm Flow. New Designated Network Resources will be included in the recalculation to the extent these new Designated Network Resources have been arranged for the exclusive use of load within the historic Control Areas and to the extent the total impact of all Designated Network Resources does not exceed the historic Control Area impact of Designated Network Resources as of a “Freeze Date” (defined as April 1, 2004). Any changes to Designated Network Resources and/or the transmission system that increase transmission capability will be assessed in accordance with the Reciprocal Entities AFC Coordination procedures prior to the increasing of Historic Firm Flow related to those systems.

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The initial Historic Firm Flow calculated values and resulting Allocation ratios will be recalculated as seasonal cases are produced. This recalculation will utilize the same Firm Transmission Service reservations that were used in the initial Historic Firm Flow calculation. The same Firm Transmission Service reservations are used so that Market-Based Operating Entities that have their Firm Transmission Service internalized, grant fewer internal Firm Transmission Service reservations, or have their original Firm Transmission Service reservations end, because of their market operations, will retain at least the same level of Firm Transmission Service as in the initial Historic Firm Flow calculation. Therefore, the Firm Transmission Service component of the Historic Firm Flow will be frozen on the “Freeze Date” at the initially calculated level for both market and non-market entities.

Any new Control Areas that are added to the Firm Flow calculation process for any Reciprocal Entity, or another Operating Entity, will use Firm Transmission Service reservations from the initial Historic Firm Flow calculation date to establish their Firm Transmission Service component of the Historic Firm Flow.

As the recalculation for Historic Firm Flow is made for each time period, the higher of allocation value will be retained between the initial Historic Firm Flow calculation and the recalculation (See “Forward Coordination Process” Section 6.6, step 8.f). To the extent an Operating Entity has made commitments based on the higher of Allocation value, a recalculation does not reduce previously calculated Allocations.

When a Flowgate experiences a transitory limit reduction or de-rating, there will be no change made to the historic allocations. In effect, the Operating Entity responsible for the Flowgate is expected to absorb the impact of the de-rating by not reducing the historic allocation of the other Operating Entities. This practice is consistent with the use of the higher-of logic in the historic allocation process. Where a change in system conditions, such as a significant transmission outage, affects flows on a longer term basis the Reciprocal Entities will discuss whether historic allocations, including an over-ride of the higher-of logic, should be rerun to recognize the effects of the change in system conditions in the historic allocations. The historic allocations shall be rerun only if the affected Reciprocal Entities mutually agree.

6.6 Forward Coordination Processes

1. For each Reciprocal Coordinated Flowgate, a managing entity and an owning entity will be defined. The manager will be responsible for all calculations regarding that Flowgate; the owner will define the set of Firm Transmission Service reservations to be utilized when determining Firm Transmission Service impacts on that Flowgate.
2. Managing entities will calculate both Historic Firm Gen-to-Load Flow impacts and historic Firm Transmission Service impacts for all entities. These impacts will be used to define the Historic Ratio and the Allocation of transmission capability.

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3. The managing entity will utilize the current NERC IDC Base Case (or other mutually agreeable base case) to determine impacts. The case should be updated with the most current set of outage data for the time period being calculated.
4. Managing entities will calculate Allocations on the following schedule:

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Allocation Run Type	Allocation Process Start	Range Allocated	Allocation Process Complete
April Seasonal Firm	Every April 1 at 8:00 EST	Twelve monthly values from October 1 of the current year through September 30 of the next year	April 1 at 12:00 EST
October Seasonal Firm	Every October 1 at 8:00 EST	Twelve monthly values from April 1 of next year through March 31 of the following year	October 1 at 12:00 EST
Monthly Firm	Every month on the second day of the month at 8:00 EST	Six monthly values for the next six successive months	2 nd of the month at 12:00 EST
Weekly Firm	Every Monday at 8:00 EST	Seven daily values for the next Monday through Sunday	Monday at 12:00 EST
Two-Day Ahead Firm	Every Day at 17:00 EST	One daily value for the day after tomorrow	Current Day at 18:00 EST
Day Ahead Non-Firm	Every Day at 8:00 EST	Twenty-four hourly values for the next 24-hour period (Next Day HE1-HE24 EST)	Current Day at 9:00 EST

5. Historic Ratios are defined during the seasonal runs the first time an impact is calculated. For example, the 2004 April seasonal firm run would define the Historic Ratio for April 2005 – September 2005 (October through March would have been calculated during the 2003 October seasonal firm run). The Historic Ratio is based on the total impacts of the Reciprocal Entity on the Flowgate (Historic Firm Gen-to-Load Flows and historic Firm Transmission Service flows, down to 0%) relative to the total impacts of all other Reciprocal Entities’ impacts on the Flowgate. For example, if Reciprocal Entity A had a 30 MW impact on the Flowgate and Reciprocal Entity B had a 70 MW impact on the Flowgate, the Historic Ratios would be 30% and 70%, respectively.
6. The same rules defined in the “Market-Based Operating Entity Congestion Management” Section 5 of this document for use in determining Firm Transmission Service impacts (NNL) shall apply when performing Allocations.

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7. Additional rules to be used when considering Firm Transmission Service impacts are defined later within this section.

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- 8.
9. For each firm Allocation run described above, the managing entity will take the following steps to determine Allocations down to 0% for each of the Flowgates, in both the forward and reverse direction, they are assigned to manage:
- a. Retrieve the Flowgate limit
 - b. Subtract the current Transmission Reliability Margin (TRM) value (may be zero)
 - c. Subtract the sum of all historically determined Firm Flow impacts for all entities based on impacts greater than or equal to 5%
 - d. Accommodation of Capacity Benefit Margin (CBM)
 - If no capacity remains after step (c), entities' firm Allocation is limited to this amount (i.e., their Firm Flow impacts from impacts of 5% or greater), and the firm Allocation for the entity with functional control over the Flowgate is increased by the current CBM value (may be zero).
 - If capacity does remain after step (c), and the sum of all Reciprocal Entities' impacts below 5% plus CBM is less than the remaining capacity from step (c), that capacity is allocated to the Reciprocal Entities pro-rata based on their Firm Flow impacts due to impacts less than 5% up to the total amount of their Firm Flow impacts due to impacts less than 5%.
 - If there is not sufficient capacity for all impacts below 5% plus CBM to be accommodated, the current CBM value is subtracted from the remaining capacity from step (c), and granted to the entity with functional control over the Flowgate. Any capacity remaining is allocated to the Reciprocal Entities pro-rata based on their Firm Flow impacts due to impacts less than 5%.
 - e. Any remaining capacity, after step (d) will be considered firm and allocated to Reciprocal Entities based on their Historic Ratio (as described in step 5). If the remaining capacity allocated to the entity with functional control over the Flowgate meets or exceeds the current CBM value, no further effort is needed. If the remaining capacity is less than the CBM, capacity will first be reduced by the CBM, and the entity with functional control over the Flowgate will be granted the capacity needed to support the CBM. In addition each Reciprocal Entity (including the entity with functional control over the Flowgate) will receive allocations determined as a pro-rata share of the remaining capacity (as described in Step 5).
 - f. Upon completion of the Allocation process, the managing entity will compare the current preliminary Allocation to the previous Allocations. For any given Flowgate, the larger of the Allocations will be considered the Allocation (i.e., an Allocation cannot decrease). Once all preliminary Allocations have been compared and the final Allocation determined, the managing entity will distribute the Allocations to the appropriate Reciprocal Entities. This Allocation will consist of the firm Gen-to-Load limit and a portion of capability that can be used either for Firm Transmission Service or additional

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firm Gen-to-Load service.

10. For the non-firm Allocation run described above, the managing entity will take the following steps to determine Allocations down to 0% for each of the Flowgates, in both the forward and reverse direction, they are assigned to manage. For each hour, the managing entity shall:
 - a. Retrieve the Flowgate limit

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- b.
- c. Subtract the current TRM value (may be zero)
- d. Subtract the sum of all hourly historically determined Firm Flow impacts for all entities based on impacts greater than or equal to 5%
- e. Subtract the sum of all hourly historically-determined Firm Flow impacts for all Reciprocal Entities based on impacts less than 5%.
- f. Any remaining capacity will be allocated to Reciprocal Entities based on their Historic Ratio (as described in step 5).
- g. The two-day ahead firm Allocation is subtracted from the total entity Allocation (from steps c, d, and e).
 - If the result is positive, this value will be equivalent to the Priority 6-NN Allocation/limit, and the Firm Flow Limit for 0% Market Flows will be the two- day ahead firm Allocation.
 - If the result is negative or zero, the Priority 6-NN Allocation will be calculated by subtracting the total entity Allocation (from steps c, d and e) from the two-day ahead firm Allocation. The Firm Flow Limit for 0% Market Flows will be the equivalent of the total entity allocation.
- h. Upon completion of the Allocation process, the managing entity will distribute the Allocations to the appropriate Reciprocal Entities. These Allocations will be considered non-firm network service.

When a Market-Based Operating Entity is uploading Firm Market Flow contributions to the IDC, they will be responsible for ensuring that any firm Allocations are properly accounted for. If firm Allocations are used to provide additional firm network service, they should be included in the Firm Market Flow contribution. If they are used to provide additional Firm Transmission Service, they should not be included in the Firm Market Flow contribution.

The Market-Based Operating Entities will maintain in real-time their Firm Transmission Service and Network Non-Designated service impacts, including associated Market Flows, within their respective firm and Priority 6 total Allocations. The Firm Transmission Service impacts will be based on schedules. The Operating Entities participating in the Coordinated Process for Reciprocal Flowgates will respect their allocations when granting Firm Transmission Service.

Using the derived firm Allocation value, the Market-Based Operating Entity may choose to enter this value as a Flowgate limit for the respective Flowgate. If entered as a Flowgate limit, the Day- Ahead unit commitment will not permit flows to exceed this value as it selects units for this commitment. Market-Based Operating Entities will use the Flowgate limit to restrict unit outage scheduling for a Coordinated Flowgate when maintenance outage coordination indicates possible congestion and there is recent TLR activity on a Flowgate.

As Reciprocal Entities gain more experience in this process, implement and enhance their systems to perform the Firm Flow calculations and Allocations, they may change the timing

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requirements for the Forward Coordination Process by mutual agreement.

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6.6.1

6.6.2 Determining Firm Transmission Service Impacts

Firm impacts used in the Allocation process incorporate the Firm Transmission Service flows. Similar to the network service calculation described previously, to calculate each Firm Transmission Service transaction's impact on the Flowgate, the following process is utilized:

1. Utilize a base case to determine the Generation Shift Factor for the source Control Area with respect to a specific Flowgate.
2. Utilize the same base case to determine the Generation Shift Factor for the sink Control Area with respect to that Flowgate.
3. Utilize superposition to calculate the TDF for that source to sink pair with respect to that Flowgate.
4. Multiply the transactions energy transfer by the TDF to determine that transactions flow on the Flowgate.

Summing each of these impacts by direction will provide the directional Firm Transmission Service impact on the Flowgate.

Combining the directional Firm Transmission Service impacts with the directional NNL impacts will provide the directional Firm Flows on the Flowgate.

6.6.3 Rules for Considering Firm Transmission Service

1. Firm Transmission Service and Designated Network Resources that have an OASIS reservation are included in the calculation.
2. Reciprocal Entities will utilize a Freeze Date of April 1, 2004. Reciprocal Entities will utilize a reference year of June 1, 2004 through May 31, 2005 for determining the confirmed set of reservations that will be used in the Allocation process. The reference year is used such that reservation impacts in a given month in the reference year are used for each comparable month going forward in the Allocation process. For example, the Allocations for July 2004, July 2005, and July 2006 etc. will always use the July 2004 reservation impacts from the reference year. Confirmed reservations received after the Freeze Date will not be considered.
3. A potential for duplicate reservations exists if a transaction was made on individual CA tariffs (not a regional tariff) and both parties to the transaction (source and sink) are Reciprocal Entities. In this case, each Reciprocal Entity will receive 50% of the transaction impact.
4. To the extent a partial path reservation is known to exist, it will have 100% of its impacts considered on Reciprocal Coordinated Flowgates owned by the party that sold

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the partial path service, split 50/50 between the Source Reciprocal Entity and the Sink Reciprocal Entity, and 0% of its impacts considered on other Reciprocal Coordinated Flowgates.

5. Because reservations that are totally within the footprint of the regional tariff do not have duplicate reservations, these reservations will have the full impact considered even though

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both parties to the transaction (source and sink) are within the boundaries of the regional tariff and will be considered Reciprocal Entities, split 50/50 between the Source Reciprocal Entity and the Sink Reciprocal Entity, which in this case are the same. Similar to the firm network service calculation, the Firm Transmission Service calculation:

- a. Will consider all reservations (including those with less than 5% impact)
- b. Will base response factors on the topology of the system for the period under consideration.
- c. In general, will not make a generation-to-load calculation where a reservation exists.

6.6.4 Limiting Firm Transmission Service

The Flowgate Allocations down to 0% will represent the share of total Flowgate capacity (STFC) that a particular entity has been allocated. This STFC represents the maximum total impact that entity is allowed to have on that Flowgate.

In order to coordinate with the existing AFC process, it is necessary that this number be converted to an available STFC (ASTFC) which represents how much Flowgate capability remains available on that Flowgate for use as Transmission Service. In order to accomplish this, the entity receiving STFC will do the following:

Step	Example
1.) Start with the STFC	100
2.) Add all forward Gen to Load impacts (down to 0%) and all Reverse Gen to Load impacts (down to 0%) to obtain the Net Gen to Load impacts. The Gen to Load impacts should be based on the <i>best estimate</i> of firm Gen-to-Load Flow for the time period being evaluated.	$42 + (-20) = 22$
3.) Subtract the net Gen to Load impacts from the STFC	$100 - 22 = 78$
4.) Subtract the CBM to produce an interim STFC	$78 - 0 = 78$

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<p>5.) Determine the Transmission Service impacts of service that has been sold. By default, it should be assumed that 100% of forward service and 15% of counterflowing service will be scheduled and used. However, if Flowgate “owner” uses different percentages in their AFC calculation and the Flowgate manager’s calculation engine support it, percentages other than</p>	<p>$58 + (0.15 (-45)) =$ $58 + (-6.75) \approx$ $58 + (-7) = 51$</p>
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100% and 15% may be used. Add all forward Transmission Service impacts (down to 0%) and all appropriate reverse Transmission Service impacts (down to 0%) to obtain the weighted net Transmission Service impacts. The Transmission Service impacts should be based on the <i>current</i> set of reservations in effect for the time period being evaluated (<i>not</i> the historic reservation set)	
6.) Subtract the weighted net Transmission Service impacts from the Interim STFC. The result is the ASTFC	$78 - 51 = 27$

The ASTFC values for Reciprocal Coordinated Flowgates will be posted on OASIS along with the Allocation results. This ASTFC can then be compared with the AFC calculated through traditional means when evaluating firm requests made on OASIS.

If the AFC value is LOWER than the ASTFC value, the AFC value should be utilized for the purpose of approving/denying service. In this case, while the Allocation process might indicate that the entity has rights to a particular Flowgate through the Allocation process, current conditions on that Flowgate indicate that selling those rights would result in overselling of the Flowgate, introducing a reliability problem.

If the AFC value is HIGHER than the ASTFC value, the ASTFC value should be utilized for the purpose of approving/denying service. In this case, while the AFC process might indicate that the entity can sell more service than the Allocation might indicate, the entity is bound to not sell beyond their Allocation.

If a Reciprocal Entity uses all of its firm Allocation and desires to obtain additional capacity from another Reciprocal Entity who has remaining capacity, that additional capacity may be obtained using the procedures documented below.

6.7 Sharing or Transferring Unused Allocations

Reciprocal Entities shall use the following process for the sharing or transferring of unused Allocations down to 0% between each other.

6.7.1 General Principles

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This process includes the following general principles in the treatment of unused Allocations

1. A desire to fully utilize the Reciprocal Entities' Allocations such that in real-time, an unused Allocation by Reciprocal Entities is caused by a lack of commercial need for

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the Allocation by Reciprocal Entities and not by restrictions on the use of the Allocation.

2. For short-term requests (less than one year) where the lack of an Allocation could otherwise result in the denial of Transmission Service requests, there should be a mechanism to share or acquire a remaining Allocation on a non-permanent basis for the duration of the short-term transmission service requests. The short-term Allocation transfers would revert back to the Reciprocal Entity with the original Allocation after the short term request expires.
3. For long-term requests (one year or longer) where the lack of an Allocation could otherwise cause the construction of new facilities, there should be a mechanism to acquire a remaining Allocation such that new facilities are built only because they are needed by the system to support the transaction and not because of the Allocation split between Reciprocal Entities. Long-term Allocation transfers would apply to the original time period of the request including any roll-over rights that are granted for such requests.
4. Due to limitations on the frequency of transferring updated Allocation values and AFC's between the Reciprocal Entities, the Reciprocal Entities will utilize buffers to reduce the risk of overselling the same service, and to set aside a portion of the unused Allocation for the owner of the unused Allocation to accommodate any request that they may receive. The buffer will be reduced on a Flowgate based upon factors such as the rating of the Flowgate and operational experience, with the goal to maximize the use of the unused Allocation. The rationale for reducing the buffer is that potentially significant amounts of Transmission Service (up to many times the buffer amount) may be denied otherwise by the non-owner of the unused Allocation.

6.7.2 Provisions for Sharing or Transferring of Unused Allocations:

1. Based upon the proposed infrastructure for Allocation calculations, daily Allocations are available for 7 days into the future and Weekly and Monthly Allocations are available up to 18 months into the future. Sharing and transferring of unused Allocations will be limited to the granularity of the Allocation calculations.
2. The Reciprocal Entities will share or transfer their unused firm Allocations during the time periods up until day ahead with the goal to fully utilize the Allocations.
3. This sharing or transfer of the unused Allocation will occur automatically for short-term Transmission Service requests, and manually for long-term (one year or greater) Transmission Service requests. The Reciprocal Entity that has been requested to transfer unused Allocations to the other Reciprocal Entity for a long-term request shall respond within 5 business days of receipt of the transfer

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request.

4. The Reciprocal Entities will post information available to the other Reciprocal Entity on all requests granted that shared or acquired the other Reciprocal Entity's Allocation on a daily basis for review.

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5.

6. Sharing an Unused Allocation During the Near-Term

The Reciprocal Entities will share their Allocations during the near-term (the first 7 days up until day ahead or a mutually agreed upon timeframe) with the goal to fully utilize the Allocations once in real-time through an automated process.

This sharing of the unused Allocation during the near-term will occur such that an unused Allocation that has not already been committed for use by either Firm Transmission Service or for market service will be made available to the other Reciprocal Entities for their use to accommodate Firm Transmission Service requests submitted on OASIS.

Other firm uses of the transmission system involving generation to load deliveries, which are not evaluated via automated request evaluation tools, will be handled via off-line processes. The core principles to be applied in such cases include:

- a. A sharing of Allocation can occur.
- b. The sharing shall be done on a comparable basis for the market and non- market entities.
- c. The sharing is not related to projected Market Flow absent new DNRs or Transmission Service submitted on OASIS.
- d. The details of the process will include such items as which DNRs are covered, time-lines for designations and comparable evaluation of DNRs. If the details of this process can not be agreed upon, there shall be no sharing of the unused Allocations during the near-term.

A buffer will limit the amount of Allocation that can be shared for short-term requests during automated processing of the Allocation sharing process. The owner of the unused Allocation is not restricted by the buffer. The buffer is defined as a percentage of the last updated unused Allocation, provided that the buffer shall not be allowed to be less than a certain MW value. For example, a 25% or 20 MW buffer would mean that the requesting entity can use the other Reciprocal Entity's unused Allocation while making sure that the other entity's unused Allocation does not become smaller than 25% of the reported unused amount or 20 MW. The specific provisions of the buffer shall be mutually agreed to by the Reciprocal Entities prior to implementing a sharing of unused Allocation. The buffer will not be used in manual processing of Allocation sharing requests. For manual processing of requests, the owner of the unused Allocation will share the remaining unused Allocation to the extent they do not need the unused Allocation for pending Transmission Service requests.

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For the sharing of unused Allocations in the near-term, the Allocations are not changed and should congestion occur the NERC IDC obligations for the giving Reciprocal Entity will be in accordance with its original Allocation. The receiving Reciprocal Entity will not be required to retract or annul any service previously granted due to the sharing of Allocations.

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7.

8. Acquiring an Unused Allocation Beyond the Near Term

When a Reciprocal Entity does not have sufficient Allocation on a Flowgate to approve a firm point-to-point or network service request made on OASIS and evaluated via automated request evaluation tools and the other Reciprocal Entity has a remaining Allocation, the deficient Reciprocal Entity will be able to acquire an Allocation from the Reciprocal Entity with the remaining Allocation. This Allocation must not already be committed for other appropriate uses, as agreed to by the Reciprocal Entities, and sufficient AFC must remain on the Flowgate, or will be created, to accommodate the request. Such cases will be handled via automated processes.

Other firm uses of the transmission system involving generation to load deliveries, which are not evaluated via automated request evaluation tools, will be handled via off-line processes. The core principles to be applied in such cases include:

- a. A transfer of Allocation can occur.
- b. The transfer shall be done on a comparable basis for the market and non- market entities.
- c. The transfer is not related to projected Market Flow absent new DNRs or Firm Transmission Service submitted on OASIS.
- d. The details of the process will include such items as which DNRs are covered, time-lines for designations and comparable evaluation of DNRs. If the details of this process can not be agreed upon, there shall be no transfer of the Allocation for the time period beyond the near term.

A buffer will limit the amount of Allocation that can be acquired for these requests during automated processing of the Allocation transfer process. The owner of the unused Allocation is not restricted by the buffer. The buffer is defined as a percentage of the last updated unused Allocation, provided that the buffer shall not be allowed to be less than a certain MW value. For example, a 25% or 20 MW buffer would mean that the requesting entity can use the other Reciprocal Entity's unused Allocation while making sure that the other entity's unused Allocation does not become smaller than 25% of the reported unused amount or 20 MW. The specifics of the buffer shall be mutually agreed to by the Reciprocal Entities prior to implementing a transferring of unused Allocation.

The buffer will not be used in manual processing of Allocation sharing requests. For manual processing of requests, the owner of the unused Allocation will transfer the remaining unused Allocation to the extent they do not need the unused Allocation for pending Transmission Service requests.

The determination of whether the remaining Allocation has already been

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committed will be established based on OASIS queue time. All requests received prior to the queue time will be considered prior commitments to the remaining Allocation, while such requests are in a pending state (e.g. study status) or confirmed state. Requests received after the queue time will be ignored when determining whether remaining capacity has already been committed.

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In the event that prior-queued requests are still in a pending state (i.e. not yet confirmed), the Reciprocal Entity requesting a transfer of unused Allocations may await the resolution of any prior-queued requests in the other Reciprocal Entity's OASIS queue before relinquishing its ability to request an Allocation transfer.

For the transfer of unused Allocations, the Reciprocal Entity's Allocations will be changed to reflect the Allocation transfer at the time the Allocation transfer request is processed. To the extent the request is not ultimately confirmed, the Allocation will revert back to the original Reciprocal Entity with the remaining Allocation. For yearly requests, the transfer of the Allocation applies to the original time period of the request including any roll-overs that are granted.

6.8 Market-Based Operating Entities Quantify and Provide Data for Market Flow

In addition to the responsibilities described earlier in "Market-Based Operating Entity Congestion Management" Section 5 of this document, Market-Based Operating Entities will have an additional obligation, on Reciprocal Coordinated Flowgates, to further quantify their Non-Firm Flows into two (2) separate priorities: Non-Firm Network (6-NN), and Non-Firm Hourly (2-NH). Priorities will be determined as follows:

1. If the Market Flow exceeds the sum of the Firm Flow Limit and the 6-NN Allocation,
then: 2-NH = Market flow – (Firm Flow Limit + 6-NN Allocation)
6-NN = 6-NN
Allocation 7-FN =
Firm Flow Limit
2. If the Market Flow exceeds the Firm Flow Limit but is less than the 6-NN Allocation,
then: 2-NH = 0
6-NN = Market Flow – Firm Flow
Limit 7-FN = Firm Flow Limit
3. If the Market Flow does not exceed the Firm Flow Limit,
then 2-NH = 0
6-NN = 0
7-FN = Market Flow
4. If the tag associated with EAR is converted to Market Flow and excluded by the IDC,
the Market Flow shall have a priority that is no higher than it would have been if the
tag was not excluded by IDC.

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All other aspects of this data remain identical to those described in “Market-Based Operating Entity Congestion Management” Section 5.

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6.9

6.10 Real-time Operations Process for Market-Based Operating Entities

6.9.1 Market-Based Operating Entity Capabilities

Capabilities remain as described in “Market-Based Operating Entity Congestion Management” Section 5.

6.9.2 Market-Based Operating Entity Real-time Actions

Procedures remain as described in “Market-Based Operating Entity Congestion Management” Section 5. However, as described above, additional information regarding the firmness of those Non-Firm Market Flows will be communicated as well. A portion will be reported as 6-NN, while the remainder will be reported as 2-NH. This will provide additional ability for the IDC to curtail portions of the Non-Firm Market Flows earlier in the TLR process.

6.10 Requirements to Combine Allocations with Non-Reciprocal Entity

The following requirements must be satisfied for a Combining Party to incorporate a Non-Reciprocal Entity’s load and the associated generation serving that load into the Reciprocal Entity’s Allocation calculations:

1. The Non-Reciprocal Entity’s load and associated generation serving that load participates in the market of the Combining Party pursuant to a FERC-accepted agreement(s).
2. The Non-Reciprocal Entity has not placed its transmission facilities under the Open Access Transmission Tariff of the Combining Party, nor has the Non-Reciprocal Entity executed a transmission owner agreement or membership agreement, or equivalent thereof, of the Combining Party.
3. The Non-Reciprocal Entity is wholly embedded (i.e., the load and associated generation serving that load are included in Allocations and Market Flows) into the Combining Party’s Control Area footprint in accordance with the CMP.
4. The Combining Party must treat the Non-Reciprocal Entity’s impacts in the IDC, Market Flow, Firm Flow Limit, and Firm Flow Entitlement calculations consistently as the Combining Party does its own impacts in accordance with this CMP. The Non- Reciprocal Entity’s load and associated generation serving that load otherwise needs to be eligible for inclusion in firm Allocations, Firm Flow Limit, and Firm Flow Entitlement under the terms of this CMP.
5. Any transmission facilities owned by the Non-Reciprocal Entity must be treated comparably to the transmission facilities of other Reciprocal Entities consistent with the terms of the CMP.

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6. The Combining Party must provide notice to the other Reciprocal Entities of its plans to combine allocations within sixty (60) calendar days of making a filing at the FERC that would result in a Non-Reciprocal Entity's load and associated generation serving that load being combined with the Combining Party or upon combining Allocations

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(whichever occurs first). Even though a situation in which a Combining Party has proposed to combine Allocations with a Non-Reciprocal Entity may satisfy requirement numbers 1 through 5 of this list, this does not preclude other Reciprocal Entities from raising any objection pursuant to the dispute resolution process of a joint operating agreement or by filing a Section 206 complaint with the FERC if the proposed combination of Allocations would be inconsistent with this CMP or produces a result that is unjust and unreasonable.

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Section 7 –

Appendices

Appendix A –

Glossary

Agreement – Agreement shall mean this Joint Operating Agreement Between the Midcontinent Independent System Operator, Inc. and PJM Interconnection, L.L.C., as amended from time to time, including all attachments, appendices, and schedules.

Allocation – A calculated share of capability on a Reciprocal Coordinated Flowgate to be used by Reciprocal Entities when coordinating AFC, transmission sales, and dispatch of generation resources.

Available Flowgate Capability (AFC) – the applicable rating of the applicable Flowgate less the projected loading across the applicable Flowgate less TRM and CBM. The firm AFC is calculated with only the appropriate Firm Transmission Service reservations (or interchange schedules) in the model, including recognition of all roll-over Transmission Service rights. Non- firm AFC is determined with appropriate firm and non-firm reservations (or interchange schedules) modeled.

AFC Flowgate – A Flowgate for which an entity calculates AFC's.

Combining Party – Combining Party shall mean a Reciprocal Entity that is incorporating the load and associated generation serving that load from a Non-Reciprocal Entity into the Reciprocal Entity's Allocations pursuant to Section 6.10 of this CMP.

Control Area – Shall mean an electric power system or combination of electric power systems to which a common automatic generation control scheme is applied.

Control Zones – Within an Operating Entity Control Area that is operating with a common economic dispatch, the Operating Entity footprint is divided into Control Zones to provide specific zonal regulation and operating reserve requirements in order to facilitate reliability and overall load balancing. The zones must be bounded by adequate telemetry to balance generation and load within the zone utilizing automatic generation control.

Coordinated Flowgate (CF) – shall mean a Flowgate impacted by an Operating Entity as determined by one of the five studies detailed in Section 3 of this document. For a Market-Based Operating Entity, these Flowgates will be subject to the requirements under the

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Congestion Management portion of this document (Sections 4 and 5). A Coordinated Flowgate may be under the operational control of a Third Party.

Designated Network Resource – A resource that has been identified as a designated network resource pursuant to a transmission provider’s Open Access Transmission Tariff.

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External Asynchronous Resource² (EAR) – A Resource representing an asynchronous DC tie between the synchronous Eastern Interconnection grid and an asynchronous grid that is supported within the Transmission Provider Region through Dynamic Interchange Schedules in the Day-Ahead Energy and Operating Reserve Market and/or Real-Time Energy and Operating Reserve Market. External Asynchronous Resources are located where the asynchronous tie terminates in the synchronous Eastern Interconnection grid.

Firm Flow – The estimated impacts of Firm Transmission Service on a particular Coordinated or Reciprocal Coordinated Flowgate.

Firm Flow Limit – The maximum value of Firm Flows an entity can have on a Coordinated or Reciprocal Coordinated Flowgate, based on procedures defined in Sections 4 and 5 of this document.

Firm Market Flow – The portion of Market Flow on a Coordinated or Reciprocal Coordinated Flowgate related to contributions from the native load serving aspects of the dispatch (constrained as appropriate by the Firm Flow Limit).

Firm Transmission Service – The highest quality (priority) service offered to customers under a filed rate schedule that anticipates no planned interruption or similar quality service offered by transmission providers by contract that do not require the filing of a rate schedule. Firm Transmission Service only includes firm point-to-point service, network designated transmission service and grandfather agreements deemed firm by the transmission provider as posted on OASIS.

Flowgate – A representative modeling of facilities or groups of facilities that may act as significant constraint points on the regional system.

Freeze Date – the cutoff date chosen by Reciprocal Entities to be used in the calculation of Historic Firm Flows.

Gen to Load (GTL) – See Network and Native Load.

Generator Shift Factor – A factor to be applied to a generator’s expected change in output to determine the amount of flow contribution that change in output will impose on an identified transmission facility or Flowgate, referenced to a swing bus.

Historic Firm Flow – The estimated total impact an entity has on a Reciprocal Coordinated Flowgate when considering the impacts of (1) its historic Designated Network Resources serving native load, and (2) imports and exports, based on Firm Transmission Service reservations that meet the “Freeze Date” criteria.

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² External Asynchronous Resource is specific to the MISO tariff , MISO, FERC Electric Tariff, Module A, § 1.E “External Asynchronous Resource” (33.0.0).

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Historic Firm Gen-to-Load Flow – The flow associated with the native load serving aspects of dispatch that would have occurred if all Control Areas maintained their current configuration and continued to serve their native load with their generation.

Historic Ratio – The ratio of Historic Firm Flow of one Reciprocal Entity compared to the Historic Firm Flow of all Reciprocal Entities on a specific Reciprocal Coordinated Flowgate.

LMP Based System or Market – An LMP based system or market utilizes a physical, flow- based pricing system to price internal energy purchases and sales.

Load Shift Factor – A factor to be applied to a load’s expected change in demand to determine the amount of flow contribution that change in demand will impose on an identified transmission facility or Flowgate, referenced to a swing bus.

Locational Marginal Pricing (LMP) – the processes related to the determination of the LMP, which is the market clearing price for energy at a given location in a Market-Based Operating Entity’s market area.

Market Flows – The calculated energy flows on a specified Flowgate as a result of dispatch of generating resources serving market load within a Market-Based Operating Entity’s market.

Market-Based Operating Entity – An Operating Entity that operates a security constrained, bid-based economic dispatch bounded by a clearly defined market area.

Network and Native Load (NNL) – the impact of generation resources serving internal system load, based on generation the network customer designates for Network Integration Transmission Service (NITS). NNL is also referred to as Gen to Load.

Non-Firm Market Flow – That portion of Market Flow related to a Market-Based Operating Entity’s market operations in excess of that entity’s Firm Market Flow.

Non-Reciprocal Entity – Non-Reciprocal Entity shall mean an Operating Entity that is not a Reciprocal Entity.

Operating Entity – An entity that operates and controls a portion of the bulk transmission system with the goal of ensuring reliable energy interchange between generators, loads, and other operating entities.

Party or Parties – Party or Parties refers to each party to this Agreement or both, as applicable.

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Reciprocal Coordination Agreement – An agreement between Operating Entities to implement the reciprocal coordination procedures defined in the CMP.

Reciprocal Coordinated Flowgate (RCF) – A Flowgate that is subject to reciprocal coordination by Operating Entities, under either this Agreement (with respect to Parties only) or

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a Reciprocal Coordination Agreement between one or more Parties and one or more Third Party Operating Entities. An RCF is:

1. A CF that is (a) (i) within the operational control of Reciprocal Entity or (ii) may be subject to the supervision of Reciprocal Entity as Reliability Coordinator, and
(b) affected by the transmission of energy by two or more Parties; or
2. A CF that is (a) affected by the transmission of energy by one or more Parties and one or more Third Party Operating Entities, and (b) expressly made subject to CMP reciprocal coordination procedures under a Reciprocal Coordination Agreement between or among such Parties and Third Party Operating Entities; or
3. A CF that is designated by agreement of both Parties as an RCF.

Reciprocal Entity – an entity that coordinates the future-looking management of Flowgate capacity in accordance with a Reciprocal Coordination Agreement as developed under Section 6 of this document, or a congestion management process approved by the Federal Energy Regulatory Commission; provided such congestion management process is identical or substantially similar to this CMP.

Security Constrained Economic Dispatch – the utilization of the least cost economic dispatch of generating and demand resources while recognizing and solving transmission constraints over a single Market-Based Operating Entity Market.

Third Party – Third Party refers to any entity other than a Party to this Agreement.

Tie Line – Tie Line shall mean a circuit connecting two Control Areas.

Transfer Distribution Factor – the portion of an interchange transaction, typically expressed in per unit, flowing across a Flowgate.

Transmission Service – services provided to the transmission customer by the transmission service provider to move energy from a point of receipt to a point of delivery.

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Appendix B - Determination of Marginal Zone Participation Factors

In order for the IDC to properly account for tagged transactions into and out of the market area, a Market-Based Operating Entity using the Marginal Zone methodology will need to provide participation factors representing the facilities contributing to the tagged transactions. The facility or facilities contributing to each export tagged transaction is the source of the export tagged transaction. The facility or facilities contributing to each import tagged transaction is the sink of the import tagged transaction.

The Market-Based Operating Entity will be required to define a set of zones that can be aggregated into a common distribution factor that is representative of the market area. This information must be shared and coordinated with the IDC. Following this step, the Market-Based Operating Entity must then send to the IDC participation factors for those zones. These participation factors represent the percentages of how these zones are providing marginal megawatts as a result of dispatch of resources in market operations to serve transactions. Data sets for each external source/sink are required, which correspond to:

- An IMPORT data set, which indicates the participation of facilities accommodating the energy imported into the market area, and
- An EXPORT data set, which indicates the participation of facilities accommodating the energy exported out of the market area.

The methodology used by the Market-Based Operating Entity to determine the Marginal Zone participating factors will be determined through collaboration of the Market-Based Operating Entity with the IDC working group.

Participation Factor Calculation

The Market-Based Operating Entity will use the real-time system conditions to calculate the marginal zone participation factors, which reflect the impacts of tagged transactions. These will establish, for imports and exports, a set of participation factors that, when summed, will equal 100 percent.

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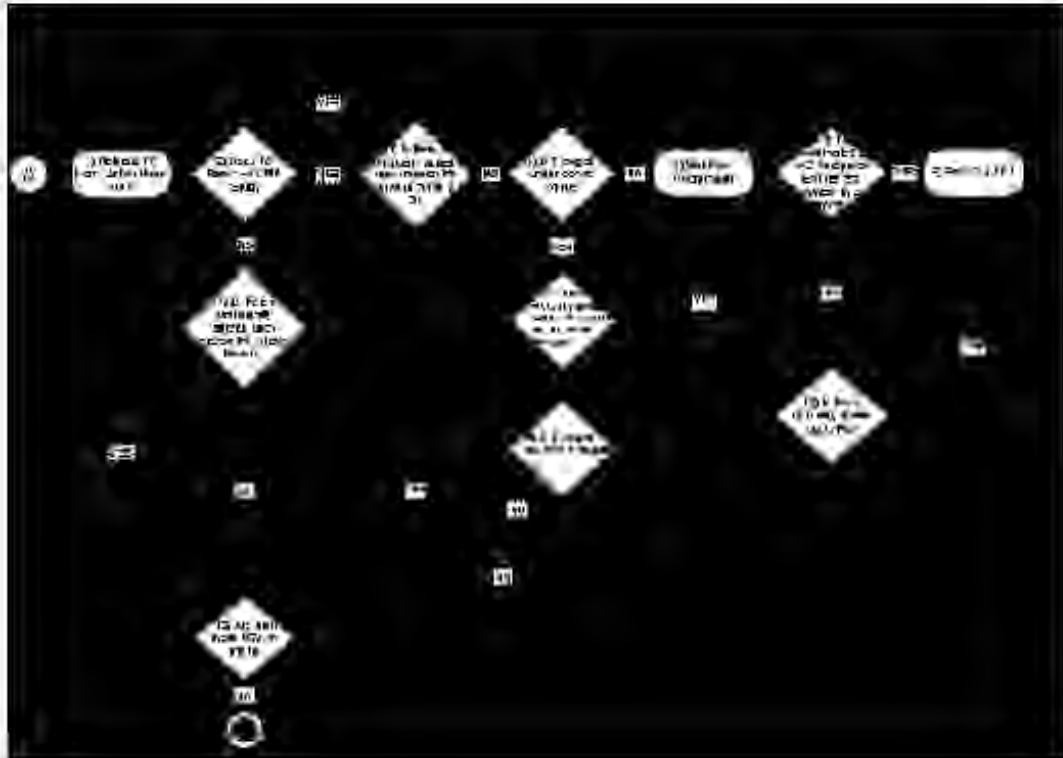
Appendix C - Flowgate Determination Process

This section is has been added to clarify:

- How initial Flowgates are identified (Figure C-1, Table C-1)
 - Process for Flowgates in the Coordinated Flowgate list
 - Process for Flowgates in the Reciprocal Coordinated Flowgate list
 - Process for Flowgates in the AFC List
- How Flowgates will be added (Figure C-2, Table C-2)
- How often Flowgates are changed (Figure C-2, Table C-2)

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TABLE C-1

Step	Activity	Requirements	Detailed Description	Additional Documentation
1	Retrieve FG From List Of Known FG's	Retrieve FG from AFC list of FGs, NERC Book of FGs, and any other list of FGs.	Retrieve the FG from the list of FGs. If a Reciprocal Entity wants us to consider a temporary FG it would go through the same process.	
2	Determine if FG passes >= 1 CMP Study	The decision determines if the FG passes at least one of the five CMP studies	<ul style="list-style-type: none"> • If the FG passes any of the studies, determine if there is mutually agreed upon reason why this should not be a coordinated FG. • If the FG does not pass any of the studies, it will be determined if there is a unilaterally decided reason for inclusion as a CF. 	See Impacted Flowgate Determination -Section 3
3	Is There a Mutually Agreed Upon Reason This Should Not Be A Coordinated Flowgate	Determine if there is a mutually agreed reason, despite passing one of the five tests, why this FG should not be considered Coordinated.	<ul style="list-style-type: none"> • If there is no mutually agreed reason why this FG should not be considered coordinated, test whether FG is under control of a Reciprocal Entity. • If there is a mutually agreed reason why this FG should not be considered coordinated, record 	

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			the reason proceed to Step 10.	
4	Is the Flowgate under control of a Reciprocal Entity	If the Flowgate is under the control of a non-reciprocal entity and the Flowgate passes one of the five tests it will be treated as a Coordinated Flowgate.	<ul style="list-style-type: none"> • If the Flowgate is not under control of a Reciprocal Entity proceed to Step 7. • If the Flowgate is under control of a Reciprocal Entity Proceed to Step 5. 	
5	Is there a mutually agreed reason this should not be AFC Flowgate?	Determine if there is a mutually agreed reason, despite qualifying as a Coordinated Flowgate, why this Coordinated Flowgate is not included in the AFC process.	<ul style="list-style-type: none"> • If there is a mutually agreed reason to not include the Coordinated Flowgate in the AFC process proceed to Step 7. • Otherwise proceed to Step 6 	
6	Is Flowgate an AFC Flowgate	A check is done to determine if the Flowgate controlled by a Reciprocal Entity is in its AFC process.	<ul style="list-style-type: none"> • If the Flowgate is in the AFC process or in the process of being added to the AFC process proceed to Step 7. • Otherwise proceed to Step 10 • The FG would be considered a CF. 	
7	Set FG = Coordinated	The FG would be coordinated for the entity.		

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8	Is FG Coordinated for ≥ 2 Reciprocal Entities and “owned” by a Reciprocal Entity	Determine whether the FG is coordinated for two or more Reciprocal Entities	<ul style="list-style-type: none"> • If the FG is coordinated for two or more Reciprocal Entities and it is “owned” by one of the entities, it will be added to the CMP process as a reciprocal coordinated FG. • If it is not coordinated for two or more Reciprocal Entities and “owned” by one of the entities, determine if it is a mutually agreed upon RCF. 	CM Process - Section 6
9	Set FG = RCF	Set the Flowgate equal to a Reciprocal Coordinated Flowgate.	<ul style="list-style-type: none"> • Set the Flowgate equal to a Reciprocal Coordinated Flowgate. • Proceed to Step 10. 	
10	Are there more FGs on the list?	Determine if there are any more FGs on the list that need to go through the CMP determination process.	<ul style="list-style-type: none"> • If there are no more FGs that need to go through the determination process, the process ends. • If there are more FGs that need to go through the determination process, retrieve the next one. 	
			<ul style="list-style-type: none"> • Proceed to Step 1 if another FG requires evaluation. • Otherwise, the process ends. 	
11	Is There a Unilateral Decision This Should Be A Coordinated FG	This decision determines if an entity wants to make this a Coordinated FG for a reason other than the five tests.	<ul style="list-style-type: none"> • If an entity decides to make this a coordinated FG, proceed to Step 4. • Otherwise, proceed to Step 10. 	

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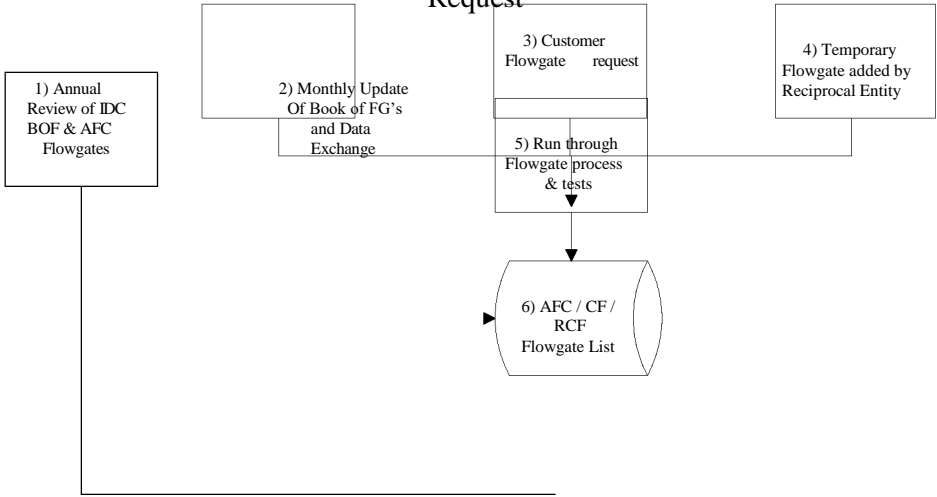
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12	Is This a Mutually Agreed Upon RCF	Determine if there is a mutually agreed reason this should be considered a Reciprocal Coordinated Flowgate.	<ul style="list-style-type: none"> • If there is no mutually agreed reason this should be considered an RCF, leave it as coordinated and check for more FGs. • If there is a mutually agreed reason this should be considered an RCF, mark it as such. • If Reciprocal Entities decide to make the Flowgate Reciprocal proceed to Step 9. • Otherwise, proceed to Step 10. 	
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Figure C-
2 Flowgate Review
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TABLE C-2

Steps	Activity	Requirements	Detailed Description	Additional Documentation
1	Annual Review of the BOFs and AFC FGs	A review will be performed annually or more often as requested by Reciprocal Entities (CMPWG). Retrieve the FG from the list of FGs for the entity running the process. Study 1 in section 3.2.1 of the CMP is not required for this annual review.	<ul style="list-style-type: none"> Except for Study 1 in section 3.2.1 of the CMP, the FGs will be run through the process summarized in figure C-1. 	
2	Customer FG Requests	Any customer FG requests will also be subject to the tests and process above.	<ul style="list-style-type: none"> Any customer FG requests will be run through the process summarized in figure C-1. 	
3	Temporary Flowgate added by Reciprocal Entity	Any temporary Flowgate added by a Reciprocal Entity will also be subject to the tests and processes in Step 5.	<ul style="list-style-type: none"> Any temporary Flowgates added by a Reciprocal Entity will be run through the process summarized in figure C-1 	
4	Run Through FG Process and Tests	Run through FG Determination Process, figure C-1	<ul style="list-style-type: none"> Any FGs being reviewed or added will be run through the process summarized in figure C-1. 	
5	AFC/CF/RCF List	Any FG additions or modifications would need to be committed to the repository of FGs and their qualifications.	<ul style="list-style-type: none"> Any FG additions or modifications would need to be committed to the repository of FGs, along with their qualifications. 	

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Appendix D – Training

The concepts in these proposals should not have a significant impact upon system operators beyond the operators of the Operating Entity. The reason that this impact rests upon the Operating Entities is that the Operating Entities Operators will need to be trained to monitor and respond to the external Flowgates.

Reliability Coordinator (RC) Operator Training Impacts include:

1. The ability to recognize and respond to Coordinated Flowgates.
 - a. IDC outputs will show schedule curtailments and possible redispatch requirements.
 - b. Must be able to enter constraint in systems to provide the redispatch relief within 15 minutes.
 - c. Must be able to confirm that the required redispatch relief has been provided and data provided to the IDC.
2. Capability to enter Flowgates on the fly.

Other RC System Operators Training Impacts include:

1. The ability to take projected net system flows between an Operating Entity's Control Zones versus only tag data to run day-ahead analysis (data to be provided by the IDC).
2. Need to develop a working knowledge of how relief on a TLR Flowgate can come from both schedule changes and redispatch on a select set of Coordinated Flowgates.
3. Can coordinate with another RC Operator when the RC System Operator has a temporary Flowgate that they believe requires the implementation of the "Flowgate on the Fly" process.

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Appendix E –Reserved
Appendix F – FERC Dispute Resolution

RCF Dispute Resolution

If a Party has followed all processes in the disputed Flowgate process outlined in section 3.2 and is dissatisfied with the ORS resolution of the Flowgate dispute, the Party may refer the dispute to FERC's Dispute Resolution Service for mediation, and upon a Party's determination at any point in the mediation that mediation has failed to resolve the dispute, either Party may seek formal resolution by initiating a proceeding before FERC.

Allocation Adjustment for New Transmission Dispute Resolution

If a Party has followed all processes in the Allocation Adjustment Peer Review process outlined in Appendix G and is dissatisfied with the resolution of the CMPC, the Party may refer the dispute to FERC's Dispute Resolution Service for mediation, and upon a Party's determination at any point in the mediation that mediation has failed to resolve the dispute, either Party may seek formal resolution by initiating a proceeding before FERC.

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Appendix G – Allocation Adjustment for New Transmission Facilities and/or Designated Network Resources

MISO and PJM utilize the same Guiding Principles as other Reciprocal Entities for Allocation Adjustment for New Transmission Facilities and/or Designated Network Resources. In addition MISO and PJM have established procedures for allocation adjustments based on cross-border cost sharing and for determining the builder for the new transmission service or upgrades. These procedures also apply to facility upgrades that have been funded in whole or in part for the purpose of obtaining Incremental ARR's under one Party's tariff by a market participant in one or both markets.

1. Guiding Principles

The following guiding principles will be used in determining the allocation adjustments for New Transmission Facilities and/or Designated Network Resources.

- Principle 1 (Non-builder held harmless) – To the extent possible, the non-building entity will receive the same overall impacts in its allocations.
- Principle 2 (Builder receives benefits) – To the extent possible, the building entity will receive any benefit to the transmission system that result from the system upgrade.

To the extent these two principles conflict, the Non-Builder Held Harmless Principle will have priority over the Builder Receives Benefit Principle.

2. New Transmission Facilities That Do Not Involve New DNR or New Firm Transmission Service

To the extent a new transmission facility causes a significant decrease in flow on a Reciprocal Coordinated Flowgate, the change in the allocation will be assigned to the Reciprocal Entity with functional control of the new transmission facility. Otherwise, the normal allocation procedures will be followed and no allocation adjustments for new transmission facilities will be made.

Significant impact is defined as a 3% change in flow that occurs to an OTDF Flowgate and a 5% change in flow that occurs to a PTDF Flowgate with the addition of the new facility. The 3% and 5% are measured as a percentage of the Flowgate TTC (sometimes called Total Flowgate Capability (TFC)).

The allocation adjustment will be assigned to the Reciprocal Entity with functional control of the new transmission facility. Both the original allocation and the allocation adjustment are assigned to the Reciprocal Entities. To the extent a group of transmission owners installs a new facility that includes multiple Reciprocal Entities and the new transmission facility results in a change in transfer capability on one or more RCFs, these Reciprocal Entities will work in collaboration to determine

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appropriate adjustments to each Reciprocal Entity's allocation on all significantly impacted RCFs.

An analysis will be performed both with and without the new facility to determine whether there is a significant impact on one or more RCFs. The analysis and any subsequent allocation adjustments will coincide with the expected in-service date of the new facility. The inclusion of the new transmission facility in such an analysis is dependent on having a commitment that the

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new facility has or is expected to receive all of the appropriate approvals and will be installed on the date indicated.

In order to qualify for an allocation adjustment, the new transmission facility must not only create a significant change in flows, it must also be a significant change to the transmission system (i.e. a new line or transformer that creates a significant change to flows on one or more RCFs). The addition of a new generator without transmission additions (other than the generation interconnection) is not covered by this process for new transmission facility additions. A change in the rating of an RCF may qualify as a significant change to the transmission system and be eligible to receive an allocation adjustment even though it does not result in a change in flows.

For stability limited Flowgates, a new generator, reactive device or change to a remedial action scheme may contribute to a change in the transfer limitation of stability limited Flowgates. Where this occurs and the addition is being made for the specific purpose of changing the transfer limitation of stability limited Flowgates, an allocation adjustment will be provided to the Reciprocal Entity responsible for the new generator, reactive device or change to a remedial action scheme. By receiving an allocation adjustment, this new generator, reactive device or change to a remedial action scheme will not also be included in the historical usage calculation to avoid double-counting of the impacts.

Not all new transmission facilities that significantly impact RCFs involve a change in flows. A new facility may be added that changes the rating of an RCF but has minimal impact on the flow (i.e. reconductoring, replacing a wave trap (WT) or current transformer (CT), replacing a transformer). In this case, each Reciprocal Entity's historical usage flow will remain constant but the rating of the Flowgate will either increase or decrease. The Reciprocal Entity responsible for the new facility will receive an allocation adjustment for rating increases. There will be no allocation adjustments for rating decreases.

There is an equity issue involving new transmission facilities that result in an increased rating. Where a new facility involves minimal cost change (such as replacing either a WT or CT, replacing a jumper, replacing a switch, changing a CT setting, etc.), there have already been significant costs incurred on a larger conductor that allows the increased rating to occur. As long as the Reciprocal Entity making the minimal cost change is also responsible for the conductor, it is the appropriate Reciprocal Entity to receive the allocation adjustment. However, if different Reciprocal Entities own the conductor versus are responsible for making the minimal cost change, there is an equity issue if the entire allocation adjustment is given to the Reciprocal Entity responsible for making the minimal cost change. The Reciprocal Entities shall negotiate a mechanism to share in the allocation adjustment.

3. New Transmission Facilities that Involve New DNR or New Firm Transmission

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Where a new transmission facility is added as part of an approved new usage of the transmission system (either a new DNR or a new Firm Transmission Service), the Reciprocal Entity responsible for the new facility has two choices on the treatment of this combination. First, in recognition that they have addressed transmission concerns associated with the new DNR or new Firm Transmission Service, the combination of the new transmission facility and new DNR/Firm Transmission Service will be added to the base model used in the historic usage impact calculation. The new DNR or new Firm Transmission Service will be treated as if it met the Freeze Date. To

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the extent the new transmission facility and its associated new DNR or new Firm Transmission Service will not occur until a future time period, they will not appear in the historic usage impact calculation until after the in-service/start date. The inclusion of the new transmission facility and associated DNR/Firm Transmission Service is dependent on having a commitment that both have been approved and will occur on the date indicated. If no such commitment exists, these additions will not be included in the historic usage impact calculation. By making this choice to include the new transmission facility and DNR/Firm Transmission Service in the historic usage impact calculation, the NNL allocation will consider the impact of both. This may result in increased NNL allocation to all Reciprocal Entities after considering historic usage impacts (down to 0%). However, the Reciprocal Entity that builds the new transmission facility will not receive any special treatment (NNL allocation adjustment) because of the new transmission facility. This inclusion of a new DNR or new Firm Transmission Service only applies where associated new transmission facilities have been added to accommodate the new transmission usage.

Second, the Reciprocal Entity that builds the new transmission facility associated with a new DNR or new Firm Transmission Service can receive an NNL allocation adjustment and must honor that allocation when they apply the new DNR or new Firm Transmission Service in their use of NNL allocations. The Reciprocal Entity determines the impact of the new transmission facility without the new DNR or new Firm Transmission Service to calculate any adjustments to the NNL allocations (the same process documented in the previous section “New Transmission Facilities that Do Not Involve New DNRs or New Firm Transmission Service). The Reciprocal Entity will use the remaining NNL allocation that has not been committed to other uses for the new DNRs or new Firm Transmission Service.

The Reciprocal Entity responsible for the combination of new transmission facility and new DNR/Firm Transmission Service will make a single choice (either one or two) that applies to all RCFs that are significantly impacted by the combination. There is no opportunity to have a different selection on different RCFs that are all impacted by the same combination.

4. Allocation Adjustment Peer Review

When reviewing the allocation adjustments, if an impacted Reciprocal Entity finds a situation where the rule set does not produce a satisfactory outcome, the impacted Reciprocal Entity may request a review by the CMPWG. The impacted Reciprocal Entity will present the unsatisfactory results and a proposed alternative. If the CMPWG agrees to the proposed alternative it will be implemented as an exception, and the CMPC will be notified of the exception prior to implementation. If the CMPWG does not agree, the impacted Reciprocal Entity can seek further review by the CMPC. The impacted Reciprocal Entity will present its proposed alternative and

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the CMPWG member(s) will present their concerns to the CMPC for the CMPC to take action. All exceptions approved by the CMPWG or CMPC will be documented for future reference.

Depending on the nature of the upgrade, the impact of the new facility will be held in abeyance pending completion of the review. This means for a rating change, the prior rating will continue to be used in the model update process pending completion of the review. This means for a flow change, the new facility will be recognized in the model update process. The impacts will be calculated using the normal (socialized) allocation process and no allocation adjustments will be made pending completion of the review. These reviews should be completed in a timely manner.

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6. Allocation Adjustments Based on Cross-Border Cost Sharing

The physical rights to any significantly impacted incremental capacity on existing RCFs, that is a result of the cross-border allocation process (“allocation adjustment”), will be assigned to a Party, for congestion management purposes, in proportion to the share of the costs that such Party must pay under the cost allocation process in Section 9.4.4.2 of the JOA.

An allocation adjustment based on the share of costs that such Party must pay under the cost allocation process in Section 9.4.4.2 of the JOA will apply only where there has been a significant decrease in flows on an existing RCF.

An analysis will be performed both with and without the new facility to determine whether there is a significant impact on one or more RCFs. The analysis and any subsequent allocation adjustments will coincide with the expected in-service date of the new facility. The inclusion of the new transmission facility in such an analysis will be dependent upon having a commitment that the new facility has or is expected to receive all of the appropriate approvals and will be installed on the date indicated.

7. Determination of Builder in the Flowgate Allocation Process

For MISO and PJM, flowgate allocations are used to sell firm transmission service and to prioritize market flows reported to the IDC that are then subject to curtailment during TLR. At the same time, flowgate allocations are also used in the market-to-market settlement process and in the ARR, FTR, and day-ahead market loop flow modeling between MISO and PJM. The firm flow entitlement used in market-to-market settlement and in the ARR, FTR, and day-ahead market loop flow modeling is derived from a combination of flowgate allocations in the forward direction and market flow impacts in the reverse direction. This allocation agreement between MISO and PJM is limited to how to assign allocations and does not extend into ARRs, FTRs, and day-ahead market loop flow assumptions.

In order to implement the allocation process, MISO and PJM have defined the terms builder and non-builder as follows when applying the allocation adjustment rules:

- The term builder refers to a Party that has responsibility (either total or partial) for construction of the transmission facility upgrade and is entitled to receive the increase in capacity of existing flowgates while holding the non-builders harmless. Where a market participant in one or both markets has funded some or all of a transmission facility upgrade for the purpose of obtaining Incremental ARRs under one Party’s tariff, the term builder refers to the Party providing Incremental ARRs.

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- In determining which Party has total or partial responsibility for construction of the transmission facility upgrade, responsibility is defined as the Party that has cost responsibility for the upgrades. The cost responsibility could be to a single Transmission Owner pricing zone within a market footprint, to multiple Transmission Owner pricing zones within the same market footprint, to multiple Transmission Owner pricing zones within both market footprints as in the case of a cross-border project funded by the two

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markets, or to a single market participant as in the case of a transmission upgrade funded by a market participant.

- Where the responsibility for cost is to either a single Transmission Owner pricing zone or to multiple Transmission Owner pricing zones within the same market footprint in which the upgrade is built, the total allocation goes to the builder after holding the non-builder harmless.
- Where the responsibility for cost is shared by multiple Transmission Owner pricing zones within both market footprints, the allocation will be split between the Parties in proportion to the cost responsibility between the Parties.
- Where the responsibility for cost is to a single market participant funder (rather than to an entire pricing zone) that has resources/participates in one market only, the allocation goes to that market, irrespective of the Party that owns the flowgate and in which the upgrade resides.
- Where the responsibility for cost is to a market participant funder that has resources/participates in both markets, the allocation will be split between the two markets subject to the Parties' OATT and business practices.

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Appendix H – Application of Market Flow Threshold Field Test Conditions

MISO, PJM and SPP participated in a NERC approved Market Flow threshold field test from June 1, 2007 to October 31, 2009. The purpose of the field test was to determine a Market Flow threshold percentage that allows the three Regional Transmission Organizations (RTOs) to consistently meet their relief obligation during TLR without jeopardizing reliability. Although the field test was able to achieve a success rate close to 100% based on MISO data using a 5% threshold, the following conditions were applied to the field test results:

- Market Flows were evaluated 30 minutes after implementation of the TLR curtailment.
- A 5 MW dead-band (or 10% of the relief obligation for relief obligations greater than 50 MW) was applied to the Target Market Flow such that once actual Market Flows were within the dead-band, it was considered a success meeting the relief obligation.
- There were no instances where MISO was able to meet its relief obligation if more than 30 MW must be removed within 30 minutes. The field test found the amount of Market Flow that must be removed in 30 minutes and not the size of the relief obligation is an indicator whether the market will be successful.

Since the NERC ORS applied the three conditions above to the field test results in order to demonstrate a high success rate, these same conditions will be applied when the Market-Based Operating Entities have relief obligations on external Flowgates during TLR.

The field test results are only applicable to Flowgates that are external to each of the RTOs and does not include internal Flowgates (internal to that specific RTO) or market-to-market Flowgates (internal to one of the three RTOs but subject to market-to-market provisions with another RTO). The reason for excluding internal Flowgates and market-to-market Flowgates is because the three RTOs use market redispatch to control total flow and to maintain reliability. As the Reliability Coordinator for the Flowgate, the three RTOs are responsible for the reliability of their own Flowgate and must manage total flow in order to meet their reliability responsibility. As described in the field test final report, by controlling total flow, the three markets effectively meet their relief obligation.

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which must be paid before the Feasibility Analysis can commence. If the requesting entity subsequently requests a System Impact Study pursuant to the Tariff, the Feasibility Analysis fee will be credited back to the requesting entity, up to the amount of the cost of any subsequent System Impact Study.

I agree to the terms and conditions of this FAS Agreement and authorize the ITO or the ITO's designee to proceed with the Feasibility Analysis.

(Signature and Title)

(Date)

Accepted by the ITO:

(Signature and Title)

(Date)

This FAS Agreement should be returned executed via fax for time-stamp to ITO at [_____]. An executed hard copy should also be mailed to:

Additional details regarding the Feasibility Analysis should be coordinated through [_____] at [Phone].

This agreement completed by: Date: Title: Phone:

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Attachment S

NON-FIRM ENERGY EXCHANGE TRANSMISSION SERVICE

Section 1. Scope and Application

- 1.1 This Attachment S applies solely to the provision of Non-Firm Energy Exchange Transmission Service by the Transmission Owner.
- 1.2 Any capitalized terms not defined specifically herein have the meaning ascribed to them in Part I of the Tariff.
- 1.3 To the extent any provision of the Tariff conflicts with this Attachment, this Attachment controls as to the provision of Non-Firm Energy Exchange Transmission Service.

Section 2. Definitions

- 2.1 “**ENERGY EXCHANGE**” is the “Energy Exchange” as that term is defined in the Energy Exchange Agreement.
- 2.2 “**ENERGY EXCHANGE PARTICIPANT**” is a “Participant” as that term is defined in the Energy Exchange Agreement.
- 2.3 “**ENERGY EXCHANGE MEMBER**” is a “Member” as that term is defined in the Energy Exchange Agreement.
- 2.4 “**ENERGY EXCHANGE SYSTEM**” is the “Southeast EEM System” as that term is defined in the Energy Exchange Agreement.
- 2.5 “**ENERGY EXCHANGE AGREEMENT**” means the “Southeast Energy Exchange Market Agreement,” designated as Transmission Owner’s Rate Schedule No. 517, as it may be amended from time to time.
- 2.6 “**NON-FIRM ENERGY EXCHANGE TRANSMISSION SERVICE CUSTOMER**” means a Transmission Customer taking Non-Firm Energy Exchange Transmission Service provided in accordance with this Attachment S of this Tariff pursuant to an executed Service Agreement for Non-Firm Energy Exchange Transmission Service, Attachment S-1 to this Tariff.

Section 3. Nature of Non-Firm Energy Exchange Transmission Service

- 3.1 Term. Non-Firm Energy Exchange Transmission Service will be available on an as-available basis for 15-minute Energy Exchanges.

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- 3.2 Reservation Priority. Non-Firm Energy Exchange Transmission Service shall be available from transfer capability in excess of that needed for reliable service to Native Load Customers, Network Customers and other Transmission Customers taking Long-Term and Short-Term Firm Point-To-Point Transmission Service, Non-Firm Point-to-Point Transmission Service and Secondary Point-to-Point Transmission Service. Non-Firm Energy Exchange Transmission Service will have the lowest reservation priority under the Tariff.
- 3.3 Scheduling and Reservation. Non-Firm Energy Exchange Transmission Service may only be reserved, scheduled and tagged through the reservation, scheduling and e-tagging functions of the Energy Exchange System, rather than directly through Transmission Owner's OASIS.
- 3.4 Availability. Non-Firm Energy Exchange Transmission Service will be made available for Energy Exchanges from ATC after procurement and scheduling deadlines have passed for the next operating hour, taking into account other higher priority confirmed reservations and the limitations of the Transmission System of the Transmission Owner.
- 3.5 Curtailment and Interruption. The Transmission Owner reserves the right to Curtail, in whole or in part, Non-Firm Energy Exchange Transmission Service provided under the Tariff for reliability reasons when an emergency or other unforeseen condition threatens to impair or degrade the reliability of its Transmission System or the systems directly and indirectly interconnected with Transmission Owner's Transmission System. Transmission Owner may elect to implement such Curtailments pursuant to the Transmission Loading Relief procedures specified in Attachment J. The Transmission Owner reserves the right to Interrupt, in whole or in part, Non-Firm Energy Exchange Transmission Service provided under the Tariff to accommodate (1) transmission service for Network Customers, (2) Transmission Service for Firm Point-to-Point Transmission Service; or (3) Transmission Service for Non-Firm Point-to-Point Transmission Service. Where required, Curtailments or Interruptions will be made on a non-discriminatory basis to the transaction(s) that effectively relieve the constraint, however, Non-Firm Energy Exchange Transmission Service shall be subordinate to all other types of transmission service provided under this Tariff.
- 3.6 Transmission Losses. Real Power Losses are associated with all transmission service. The Transmission Owner is not obligated to provide Real Power Losses. The Non-Firm Energy Exchange Transmission Service Customer is responsible for replacing losses associated with all transmission service as calculated by Transmission Owner and pursuant to Section 6.1.2 of this Attachment S.
- 3.7 Transmission Owner's Obligations.

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- 3.7.1 Transmission Owner will provide the Energy Exchange System with all information required by Participating Transmission Providers, as that term is defined in Appendix B of the Energy Exchange Agreement.
- 3.7.2 Transmission Owner is not obligated to (i) plan, construct, or maintain the Transmission System for the benefit of any Energy Exchange Market Participant; (ii) provide Non-Firm Energy Exchange Transmission Service in a manner that is contrary to the terms of this Tariff, or contrary to Good Utility Practice, each as determined in the sole judgement of the Transmission Owner; (iii) provide Non-Firm Energy Exchange Transmission Service to any Transmission Customer who is not an Energy Exchange Market Participant; (iv) provide Non-Firm Energy Exchange Transmission Service following Transmission Owner's removal or withdrawal from the Energy Exchange Agreement; or (v) file its Tariff with FERC if the Tariff is not already required to be filed with FERC.
- 3.7.3 Transmission Owner's participation in the Energy Exchange System is voluntary, and may be terminated at any time in accordance with the provisions of the Energy Exchange Agreement. It is therefore expressly understood, and a condition of service, that Non-Firm Energy Exchange Transmission Service Customer has no reliance interest in provision of Non-Firm Energy Exchange Transmission Service, and has no right to rely on Transmission Owner continuing to provide Non-Firm Energy Exchange Transmission Service.

Section 4. Initiation of Non-Firm Energy Exchange Transmission Service

- 4.1 Non-Firm Energy Exchange Transmission Service is available only to Eligible Customers that:
 - 4.1.1 Are in good financial standing with the Transmission Owner;
 - 4.1.2 Have submitted a Completed Application for Non-Firm Energy Exchange Transmission Service to the ITO to:

TranServ International, Inc.
3660 Technology Drive, NE
Minneapolis, MN 55418
 - 4.1.1.1 A Completed Application for Non-Firm Energy Exchange Transmission Service must include:

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- (i) The identity, address, telephone number and email address and/or facsimile number of the entity requesting service;
- (ii) A statement that the entity requesting service is, or will be upon commencement of service, an Eligible Customer;
- (iii) A statement that the entity requesting service is, or will be upon commencement of service, an Energy Exchange Participant; and
- (iv) The service commencement date of the requested Non-Firm Energy Exchange Transmission Service.

The Transmission Owner shall treat this information consistent with the standards of conduct contained in Part 37 of the Commission's regulations.

4.1.3 Meet the creditworthiness criteria set forth in Part I, Section 11 of the Tariff.

4.1.4 Have executed a Service Agreement for Non-Firm Energy Exchange Transmission Service, Attachment S-1 of this Tariff.

Section 5. Limitations on Usage of Non-Firm Energy Exchange Transmission Service

- 5.1 Non-Firm Energy Exchange Transmission Service can be used solely for Energy Exchanges.
- 5.2 Non-Firm Energy Exchange Transmission Service may not be reassigned, redirected, or sold by the Non-Firm Energy Exchange Transmission Service Customer.

Section 6. Charges for Non-Firm Energy Exchange Transmission Service

- 6.1 The Non-Firm Energy Exchange Transmission Service Customer shall compensate the Transmission Owner for Non-Firm Energy Exchange Transmission Service as follows:
 - 6.1.1 Rate for Non-Firm Energy Exchange Transmission Service: The rate for intra-hourly delivery shall be \$0/MW of Reserved Capacity per 15-minute increment.
 - 6.1.2 Losses shall be charged as set forth in Schedule 11 (Loss Compensation Service) of the Tariff, using (i) the loss factor specified in Schedule 11 and (ii) rate for compensation specified for option 3 in Schedule 11.

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6.1.3. Ancillary Services: As described in Section 6.2.1, the charge for Schedule 1 or Schedule 2 Ancillary Services is \$0.

6.2 Ancillary Services

6.2.1. Notwithstanding the requirements in Tariff Section 3, the Non-Firm Energy Exchange Transmission Service Customer shall pay for the following Ancillary Services at the rate established in Section 6.1.3 of this Attachment S: (a) Scheduling, System Control and Dispatch, and (b) Reactive Supply and Voltage Control from Generation or Other Sources.

6.2.2. The Non-Firm Energy Exchange Transmission Service Customer serving load within the Transmission Owner's Balancing Authority Area must demonstrate that it already has made alternate arrangements for the following Ancillary Services or it must acquire them from the Transmission Owner, from a third party, or by self-supply: (i) Regulation and Frequency Response, (ii) Energy Imbalance. A Non-Firm Energy Exchange Transmission Service Customer delivering power from a generator in Transmission Owner's Balancing Authority Area off system must demonstrate that it already has made alternate arrangements for the following Ancillary Services or it must acquire them from the Transmission Owner, from a third party, or by self-supply: (i) Generator Regulation and Frequency Response and (ii) Generator Imbalance.

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ATTACHMENT S-1
Form Of Service Agreement For Non-Firm Energy Exchange Transmission Service

- 1.0 This Service Agreement, dated as of _____, is entered into, by and between _____ (the "Transmission Owner"), and _____ ("Non-Firm Energy Exchange Transmission Service Customer").
- 2.0 The Non-Firm Energy Exchange Transmission Service Customer has been determined by the Transmission Owner to be an Eligible Customer under Part I of the Tariff and an Energy Exchange Participant as defined in Attachment S of the Tariff, and has submitted a Completed Application for Non-Firm Energy Exchange Transmission Service in accordance with Section 4 of Attachment S of the Tariff.
- 3.0 Service under this Service Agreement shall be provided by the Transmission Owner upon request by an authorized representative of the Non-Firm Energy Exchange Transmission Service Customer and subject to the scheduling procedures outline in the Energy Exchange Agreement.
- 4.0 Non-Firm Energy Exchange Transmission Service Customer has all the rights and obligations of a Transmission Customer as set forth in Part I of the Tariff, except as specifically excluded in Attachment S to the Tariff.
- 5.0 The Non-Firm Energy Exchange Transmission Service Customer agrees to supply information the Transmission Owner deems reasonably necessary in accordance with Good Utility Practice in order for the Transmission Owner to provide the requested service.
- 6.0 The Transmission Owner agrees to provide and the Non-Firm Energy Exchange Transmission Service Customer agrees to take and pay for Non-Firm Energy Exchange Transmission Service in accordance with the provisions of Attachment S of the Tariff and this Service Agreement.
- 7.0 The Non-Firm Energy Exchange Transmission Service Customer is responsible for replacing Real Power Losses associated with all Non-Firm Energy Exchange Transmission Service. Transmission Owner will supply and the Non-Firm Energy Exchange Transmission Service Customer will pay for such Real Power Losses in accordance with Section 3.6 of Attachment S.
- 8.0 The Non-Firm Energy Exchange Transmission Service Customer or the Transmission Owner can cancel this Service Agreement at any time, upon 30 days' notice.
- 9.0 Transmission Owner's participation in the Energy Exchange System is voluntary, and may be terminated at any time in accordance with the provisions of the Energy Exchange

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Attachment S

NON-FIRM ENERGY EXCHANGE TRANSMISSION SERVICE

Section 1. Scope and Application

- 1.1 This Attachment S applies solely to the provision of Non-Firm Energy Exchange Transmission Service by the Transmission Owner.
- 1.2 Any capitalized terms not defined specifically herein have the meaning ascribed to them in Part I of the Tariff.
- 1.3 To the extent any provision of the Tariff conflicts with this Attachment, this Attachment controls as to the provision of Non-Firm Energy Exchange Transmission Service.

Section 2. Definitions

- 2.1 “ENERGY EXCHANGE” is the “Energy Exchange” as that term is defined in the Energy Exchange Agreement.
- 2.2 “ENERGY EXCHANGE PARTICIPANT” is a “Participant” as that term is defined in the Energy Exchange Agreement.
- 2.3 “ENERGY EXCHANGE MEMBER” is a “Member” as that term is defined in the Energy Exchange Agreement.
- 2.4 “ENERGY EXCHANGE SYSTEM” is the “Southeast EEM System” as that term is defined in the Energy Exchange Agreement.
- 2.5 “ENERGY EXCHANGE AGREEMENT” means the “Southeast Energy Exchange Market Agreement,” designated as Transmission Owner’s Rate Schedule No. 517, as it may be amended from time to time.
- 2.6 “NON-FIRM ENERGY EXCHANGE TRANSMISSION SERVICE CUSTOMER” means a Transmission Customer taking Non-Firm Energy Exchange Transmission Service provided in accordance with this Attachment S of this Tariff pursuant to an executed Service Agreement for Non-Firm Energy Exchange Transmission Service, Attachment S-1 to this Tariff.

Section 3. Nature of Non-Firm Energy Exchange Transmission Service

- 3.1 Term. Non-Firm Energy Exchange Transmission Service will be available on an as-available basis for 15-minute Energy Exchanges.

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- 3.2 Reservation Priority. Non-Firm Energy Exchange Transmission Service shall be available from transfer capability in excess of that needed for reliable service to Native Load Customers, Network Customers and other Transmission Customers taking Long-Term and Short-Term Firm Point-To-Point Transmission Service, Non-Firm Point-to-Point Transmission Service and Secondary Point-to-Point Transmission Service. Non-Firm Energy Exchange Transmission Service will have the lowest reservation priority under the Tariff.
- 3.3 Scheduling and Reservation. Non-Firm Energy Exchange Transmission Service may only be reserved, scheduled and tagged through the reservation, scheduling and e-tagging functions of the Energy Exchange System, rather than directly through Transmission Owner's OASIS.
- 3.4 Availability. Non-Firm Energy Exchange Transmission Service will be made available for Energy Exchanges from ATC after procurement and scheduling deadlines have passed for the next operating hour, taking into account other higher priority confirmed reservations and the limitations of the Transmission System of the Transmission Owner.
- 3.5 Curtailment and Interruption. The Transmission Owner reserves the right to Curtail, in whole or in part, Non-Firm Energy Exchange Transmission Service provided under the Tariff for reliability reasons when an emergency or other unforeseen condition threatens to impair or degrade the reliability of its Transmission System or the systems directly and indirectly interconnected with Transmission Owner's Transmission System. Transmission Owner may elect to implement such Curtailments pursuant to the Transmission Loading Relief procedures specified in Attachment J. The Transmission Owner reserves the right to Interrupt, in whole or in part, Non-Firm Energy Exchange Transmission Service provided under the Tariff to accommodate (1) transmission service for Network Customers, (2) Transmission Service for Firm Point-to-Point Transmission Service; or (3) Transmission Service for Non-Firm Point-to-Point Transmission Service. Where required, Curtailments or Interruptions will be made on a non-discriminatory basis to the transaction(s) that effectively relieve the constraint, however, Non-Firm Energy Exchange Transmission Service shall be subordinate to all other types of transmission service provided under this Tariff.
- 3.6 Transmission Losses. Real Power Losses are associated with all transmission service. The Transmission Owner is not obligated to provide Real Power Losses. The Non-Firm Energy Exchange Transmission Service Customer is responsible for replacing losses associated with all transmission service as calculated by Transmission Owner and pursuant to Section 6.1.2 of this Attachment S.
- 3.7 Transmission Owner's Obligations.

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- 3.7.1 Transmission Owner will provide the Energy Exchange System with all information required by Participating Transmission Providers, as that term is defined in Appendix B of the Energy Exchange Agreement.
- 3.7.2 Transmission Owner is not obligated to (i) plan, construct, or maintain the Transmission System for the benefit of any Energy Exchange Market Participant; (ii) provide Non-Firm Energy Exchange Transmission Service in a manner that is contrary to the terms of this Tariff, or contrary to Good Utility Practice, each as determined in the sole judgement of the Transmission Owner; (iii) provide Non-Firm Energy Exchange Transmission Service to any Transmission Customer who is not an Energy Exchange Market Participant; (iv) provide Non-Firm Energy Exchange Transmission Service following Transmission Owner's removal or withdrawal from the Energy Exchange Agreement; or (v) file its Tariff with FERC if the Tariff is not already required to be filed with FERC.
- 3.7.3 Transmission Owner's participation in the Energy Exchange System is voluntary, and may be terminated at any time in accordance with the provisions of the Energy Exchange Agreement. It is therefore expressly understood, and a condition of service, that Non-Firm Energy Exchange Transmission Service Customer has no reliance interest in provision of Non-Firm Energy Exchange Transmission Service, and has no right to rely on Transmission Owner continuing to provide Non-Firm Energy Exchange Transmission Service.

Section 4. Initiation of Non-Firm Energy Exchange Transmission Service

- 4.1 Non-Firm Energy Exchange Transmission Service is available only to Eligible Customers that:
 - 4.1.1 Are in good financial standing with the Transmission Owner;
 - 4.1.2 Have submitted a Completed Application for Non-Firm Energy Exchange Transmission Service to the ITO to:

TranServ International, Inc.
3660 Technology Drive, NE
Minneapolis, MN 55418
 - 4.1.1.1 A Completed Application for Non-Firm Energy Exchange Transmission Service must include:

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- (i) The identity, address, telephone number and email address and/or facsimile number of the entity requesting service;
- (ii) A statement that the entity requesting service is, or will be upon commencement of service, an Eligible Customer;
- (iii) A statement that the entity requesting service is, or will be upon commencement of service, an Energy Exchange Participant; and
- (iv) The service commencement date of the requested Non-Firm Energy Exchange Transmission Service.

The Transmission Owner shall treat this information consistent with the standards of conduct contained in Part 37 of the Commission's regulations.

4.1.3 Meet the creditworthiness criteria set forth in Part I, Section 11 of the Tariff.

4.1.4 Have executed a Service Agreement for Non-Firm Energy Exchange Transmission Service, Attachment S-1 of this Tariff.

Section 5. Limitations on Usage of Non-Firm Energy Exchange Transmission Service

- 5.1 Non-Firm Energy Exchange Transmission Service can be used solely for Energy Exchanges.
- 5.2 Non-Firm Energy Exchange Transmission Service may not be reassigned, redirected, or sold by the Non-Firm Energy Exchange Transmission Service Customer.

Section 6. Charges for Non-Firm Energy Exchange Transmission Service

- 6.1 The Non-Firm Energy Exchange Transmission Service Customer shall compensate the Transmission Owner for Non-Firm Energy Exchange Transmission Service as follows:
 - 6.1.1 Rate for Non-Firm Energy Exchange Transmission Service: The rate for intra-hourly delivery shall be \$0/MW of Reserved Capacity per 15-minute increment.
 - 6.1.2 Losses shall be charged as set forth in Schedule 11 (Loss Compensation Service) of the Tariff, using (i) the loss factor specified in Schedule 11 and (ii) rate for compensation specified for option 3 in Schedule 11.

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6.1.3. Ancillary Services: As described in Section 6.2.1, the charge for Schedule 1 or Schedule 2 Ancillary Services is \$0.

6.2 Ancillary Services

6.2.1. Notwithstanding the requirements in Tariff Section 3, the Non-Firm Energy Exchange Transmission Service Customer shall pay for the following Ancillary Services at the rate established in Section 6.1.3 of this Attachment S: (a) Scheduling, System Control and Dispatch, and (b) Reactive Supply and Voltage Control from Generation or Other Sources.

6.2.2. The Non-Firm Energy Exchange Transmission Service Customer serving load within the Transmission Owner's Balancing Authority Area must demonstrate that it already has made alternate arrangements for the following Ancillary Services or it must acquire them from the Transmission Owner, from a third party, or by self-supply: (i) Regulation and Frequency Response, (ii) Energy Imbalance. A Non-Firm Energy Exchange Transmission Service Customer delivering power from a generator in Transmission Owner's Balancing Authority Area off system must demonstrate that it already has made alternate arrangements for the following Ancillary Services or it must acquire them from the Transmission Owner, from a third party, or by self-supply: (i) Generator Regulation and Frequency Response and (ii) Generator Imbalance.

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Attachment S-1
Attachment S-1 Non-Firm Energy Exch Srvc Agrmt
Version 1.0.0

ATTACHMENT S-1
Form Of Service Agreement For Non-Firm Energy Exchange Transmission Service

- 1.0 This Service Agreement, dated as of _____, is entered into, by and between _____ (the "Transmission Owner"), and _____ ("Non-Firm Energy Exchange Transmission Service Customer").
- 2.0 The Non-Firm Energy Exchange Transmission Service Customer has been determined by the Transmission Owner to be an Eligible Customer under Part I of the Tariff and an Energy Exchange Participant as defined in Attachment S of the Tariff, and has submitted a Completed Application for Non-Firm Energy Exchange Transmission Service in accordance with Section 4 of Attachment S of the Tariff.
- 3.0 Service under this Service Agreement shall be provided by the Transmission Owner upon request by an authorized representative of the Non-Firm Energy Exchange Transmission Service Customer and subject to the scheduling procedures outline in the Energy Exchange Agreement.
- 4.0 Non-Firm Energy Exchange Transmission Service Customer has all the rights and obligations of a Transmission Customer as set forth in Part I of the Tariff, except as specifically excluded in Attachment S to the Tariff.
- 5.0 The Non-Firm Energy Exchange Transmission Service Customer agrees to supply information the Transmission Owner deems reasonably necessary in accordance with Good Utility Practice in order for the Transmission Owner to provide the requested service.
- 6.0 The Transmission Owner agrees to provide and the Non-Firm Energy Exchange Transmission Service Customer agrees to take and pay for Non-Firm Energy Exchange Transmission Service in accordance with the provisions of Attachment S of the Tariff and this Service Agreement.
- 7.0 The Non-Firm Energy Exchange Transmission Service Customer is responsible for replacing Real Power Losses associated with all Non-Firm Energy Exchange Transmission Service. Transmission Owner will supply and the Non-Firm Energy Exchange Transmission Service Customer will pay for such Real Power Losses in accordance with Section 3.6 of Attachment S.
- 8.0 The Non-Firm Energy Exchange Transmission Service Customer or the Transmission Owner can cancel this Service Agreement at any time, upon 30 days' notice.
- 9.0 Transmission Owner's participation in the Energy Exchange System is voluntary, and may be terminated at any time in accordance with the provisions of the Energy Exchange

Effective On: December 31, 9998

ATTACHMENT A

Attachment O – Redline Version

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE

Rate Formula Template
Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----

Page 1 of 5

LG&E and KU

Line No.						Allocated Amount
1	GROSS REVENUE REQUIREMENT	Pg 3 of 5, L. 29				\$ 0
	REVENUE CREDITS	Note T	<u>Total</u>		<u>Allocator</u>	
2	Account No. 454	Pg 4 of 5, L. 35	\$ 0		TP 0.00000	\$ 0
3	Account No. 456	Pg 4 of 5, L. 38	0		TP 0.00000	0
4	Revenues from Grandfathered Interzonal Transactions		0		TP 0.00000	0
5	Revenues from service provided by LG&E and KU at a discount		0		TP 0.00000	0
6	TOTAL REVENUE CREDITS	Sum of Ls. 2-5				\$ 0
7	NET REVENUE REQUIREMENT	L.1 - L.6				\$ 0
	DIVISOR					
8	Average of 12 coincident system peaks for requirements (RQ) service (kW)			Note A		0
9	Plus 12 CP of firm bundled sales over one year not in line 8 (kW)			Note B		0
10	Plus 12 CP of Network Load not in line 8 (kW)			Note C		0
11	Less 12 CP of firm P-T-P over one year (enter negative) (kW)			Note D		(0)
12	Plus Contract Demand of firm P-T-P over one year (kW)					0
13	[RESERVED]					0
14	Less Contract Demands from service over one year provided by LG&E and KU at a discount (enter negative) (kW)					(0)
15	Divisor (kW)	Sum of Ls. 8-14				0
16	Annual Cost (\$/kW/Yr)	L. 7 ÷ L. 15	\$ 0.000			
17	Network Rate (\$/kW/Month)	L. 16 ÷ 12	\$ 0.000			
18	[RESERVED]					
19	[RESERVED]					
20	[RESERVED]					
21	FERC Annual Charge(\$/MWh)	Note E	\$ 0.000		Short Term	\$ 0.000
22			\$ 0.000		Long Term	\$ 0.000

ATTACHMENT O
 RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
 Page 2 of 5

Line No.	(1)	LG&E and KU		(4)	(5)	
		(2) Form No. 1 Page, Line, Col.	(3) Company Total			Allocator
		RATE BASE:				
		GROSS PLANT IN SERVICE				
1		Production	205.46.g	\$ 0	NA	
2		Transmission	207.58.g	0	TP	0.00000 \$ 0
3		Distribution	207.75.g	0	NA	
4		General & Intangible	205.5.g & 207.99.g	0	W/S	0.00000 0
5		Common	356.1	0	CE	0.00000 0
6		TOTAL GROSS PLANT	Sum of Ls. 1 - 5	\$ 0	GP =	0.00000 \$ 0
		ACCUMULATED DEPRECIATION				
			Note Y			
7		Production	219.20-24.c	\$ 0	NA	
8		Transmission	219.25.c	0	TP	0.00000 \$ 0
9		Distribution	219.26.c	0	NA	
10		General & Intangible	219.28.c & 200.21.c	0	W/S	0.00000 0
11		Common	356.1	0	CE	0.00000 0
12		TOTAL ACCUM. DEPRECIATION	Sum of Ls. 7 - 11	\$ 0		\$ 0
		NET PLANT IN SERVICE				
13		Production	L.1 - L.7	\$ 0		
14		Transmission	L.2 - L.8	0		\$ 0
15		Distribution	L.3 - L.9	0		
16		General & Intangible	L.4 - L.10	0		0
17		Common	L.5 - L.11	0		0
18		TOTAL NET PLANT	Sum of Ls. 13 - 17	\$ 0	NP =	0.00000 \$ 0
		ADJUSTMENTS TO RATE BASE				
			Note F			
19		Account No. 281 (enter negative)	273.8.k	\$ (0)	NA	
20		Account No. 282 (enter negative)	275.2.k	(0)	NP	0.00000 \$ (0)
21		Account No. 283 (enter negative)	277.9.k & Note W	(0)	NP	0.00000 (0)
22		Account No. 190	234.8.c & Note W	0	NP	0.00000 0
23		Account No. 255 (enter negative)	267.8.h	(0)	NP	0.00000 (0)
24		Network Upgrade (enter negative)	Note X	(0)	TP	0.00000 (0)
25		LSE Direct Assignment (enter negative)	Note X	(0)		1.00000 (0)
26		Transmission Plant ARO -- Net Balance (enter negative)		(0)	TP	0.00000 (0)
27		Common Plant ARO -- Net Balance (enter negative)		(0)	CE	0.00000 (0)
28		TOTAL ADJUSTMENTS	Sum of Ls. 19 - 27	\$ (0)		\$ (0)
29		LAND HELD FOR FUTURE USE	214.x.d; Notes G & Z	\$ 0	TP	0.00000 \$ 0
		WORKING CAPITAL				
			Note H			
30		CWC	calculated	\$ 0		\$ 0
31		Materials & Supplies	227.8.c & 16.c; Note G	0	TE	0.00000 0
32		Prepayments (Account 165)	111.57.c	0	GP	0.00000 0
33		TOTAL WORKING CAPITAL	Sum of Ls. 30 - 32	\$ 0		\$ 0
34		Rate Base	Sum of Ls. 18,28,29,33	\$ 0		\$ 0

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE

Rate Formula Template
Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
Page 3 of 5

Line No.	(1)	(2)	LG&E and KU (3)	(4)	(5)
	Form No. 1 Page, Line, Col.	Company Total		Allocator	Transmission (Col 3 times Col 4)
	O&M				
1	Transmission	321.112.b; see also Note V	\$ 0	TE	0.00000 \$ 0
2	Less Account 565 (enter negative)	321.96.b	(0)		(0)
3	A&G	323.197.b	0	W/S	0
4	Less FERC Annual Fees (enter negative)	351.2.h	(0)	W/S	(0)
5	Less EPRI & Reg. Comm. Exp. & Non-safety Ad. (enter negative)	Note I	(0)	W/S	(0)
6	Plus Transmission Related Reg. Comm. Exp.	Note I	0	TE	0
7	Common	356.1	0	CE	0
8	Transmission Lease Payments		0		1.00000
9	TOTAL O&M	Sum of Ls. 1-8	\$ 0		\$ 0
	DEPRECIATION AND AMORTIZATION EXPENSE				
10	Transmission (net of ARO depreciation)	Note Y	\$ 0	TP	0.00000 \$ 0
11	General and Intangible	336.10.b & 336.1.f	0	W/S	0
12	Common (net of ARO depreciation)	336.11.b	0	CE	0.00000
13	TOTAL DEPRECIATION	Sum of Ls. 10-12	\$ 0		\$ 0
	TAXES OTHER THAN INCOME TAXES				
	LABOR RELATED				
14	Payroll	263.i	\$ 0	W/S	0.00000 \$ 0
15	Highway and vehicle	263.j	0	W/S	0.00000
16	PLANT RELATED				
17	Property	263.i	0	GP	0.00000
18	Other	263.i	0	GP	0.00000
19	Payments in lieu of taxes		0	GP	0.00000
20	TOTAL OTHER TAXES	Sum of Ls. 14-19	\$ 0		\$ 0
	DEVELOPMENT OF INCOME TAXES				
21	$T = 1 - (((1 - SIT) \times (1 - FIT)) \div (1 - SIT \times FIT \times p))$	Note K	0.00%		
22	$CIT = (T \div (1 - T)) \times (1 - (WCLTD \div R))$, where: WCLTD = R = FIT, SIT and p	Pg 4 of 5, L. 28 Pg 4 of 5, L. 31 Note K	0.00% 0.00% 0.00%		
23	Income Tax Gross Up Factor: $1 / (1 - T)$	T = L. 22	0.00000000		
24	Amortized Investment Tax Credit (enter negative)	266.8.f; see also Note K	0		
24a	(Excess)/Deficient ADIT Amortization - Protected	ADIT Worksheet, L. 1	0		
24b	(Excess)/Deficient ADIT Amortization - Unprotected	ADIT Worksheet, L. 2	0		
25	Income Tax Calculation	L. 22 x L. 28	\$ 0		\$ 0
26	ITC adjustment	L. 23 x L. 24	0	NP	0.00000
26a	(Excess)/Deficient ADIT Amortization - Protected - Grossed-Up	L. 23 x L. 24a; see also Note S	0	NP	0.00000
26b	(Excess)/Deficient ADIT Amortization - Unprotected - Grossed-Up	L. 23 x L. 24b; see also Note S	0	W/S	0.00000
27	Total Income Taxes	Sum of Ls. 25-26b	\$ 0		\$ 0
28	RETURN (rate base times rate of return)	Pg 2 of 5, L.34 x Pg 4 of 5, L. 31	\$ 0		\$ 0
29	REVENUE REQUIREMENT	Sum of Ls. 9,13,20,27,28	\$ 0		\$ 0

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/....
 Page 4 of 5

LG&E and KU
SUPPORTING CALCULATIONS AND NOTES

Line No.	TRANSMISSION PLANT INCLUDED IN LG&E and KU RATES				
1	Total transmission plant		Pg 2 of 5, L.2, C.3	\$	0
2	Less transmission plant excluded from LG&E and KU rates		Note M	0	
3	Less transmission plant included in OATT Ancillary Services		Note N	0	
4	<u>Transmission plant included in LG&E and KU rates</u>		L. 1 - L.2 - L.3	\$	0
5	Percentage of transmission plant included in LG&E and KU Rates		L.4 + L.1	TP=	0.00000
TRANSMISSION EXPENSES					
6	Total transmission expenses		Pg 3 of 5, L.1, C.3	\$	0
7	Less transmission expenses included in OATT Ancillary Services		Note L	0	
8	<u>Included transmission expenses</u>		L. 6 - L.7	\$	0
9	Percentage of transmission expenses after adjustment		L.8 + L.6		0.00000
10	Percentage of transmission plant included in LG&E and KU Rates		L. 5	TP	0.00000
11	Percentage of transmission expenses included in LG&E and KU Rates		L.9 x L.10	TE=	0.00000
WAGE & SALARY ALLOCATOR (W&S)					
	Form 1 Reference	Total W&S	TP	Allocated W&S	
12	Production 354.20.b	\$ 0	0.00	\$ 0	
13	Transmission 354.21.b	0	0.00000	0	
14	Distribution 354.23.b	0	0.00	0	
15	Other 354.24,25,26.b	0	0.00	0	
16	<u>Total Wages and Salaries</u> Sum of Ls. 12-15	\$ 0		\$ 0	= 0.00000 = W/S
COMMON PLANT ALLOCATOR (CE)					
	Note O	Total Plant			
17	Electric 200.3.c	\$ 0			
18	Gas 201.3.d	0			
19	Water 201.3.e	0			
20	<u>Total Plant</u> Sum of Ls. 17-19	\$ 0			
21	Electric Plant Ratio L.17 + L.20		1.00000	times W/S (L. 16)	0.00000 = CE
DEVELOPMENT OF RATE OF RETURN (R)					
		Total per Form 1			
22	Long Term Interest 117.62-67.c; Note W	\$ 0			
23	Preferred Dividends 118.29.c	0			
Development of Common Stock:					
24	Proprietary Capital 112.16.c	\$ 0			
25	Less Preferred Stock (enter negative) L.29	(0)			
26	Less Accounts 216.1 & 219 (enter negative) 112.12.c; 112.15.c	0			
27	<u>Total Common Stock</u> Sum of Ls. 24-26	\$ 0			
Weighted Average Cost of Capital:					
		Total Company	%	Cost Rate (Note P)	Weighted = WCLTD
28	Long Term Debt 112.18-23.c; Note W	\$ 0	0.00%	0.0000	0.0000 = WCLTD
29	Preferred Stock 112.3.c	0	0.00%	0.0000	0.0000
30	Common Stock L.27	0	0.00%	0.1088	0.0000
31	<u>Total</u> Sum of Ls. 28-30	\$ 0			0.0000 = R
REVENUE CREDITS					
ACCOUNT 447 (SALES FOR RESALE)					
32	a. Bundled Non-RQ Sales for Resale (kW)		310-311, Note Q	Load	0
33	b. Bundled Sales for Resale included in Divisor on page 1 (kW)		311.x.h; Note Z	0	
34	<u>Total (kW)</u>		L. 32-L33	0	
ACCOUNT 454 (RENT FROM ELECTRIC PROPERTY)					
35			Note R	\$	0
ACCOUNT 456 (OTHER ELECTRIC REVENUES)					
36	a. Transmission charges for all transmission transactions	(330.x.n)	Notes U & Z	\$	0
37	b. Transmission charges for all transmission transactions included in Divisor on Page 1			0	
38	<u>Total</u>		L.36-L37	\$	0

ATTACHMENT O
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
 Page 1 of 5

LG&E and KU

Line No.						Allocated Amount
1	GROSS REVENUE REQUIREMENT	Pg 3 of 5, L. 29				\$ 0
	REVENUE CREDITS	Note T	<u>Total</u>		<u>Allocator</u>	
2	Account No. 454	Pg 4 of 5, L. 35	\$ 0		TP 0.00000	\$ 0
3	Account No. 456	Pg 4 of 5, L. 38	0		TP 0.00000	0
4	Revenues from Grandfathered Interzonal Transactions		0		TP 0.00000	0
5	Revenues from service provided by LG&E and KU at a discount		0		TP 0.00000	0
6	TOTAL REVENUE CREDITS	Sum of Ls. 2-5				\$ 0
7	NET REVENUE REQUIREMENT	L.1 - L.6				\$ 0
	DIVISOR					
8	Average of 12 coincident system peaks for requirements (RQ) service (kW)			Note A		0
9	Plus 12 CP of firm bundled sales over one year not in line 8 (kW)			Note B		0
10	Plus 12 CP of Network Load not in line 8 (kW)			Note C		0
11	Less 12 CP of firm P-T-P over one year (enter negative) (kW)			Note D		(0)
12	Plus Contract Demand of firm P-T-P over one year (kW)					0
13	Plus CBM Capacity withheld from P-T-P Customers (kW)					0
14	Less Contract Demands from service over one year provided by LG&E and KU at a discount (enter negative) (kW)					(0)
15	Divisor (kW)	Sum of Ls. 8-14				0
16	Annual Cost (\$/kW/Yr)	L. 7÷ L. 15	\$ 0.000			
17	P-to-P Rate (\$/kW/Month)	L. 16 ÷ 12	\$ 0.000			
				<u>Peak Rate</u>		<u>Off-Peak Rate</u>
18	Point-To-Point Rate (\$/kW/Wk)	L. 16 ÷ 52	\$ 0.000		L. 16 ÷ 52	\$ 0.000
19	Point-To-Point Rate (\$/kW/Day)	L. 18 ÷ 5	\$ 0.000	Capped at weekly rates	L. 18 ÷ 7	\$ 0.000
20	Point-To-Point Rate (\$/MWh)	L. 19 ÷ 16	\$ 0.000	Capped at weekly & daily rates	L. 19 ÷ 24	\$ 0.000
21	FERC Annual Charge(\$/MWh)	Note E	\$ 0.000		Short Term	\$ 0.000
22			\$ 0.000		Long Term	\$ 0.000

ATTACHMENT O
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
 Page 2 of 5

Line No.	(1)	LG&E and KU		(4) Allocator	(5) Transmission (Col 3 times Col 4)
		(2) Form No. 1 Page, Line, Col.	(3) Company Total		
		RATE BASE:			
		GROSS PLANT IN SERVICE			
1	Production	205.46.g	\$ 0	NA	
2	Transmission	207.58.g	0	TP	0.00000 \$ 0
3	Distribution	207.75.g	0	NA	
4	General & Intangible	205.5.g & 207.99.g	0	W/S	0.00000 0
5	Common	356.1	0	CE	0.00000 0
6	TOTAL GROSS PLANT	Sum of Ls. 1 - 5	\$ 0	GP=	0.00000 \$ 0
		ACCUMULATED DEPRECIATION			
		Note Y			
7	Production	219.20-24.c	\$ 0	NA	
8	Transmission	219.25.c	0	TP	0.00000 \$ 0
9	Distribution	219.26.c	0	NA	
10	General & Intangible	219.28.c & 200.21.c	0	W/S	0.00000 0
11	Common	356.1	0	CE	0.00000 0
12	TOTAL ACCUM. DEPRECIATION	Sum of Ls. 7 - 11	\$ 0		\$ 0
		NET PLANT IN SERVICE			
13	Production	L.1 - L.7	\$ 0		
14	Transmission	L.2 - L.8	0		\$ 0
15	Distribution	L.3 - L.9	0		
16	General & Intangible	L.4 - L.10	0		0
17	Common	L.5 - L.11	0		0
18	TOTAL NET PLANT	Sum of Ls. 13 - 17	\$ 0	NP =	0.00000 \$ 0
		ADJUSTMENTS TO RATE BASE			
		Note F			
19	Account No. 281 (enter negative)	273.8.k	\$ (0)	NA	
20	Account No. 282 (enter negative)	275.2.k	(0)	NP	0.00000 \$ (0)
21	Account No. 283 (enter negative)	277.9.k & Note W	(0)	NP	0.00000 (0)
22	Account No. 190	234.8.c & Note W	0	NP	0.00000 0
23	Account No. 255 (enter negative)	267.8.h	(0)	NP	0.00000 (0)
24	Network Upgrade (enter negative)	Note X	(0)	TP	0.00000 (0)
25	LSE Direct Assignment (enter negative)	Note X	(0)		1.00000 (0)
26	Transmission Plant ARO -- Net Balance (enter negative)		(0)	TP	0.00000 (0)
27	Common Plant ARO -- Net Balance (enter negative)		(0)	CE	0.00000 (0)
28	TOTAL ADJUSTMENTS	Sum of Ls. 19 - 27	\$ (0)		\$ (0)
29	LAND HELD FOR FUTURE USE	214.x.d; Notes G & Z	\$ 0	TP	0.00000 \$ 0
		WORKING CAPITAL			
		Note H			
30	CWC	calculated	\$ 0		\$ 0
31	Materials & Supplies	227.8.c & 16.c; Note G	0	TE	0.00000 0
32	Prepayments (Account 165)	111.57.c	0	GP	0.00000 0
33	TOTAL WORKING CAPITAL	Sum of Ls. 30 - 32	\$ 0		\$ 0
34	Rate Base	Sum of Ls. 18,28,29,33	\$ 0		\$ 0

ATTACHMENT O
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
Page 3 of 5

Line No.	(1)	(2) Form No. 1 Page, Line, Col.	LG&E and KU (3) Company Total	(4) Allocator	(5) Transmission (Col 3 times Col 4)
	O&M				
1	Transmission	321.112.b; see also Note V	\$ 0	TE	0
2	Less Account 565 (enter negative)	321.96.b	(0)		(0)
3	A&G	323.197.b	0	W/S	0
4	Less FERC Annual Fees (enter negative)	351.2.h	(0)	W/S	(0)
5	Less EPRI & Reg. Comm. Exp. & Non-safety Ad. (enter negative)	Note I	(0)	W/S	(0)
6	Plus Transmission Related Reg. Comm. Exp.	Note I	0	TE	0
7	Common	356.1	0	CE	0
8	Transmission Lease Payments		0		0
9	TOTAL O&M	Sum of Ls. 1-8	<u>\$ 0</u>		<u>\$ 0</u>
	DEPRECIATION AND AMORTIZATION EXPENSE				
10	Transmission (net of ARO depreciation)	Note Y 336.7.b	\$ 0	TP	0
11	General and Intangible	336.10.b & 336.1.f	0	W/S	0
12	Common (net of ARO depreciation)	336.11.b	0	CE	0
13	TOTAL DEPRECIATION	Sum of Ls. 10-12	<u>\$ 0</u>		<u>\$ 0</u>
	TAXES OTHER THAN INCOME TAXES				
	LABOR RELATED				
14	Payroll	263.i	\$ 0	W/S	0
15	Highway and vehicle	263.i	0	W/S	0
	PLANT RELATED				
17	Property	263.i	0	GP	0
18	Other	263.i	0	GP	0
19	Payments in lieu of taxes		0	GP	0
20	TOTAL OTHER TAXES	Sum of Ls. 14-19	<u>\$ 0</u>		<u>\$ 0</u>
	DEVELOPMENT OF INCOME TAXES				
21	$T = 1 - ((1 - SIT) \times (1 - FIT)) + (1 - SIT \times FIT \times p)$	Note K	0.00%		
22	$CIT = (T \div (1 - T)) \times (1 - (WCLTD \div R))$, where:		0.00%		
	WCLTD =	Pg 4 of 5, L. 28	0.00%		
	R =	Pg 4 of 5, L. 31	0.00%		
	FIT, SIT and p	Note K			
23	Income Tax Gross Up Factor: $1 / (1 - T)$	T = L. 22	0.00000000		
24	Amortized Investment Tax Credit (enter negative)	266.8.f; see also Note K	0		
24a	(Excess)/Deficient ADIT Amortization - Protected	ADIT Worksheet, L. 1	0		
24b	(Excess)/Deficient ADIT Amortization - Unprotected	ADIT Worksheet, L. 2	0		
25	Income Tax Calculation	L. 22 x L. 28	\$ 0		\$ 0
26	ITC adjustment	L. 23 x L. 24	0	NP	0
26a	(Excess)/Deficient ADIT Amortization - Protected - Grossed-Up	L. 23 x L. 24a; see also Note S	0	NP	0
26b	(Excess)/Deficient ADIT Amortization - Unprotected - Grossed-Up	L. 23 x L. 24b; see also Note S	0	W/S	0
27	Total Income Taxes	Sum of Ls. 25-26b	<u>\$ 0</u>		<u>\$ 0</u>
28	RETURN (rate base times rate of return)	Pg 2 of 5, L.34 x Pg 4 of 5, L. 31	<u>\$ 0</u>		<u>\$ 0</u>
29	REVENUE REQUIREMENT	Sum of Ls. 9,13,20,27,28	<u>\$ 0</u>		<u>\$ 0</u>

ATTACHMENT O
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
 Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
 Page 4 of 5

LG&E and KU
SUPPORTING CALCULATIONS AND NOTES

Line No.	TRANSMISSION PLANT INCLUDED IN LG&E and KU RATES				
1	Total transmission plant	Pg 2 of 5, L.2, C.3	\$	0	
2	Less transmission plant excluded from LG&E and KU rates	Note M		0	
3	Less transmission plant included in OATT Ancillary Services	Note N		0	
4	<u>Transmission plant included in LG&E and KU rates</u>	L 1 - L.2 - L.3	\$	0	
5	Percentage of transmission plant included in LG&E and KU Rates	L.4 + L.1	TP=	0.0000	
TRANSMISSION EXPENSES					
6	Total transmission expenses	Pg 3 of 5, L.1, C.3	\$	0	
7	Less transmission expenses included in OATT Ancillary Services	Note L		0	
8	<u>Included transmission expenses</u>	L 6 - L.7	\$	0	
9	Percentage of transmission expenses after adjustment	L.8 + L.6		0.0000	
10	Percentage of transmission plant included in LG&E and KU Rates	L 5	TP	0.0000	
11	Percentage of transmission expenses included in LG&E and KU Rates	L.9 x L.10	TE=	0.0000	
WAGE & SALARY ALLOCATOR (W&S)					
	Form 1 Reference	Total W&S	TP	Allocated W&S	
12	Production 354.20.b	\$ 0	0.00000	\$ 0	
13	Transmission 354.21.b	0	0.00000	0	
14	Distribution 354.23.b	0	0.00000	0	
15	Other 354.24,25,26.b	0	0.00000	0	
16	<u>Total Wages and Salaries</u> Sum of Ls. 12-15	\$ 0		\$ 0	= 0.00000 = W/S
COMMON PLANT ALLOCATOR (CE)					
	Note O	Total Plant			
17	Electric 200.3.c	\$ 0			
18	Gas 201.3.d	0			
19	Water 201.3.e	0			
20	<u>Total Plant</u> Sum of Ls. 17-19	\$ 0			
21	Electric Plant Ratio L. 17 + L. 20		0.00000 times W/S (L. 16)	0.00000	0.00000 = CE
DEVELOPMENT OF RATE OF RETURN (R)					
	Total per Form 1				
22	Long Term Interest 117.62-67.c; Note W	\$ 0			
23	Preferred Dividends 118.29.c	0			
Development of Common Stock:					
24	Proprietary Capital 112.16.c	\$ 0			
25	Less Preferred Stock (enter negative) L.29	(0)			
26	Less Accounts 216.1 & 219 (enter negative) 112.12.c; 112.15.c	(0)			
27	<u>Total Common Stock</u> Sum of Ls. 24-26	\$ 0			
Weighted Average Cost of Capital:					
	Total Company	%	Cost Rate (Note P)	Weighted	
28	Long Term Debt 112.18-23.c; Note W	\$ 0	0.00%	0.0000	0.0000 = WCLTD
29	Preferred Stock 112.3.c	0	100.00%	0.0000	0.0000
30	Common Stock L.27	0	0.00%	0.1088	0.0000
31	<u>Total</u> Sum of Ls. 28-30	\$ 0			0.0000 = R
REVENUE CREDITS					
ACCOUNT 447 (SALES FOR RESALE)					
	Load				
32	a. Bundled Non-RQ Sales for Resale (kW) 310-311, Note Q			0	
33	b. Bundled Sales for Resale included in Divisor on page 1 (kW) 311.x,h; Note Z			0	
34	<u>Total (kW)</u> L. 32-L.33			0	
35	ACCOUNT 454 (RENT FROM ELECTRIC PROPERTY) Note R			\$ 0	
ACCOUNT 456 (OTHER ELECTRIC REVENUES) (330.x.n) Notes U & Z					
36	a. Transmission charges for all transmission transactions			\$ 0	
37	b. <u>Transmission charges for all transmission transactions included in Divisor on Page 1</u>			0	
38	<u>Total</u> L. 36-L.37			\$ 0	

ATTACHMENT O
RATE FORMULA FOR NETWORK INTEGRATION TRANSMISSION SERVICE
RATE FORMULA FOR POINT TO POINT TRANSMISSION SERVICE

Rate Formula Template
Utilizing FERC Form 1 Data

For the 12 months ended 12/31/----
Page 5 of 5

LG&E and KU

General Note: References to pages in this formula rate are indicated as: (page#, line#, col.#)
References to data from FERC Form 1 are indicated as: #.y.x (page, line, column)

Note
Letter

- A Average of monthly peak amounts reported on Page 400, column e of Form 1.
 - B Labeled LF, LU, IF, IU on pages 310-311 of Form 1 at the time of the LG&E and KU coincident monthly peaks.
 - C Average of monthly peak amounts reported on Page 400, column f + column h.
 - D Labeled LF on page 328 of Form 1 at the time of the LG&E and KU coincident monthly peaks.
 - E The FERC's annual charges for the year assessed the Transmission Owner for service under this tariff.
 - F The balances in Accounts 190, 281, 282 and 283, as adjusted by any amounts in contra accounts identified as regulatory assets or liabilities related to ASC 715 and ASC 740. Balance of Account 255 is reduced by prior flow throughs and excluded if LG&E and KU chose to utilize amortization of tax credits against taxable income as discussed in Note K. Account 281 is not allocated.
 - G Identified in Form 1 as being only transmission related.
 - H Cash Working Capital assigned to transmission is one-eighth of O&M allocated to transmission at page 3, line 9, column 5. Prepayments are the electric related prepayments booked to Account No. 165 and reported on Page 111 line 57 in the Form 1.
 - I Line 5 - EPRI Annual Membership Dues listed in Form 1 at 353.f, Regulatory Commission Expenses itemized at 351.h, and non-safety related advertising included in Account 930.1. Line 6 - Regulatory Commission Expenses directly related to transmission service, LG&E and KU filings, or transmission siting itemized at 351.h.
 - J Includes only FICA, unemployment, highway, property and other assessments charged in the current year. Taxes related to income are excluded.
 - K The currently effective income tax rate, where FIT is the Federal income tax rate; SIT is the State income tax rate, and p = "the percentage of federal income tax deductible for state income taxes". Furthermore, if LG&E and KU elected to utilize amortization of tax credits against taxable income, rather than book tax credits to Account No. 255 and reduce rate base, LG&E and KU must reduce its income tax expense by the amount of the Amortized Investment Tax Credit (Form 1, 266.8.f; transmission related only) multiplied by (1/1-T) (page 3, line 26). (LG&E elected to amortize tax credits against taxable income; KU elected to amortize tax credits below the line and reduce rate base. Current income tax credit balances for LG&E and KU are related 100% to production investment and are not included in the Attachment O.)
- | | | | |
|------------------|-------|-------|---|
| Inputs Required: | FIT = | 0.00% | |
| | SIT= | 0.00% | (State Income Tax Rate or Composite SIT) |
| | p = | 0.00% | (percent of federal income tax deductible for state purposes) |
- L Removes dollar amount of transmission expenses included in the OATT ancillary services rates, including all of Account No. 561.
 - M Removes transmission plant determined by Commission order to be state-jurisdictional according to the seven-factor test (until Form 1 balances are adjusted to reflect application of seven-factor test).
 - N Removes dollar amount of transmission plant included in the development of OATT ancillary services rates and generation step-up facilities, which are deemed to be included in OATT ancillary services. For these purposes, generation step-up facilities are those facilities at a generator substation on which there is no through-flow when the generator is shut down. LG&E and KU generator step-up facilities are included in production plant accounts and are not included in this Attachment O.
 - O Enter dollar amounts. Common Plant Allocator (CE) = ratio of electric only plant to total plant, multiplied by W/S (wages and salaries allocator).
 - P Debt cost rate = long-term interest (line 22) ÷ long term debt (line 28). Preferred cost rate = preferred dividends (line 23) ÷ preferred outstanding (line 29). ROE will be supported in the original filing and no change in ROE may be made absent a filing with FERC.
 - Q Line 34 must equal zero since all short-term power sales must be unbundled and the transmission component reflected in Account No. 456 and all other uses are to be included in the divisor.
 - R Includes income related only to transmission facilities, such as pole attachments, rentals and special use.
 - S {Reserved}Includes amounts recorded to Accounts 411.1 and 410.1 for amortization of excess/deficient ADIT resulting from tax rate changes.
 - T The revenues credited on page 1 lines 2-5 shall include only the amounts received directly (in the case of grandfathered agreements) or from LG&E and KU (for service under this tariff) reflecting the Transmission Owner's integrated transmission facilities. They do not include revenues associated with FERC annual charges, gross receipts taxes, ancillary services, facilities not included in this template (e.g., direct assignment facilities and GSUs) which are not recovered under this Rate Formula Template.
 - U Account 456 entry shall be the annual total of the quarterly values reported at Form 1, 330.x.n.
 - V This Attachment O reflects a pass-through of the costs associated with the ITO and the Reliability Coordinator and excludes amortization of regulatory assets when such amortization is charged to transmission O&M and recovered entirely from retail customers.
 - W The amounts included in this Attachment O are net of purchase accounting adjustments resulting from the 2010 acquisition of LG&E and KU by PPL Corp. These adjustments are necessary to insulate customers from costs related to the acquisition.
 - X Entry on Page 2, Line 24 shall include the Network Upgrade value included in Line 2 and any accumulated depreciation included in Line 8. Entry on Page 2, Line 25 shall include the Load Serving Entity direct assigned value included in Line 2 and any accumulated depreciation in Line 8.
 - Y Depreciation rates and accumulated depreciation balances used in this formula include adjustments to reflect depreciation rates on file with the FERC.
 - Z FERC Form 1 pages do not specify line numbers, which are subject to change from year to year and between LG&E and KU. Please see the line item descriptions for identification of amounts from FERC Form 1 included in this rate formula.

Depreciation Rates Used in Attachment O

For Kentucky Utilities Company:

Property Group	Current Rates ASL
Transmission Plant	
350.1 Land Rights	0.98%
350.2 Land	0.00%
352.1 Struct. and Impr. Non Sys Control	1.54%
352.2 Struct. and Impr. Sys Control	1.43%
353.1 Station Equipment	1.98%
353.2 Syst Control/Microwave Equip	0.46%
354 Towers & Fixtures	1.21%
355 Poles & Fixtures	2.28%
356 Overhead Conductors and Devices	1.79%
357 Underground Conduit	2.60%
358 Underground Conductors & Devices	1.26%
359 Asset Retirement Obligations - Transmission *	
Total Transmission Plant	

For Louisville Gas and Electric Company:

Property Group	Current Rates ASL
ELECTRIC PLANT	
Electric Transmission Plant	
350.2 Transmission Lines Land	0.00%
350.1 Land Rights	3.92%
352.1 Structures & Improvements	1.17%
353.1 Station Equipment	1.32%
354 Towers & Fixtures	1.38%
355 Poles & Fixtures	2.95%
356 Overhead Conductors & Devices	2.52%
357 Underground Conduit	1.85%
358 Underground Conductors & Devices	3.65%
359 Asset Retirement Obligations - Transmission *	
Total Transmission Plant	

* Asset retirement obligations to not have specific depreciation rates; AROs are depreciated at the same rates as the underlying physical assets.

Excess/Deficient Deferred Taxes - Protected and Unprotected

Line No.		
1	(Excess) Deficient ADIT Amortization - Protected	0
2	(Excess) Deficient ADIT Amortization - Unprotected	0

Cumulative Timing Differences as of Tax 20YY Return
ADIT Balances at Statutory Rates

Line No.	Description	Amortization Period (Note C)	LG&E - Electric	KU	Combined Utilities	OLD Fed - #%, KY - #%	NEW (Fed - #%, KY - #%)	Excess/(Deficient) ADIT - Current Tax Reform (Note A)	Excess/(Deficient) ADIT - Prior Tax Reform	Total Excess/(Deficient) ADIT as of 20YY Tax Return	Amortization of (Excess) Deficient ADIT - 20YY (Note B)	Excess/(Deficient) ADIT 12/31/20YY
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
3	Protected (Property Related) Deferred Taxes:											
4	Reserved For Future Use											
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19	Unprotected Deferred Taxes:											
20	Reserved For Future Use											
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												

Notes

A Excess/Deficient ADIT balances resulting from corporate income tax rate changes are recorded to account 254/182.3.

B Excess/Deficient ADIT balances are amortized to accounts 411/1/410.1.

C (Description of amortization period, to be adjusted as needed).

D [Future Use]

E [Future Use]

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 6

Responding Witness: Elizabeth J. McFarland

- Q-6. Refer to the Supplemental Seelye Testimony, Exhibit WSS-1.
- a. Provide all planned transmission investment (separated by year and utility) over the next ten years, not just investment related to capacity or load growth. Provide the source of all planning information and calculations (including supporting filings and internal analysis), with page numbers or cell references, as applicable.
 - b. Provide descriptions of all planned investment, including capacity investment, and its purpose. Provide the source of all planning information and calculations (including supporting filings and internal analysis), with page numbers or cell references, as applicable.
- A-6.
- a. The following table, see attachment being provided in Excel format, includes all budget categories of transmission investments from 2022-2025. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. As provided in Seelye Supplemental Exhibit WSS-1, p.1, capacity related transmission investments are planned for in the Transmission Expansion Plan's ("TEP") ten-year horizon. However, other investment categories are planned for in the five-year business plan term. The 2021 Business Plan's term is 2021-2025; therefore, the equivalent term with Seelye Supplemental Exhibit WSS-1, p.1 starts with 2022 and is only available through 2025. Capacity related investments as provided in the Seelye Supplemental Exhibit WSS-1, p. 1 are from the TEP category, plus one project from the Proactive Replacement category which was added to a TEP project in 2022. All other categories are considered to be non-capacity related.

Transmission										
2021 Business Plan (\$000s)										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Kentucky Utilities Company										
Compliance	1,585	358	363	358						
Emergency Replacement	1,836	1,902	1,925	1,948						
Native Load	1,768	36	2,218	1,446						
Operations Support	254	556	401	701						
Proactive Replacement	74,806	80,301	78,611	77,478						
Reliability	4,812	4,596	4,316	4,253						
Tep	15,391	7,190	8,163	97	140	734	384	4,081		1,251
Third Party Requests	3,492									
Other	1,060									
Louisville Gas & Electric Company										
Compliance	102	171	166	171						
Emergency Replacement	620	636	649	653						
Native Load	2,613	5,702	451	1,019						
Operations Support	60	204	148	338						
Proactive Replacement	7,634	9,229	10,205	17,380						
Reliability	138	-	447	425						
Tep						84	6,353	122	2,901	
Third Party Requests										
Other										

- b. Transmission develops the capital forecast through a multi-layered approach to incorporate Transmission Expansion Planning identified projects, projects required for NERC and Open Access Transmission Tariff (“OATT”) compliance, asset management needs, reliability improvements, and energy management system requirements. Descriptions of each planned capital investment category included in the 2021 Business Plan are as follows:

Compliance – Software upgrades to the Energy Management System (“EMS”) required to monitor, maintain, and operate the transmission grid safely and reliably to meet the NERC regulatory requirements. The budget includes complete EMS software upgrades every two years, with minor updates and patches in between, to remain compliant with NERC reliability standards.

Emergency Replacement – projects for the replacement of equipment that are expected to fail and will need replaced. Past trends are used to estimate the cost. This category includes capital budgeted for storm restoration and minor substation equipment.

Native Load - Typically Distribution level projects with a Transmission interconnection support component.

Operations Support – Incremental applications for the Energy Management System (EMS), not included in the Compliance category, which provide periodic hardware and software updates that are used to monitor, maintain, and operate the transmission grid.

Proactive Replacement - The Companies have developed a proactive targeted replacement program to reduce the average age of all assets and to replace poorly performing assets. LG&E and KU select system integrity programs and projects based on the condition, technical obsolescence, age, and consequence of failure of the various assets within the transmission system. The Companies inspect and maintain assets on a regular basis and use available diagnostics to determine the condition and replace or repair them before they deteriorate to the point of failure to maintain system reliability. Assets targeted for replacement in this category include; but are not limited to, wood structures, conductors, breakers, switches, relays, and transformers.

The investment strategy, including project selection and prioritization for asset replacements can be found in the Transmission System Improvement Plan (“TSIP”). See Case No. 2016-00370 Direct Testimony KU LGE Thompson Exhibit PWT-2 for the previously filed TSIP. Annual updates to the TSIP have been provided to the KYPSC in 2018, 2019, and 2020 in Case Nos. 2016-00370 and 2016-00371.

Reliability - Reliability projects focus on reducing reliability risks by decreasing customer exposure to outages, restoring customer interruptions quicker, and reducing SAIDI associated with these lines. An example of this type of project is line sectionalization, which consists of installing in-line breakers or switches on long lines with multiple load taps and/or serving many customers to improve reliability.

TEP - See the response to PSC 1-31 for a description of the Transmission Planning processes.

Third Party Requests – projects required for OATT compliance, such as projects for generator interconnections and firm transmission service requests.

Other – The transmission capital budget includes projects that do not fall into the common categories above, such as facility, land, or rights of way acquisitions

The entire attachment is
Confidential and
provided separately
under seal in Excel
format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 7

Responding Witness: David S. Sinclair

- Q-7. Refer to the Supplemental Testimony of David S. Sinclair (Supplemental Sinclair Testimony), page 8, lines 3–5, where Mr. Sinclair states that it is “the Companies’ longstanding process for procuring capacity, namely going to the market for new capacity options and comparing the market to the cost of self-building new capacity.”
- a. Define “the market.”
 - b. Provide actual examples of when the Companies have made these comparisons and include all documentation of the process of comparing.
- A-7.
- a. The Companies consider the market for capacity resources to be the universe of potential suppliers of capacity, either through PPAs or asset purchases. It is the Companies’ practice to issue to a wide audience a request for proposals (“RFP”) for energy and capacity, to which such potential suppliers can respond with actual supply proposals.
 - b. The Companies have engaged in this process to evaluate options for energy and capacity in the RFPs that resulted in the construction of Trimble County 2,¹ Cane Run 7 and Brown Solar,² and the previously proposed and subsequently cancelled natural gas combined cycle unit Green River 5.³

¹ See Case No. 2004-00507, Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity and Site Compatibility Certificate for the Expansion of the Trimble County Generating Station.

² See Case No. 2011-00375, Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity and Site Compatibility Certificate for the Construction of a Combined Cycle Combustion Turbine at the Cane Run Generating Station and the Purchase of Existing Simple Cycle Combustion Turbine Facilities from Bluegrass Generation Company, LLC in Lagrange, Kentucky.

³ See Case No. 2014-00002, Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Certificates of Public Convenience and Necessity for the Construction of a Combined Cycle Combustion Turbine at the Green River Generating Station and a Solar Photovoltaic Facility at the E. W. Brown Generating Station.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 8

Responding Witness: David S. Sinclair

- Q-8. Refer to the Supplemental Sinclair Testimony, page 9, lines 12–13, where Mr. Sinclair states: “A CT is often thought of as a proxy for capacity cost because it can be quickly started to meet a reliability need any hour of the day throughout the year.” Explain why LG&E uses a combustion turbine (CT) as a “proxy for capacity cost” rather than using an natural gas combined cycle (NGCC), which is the resource LG&E has identified as the least-cost source of replacement capacity in the longer term in the most recent Integrated Resource Filing (2018 IRP).⁵
- A-8. See the response to PSC 7-23 and Mr. Sinclair’s Supplemental Rebuttal Testimony, page 17, lines 4-15.

⁵ Case No. 2018-00348, Electronic 2018 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company (Ky. PSC Oct. 2, 2020) at 5-39.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 9

Responding Witness: David S. Sinclair

- Q-9. Refer to the Supplemental Sinclair Testimony, Exhibit DSS-1.
- a. Explain whether the 2021 technology-differentiated avoided energy costs calculated using the same PROSYM approach as the avoided energy cost were originally filed in the 2020 proceeding. If there are any changes in the 2021 PROSYM modeling approach, describe them in detail and provide all workpapers and supporting files related to the altered modeling approach.
 - b. Confirm that Generation Planning & Analysis 2020 (Sinclair Attachment to Filing Requirement Tab 16 - 807 KAR 5:001 Sec. 16(7)(c), as originally filed), continues to apply to the 2021 amended and technology-specific PROSYM avoided energy cost modeling.
- A-9.
- a. The Companies have interpreted this question as follows and assume that "2020 proceeding" refers to the Companies' 2020 filings of revised purchase rates for small capacity cogeneration and small power production qualifying facilities under tariffs TFS2020-00269 for KU and TFS2020-00270 for LG&E ("2020 SQF Rates"):

Explain whether the 2021 technology-differentiated avoided energy costs **[were]** calculated using the same PROSYM approach as the avoided energy cost **[that]** were originally filed in the 2020 proceeding.

The approach for developing the PROSYM model inputs for the 2020 SQF Rates and the 2021 technology-differentiated avoided energy costs ("2021 Avoided Costs") were the same. However, the 2020 SQF rates were filed based on forecasts and assumptions from the Companies' 2020 Business Plan and considered the avoided cost of the marginal 1 MW for each hour for specified time periods in July 2020 through June 2022. The 2021 Avoided Costs were based on 2021 Business Plan forecasts and assumptions, which included the costs and revenues associated with CCR beneficial use that were not considered in the 2020 SQF Rates calculations. See the response to Question 10(c). The 2021 Avoided Costs were calculated for the years 2022

through 2045 and considered the avoided costs of all of the marginal MW that could be avoided based on an assumed renewable generation size and hourly profile.

- b. The “Generation Forecast Process” attached to Filing Requirement at Tab 16, Sec. 16(7)(c) – Item G continues to apply to the 2021 Avoided Costs, except that the development of the 2021 Avoided Costs did not consider off-system market sales, which were excluded to focus the analysis on the cost of serving native load customers.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 10

Responding Witness: David S. Sinclair

- Q-10. Refer to the Supplemental Sinclair Testimony, Exhibit DSS-1.
- a. Confirm that SO₂ and NO_x are PROSYM inputs. Explain whether SO₂ and NO_x costs are included in the incremental cost of the units and whether they impact dispatch decisions.
 - b. Confirm that CO₂ pricing is not a PROSYM input nor otherwise a component of the avoided energy cost calculation.
 - c. Describe in detail how PROSYM includes the opportunity cost for coal combustion residual (CCR) revenues. Provide these costs and all workpapers supporting this methodology.
 - d. Provide a breakdown of all cost components of the modeled variable operation and maintenance (O&M) costs, including detailed descriptions of each component and itemized component costs in \$/MWh.
 - e. Provide all emission allowance prices and emission rates per unit, as modeled in PROSYM and represented in Supplemental Exhibit DSS-1. Break out by data by specific emissions type (ex: SO_x, NO₂, CO₂).
 - f. Explain whether the dispatch cost of the marginal unit is the same as the avoided energy cost for a given hour. In other words, explain whether LG&E's dispatch cost equal the sum of vole-ohm-millimeter (VOM) and fuel cost in the modeled-7- Case No. 2020-00350 PROSYM avoided energy cost or whether it includes additional components. Describe in detail.
- A-10.
- a. Confirmed. PROSYM considers SO₂ and NO_x emission rates for all thermal units, SO₂ removal rates for coal-fired units, emissions allowance costs for SO₂ and both annual and seasonal NO_x, and the variable O&M costs for limestone and ammonia, which are used in environmental controls for SO₂ and NO_x. All of these costs are included in incremental costs and impact

dispatch decisions as they reflect existing and known environmental regulations.

- b. CO₂ pricing is a PROSYM input. However, because there are no existing or pending CO₂ regulations and thus there is no avoidable CO₂ cost, the Companies have used a zero price for CO₂ in PROSYM for the modeling used in these proceedings. Therefore, CO₂ pricing is not a component of the avoided cost calculation.
- c. See attached. The weighted average of current contract revenue and market prices for coal combustion residuals (“CCR”) at each station, net of handling costs for beneficial use and landfill storage, are included as an opportunity cost in avoided energy costs (i.e., if the avoided energy were generated, the Companies could beneficially use the CCR produced as a result of that generation, generally at a net revenue, which lowers costs to all customers).

The attachment shows the steps of these calculations.

1. In the “CCR VOM” worksheet, define “% Marketable” at each station for each CCR type (gypsum, fly ash, and bottom ash).
2. Define “Market Value (\$/ton)” which is the weighted average of current contract revenue and market prices at each station for each CCR type.
3. Define “Beneficial Use Handling Costs (\$/ton)” as the handling costs for CCR beneficially used at each station for each CCR type.
4. Define “Landfill Handling Costs (\$/ton)” as handling costs for CCR stored in a landfill at each station for each CCR type.
5. Define “CCR Production (tons)” as the Companies’ CCR production forecast from a previous PROSYM run.
6. Calculate the “Net Value of CCRs (\$000)” using the inputs in the previous 5 steps.
7. Moving to the right of the attachment, in the same rows as step 6, calculate “Net CCR Costs (cents/MMBtu)” based on the inputs in the previous 6 steps as well as the “Fuel Burn (GBtu)” forecast defined in the “FuelBurn” worksheet.
8. The resulting “Net CCR Costs (cents/MMBtu)” in columns W-AA of the “CCRVOM” worksheet are used as an adjustment to fuel costs for dispatch decisions in PROSYM.

Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

- d. See attached. Certain information is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

- e. The Companies assume that the specific emissions referenced in this question are SO₂, NO_x, and CO₂. For SO₂ emissions rates and removal rates, NO_x emissions rates, and SO₂ and NO_x emissions allowance prices, see the response to PSC 7-29 (Attachment 1, Tab “12-Emissions”). The following table shows CO₂ emissions rates.

Plant	Unit	CO₂ Emissions Rate (lb/MMBtu)
Cane Run	7	118
Dix Dam	1-3	NA
E.W. Brown	3	205.2
E.W. Brown	5	120
E.W. Brown	6	120
E.W. Brown	7	120
E.W. Brown	8	120
E.W. Brown	9	120
E.W. Brown	10	120
E.W. Brown	11	120
E.W. Brown	Solar	NA
Ghent	1	205.2
Ghent	2	205.2
Ghent	3	205.2
Ghent	4	205.2
Haefling	1-2	150
Mill Creek	1	205.2
Mill Creek	2	205.2
Mill Creek	3	205.2
Mill Creek	4	205.2
Ohio Falls	1-8	NA
Paddy's Run	12	150
Paddy's Run	13	120
Trimble County	1	205.2
Trimble County	2	205.2
Trimble County	5	120
Trimble County	6	120
Trimble County	7	120
Trimble County	8	120
Trimble County	9	120
Trimble County	10	120
Zorn	1	150

- f. The Companies assume that the “VOM” referenced in this question is related to variable operation and maintenance costs.

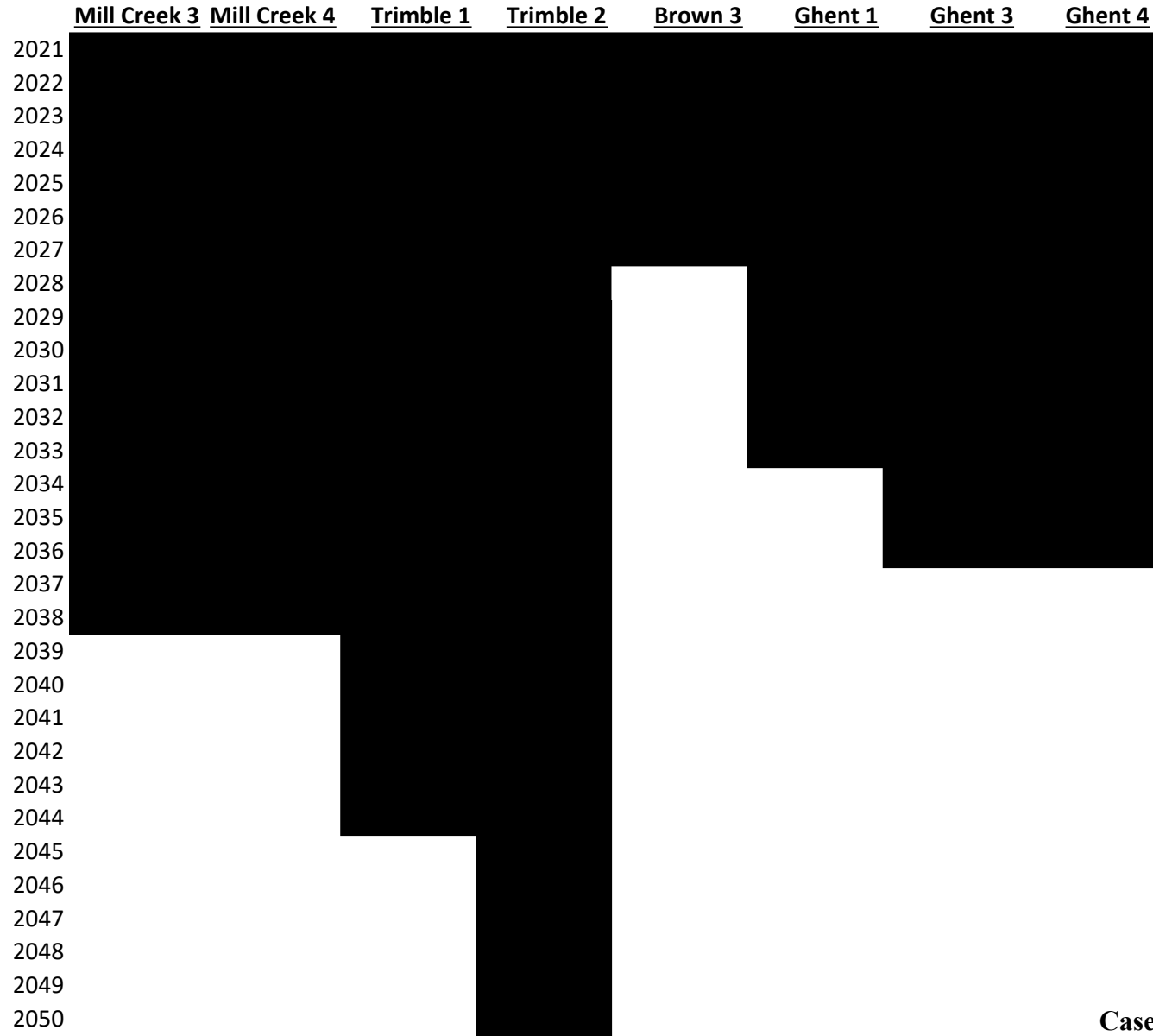
The dispatch cost of a marginal unit represents the incremental cost of the highest cost 1 MW of all units generating in that hour. It is not necessarily the same as the avoided energy costs for a given hour because more than 1 MW can be avoided by renewable generation. An avoided energy amount greater than 1 MW could avoid generation on several units, rather than just the marginal unit, and could avoid generation at decreasing levels of incremental cost with each MW of generation avoided. The Companies' dispatch costs in PROSYM and all avoided cost calculations include costs for variable operation and maintenance, fuel, and emissions allowances in all analyses presented in these proceedings. Note that this approach to calculating avoided energy cost is consistent with how the Companies bill customers under the Fuel Adjustment Clause. The Companies do not bill customers for all MWh supplied in an hour based on the highest cost unit that ran in that hour, but rather on the actual costs of all the units that ran to supply the needed energy.

The attachment is being provided in a separate file in Excel format.

8034 Liquid Injection Chemical - Baghouse Mercury Removal (\$/MWh)

	<u>Mill Creek 3</u>	<u>Mill Creek 4</u>	<u>Trimble 2</u>	<u>Brown 3</u>	<u>Ghent 1</u>	<u>Ghent 3</u>
2021						
2022						
2023						
2024						
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2031						
2032						
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2049						
2050						

Ammonia - SCR NO_x Removal (\$/MWh)



Hydrated Lime - SO3/Sulfuric Acid Mist Abatement (\$/MWh)

	<u>Mill Creek 1</u>	<u>Mill Creek 2</u>	<u>Mill Creek 3</u>	<u>Mill Creek 4</u>	<u>Trimble 1</u>	<u>Trimble 2</u>	<u>Brown 3</u>	<u>Ghent 1</u>	<u>Ghent 2</u>	<u>Ghent 3</u>	<u>Ghent 4</u>
2021											
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2023											
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2050											

Limestone - FGD SO₂ Removal (\$/MWh)

	<u>Mill Creek 1</u>	<u>Mill Creek 2</u>	<u>Mill Creek 3</u>	<u>Mill Creek 4</u>	<u>Trimble 1</u>	<u>Trimble 2</u>	<u>Brown 3</u>	<u>Ghent 1</u>	<u>Ghent 2</u>	<u>Ghent 3</u>	<u>Ghent 4</u>
2021											
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Powdered Activated Carbon - Baghouse Mercury Removal (\$/MWh)

	<u>Mill Creek 1</u>	<u>Mill Creek 2</u>	<u>Brown 3</u>	<u>Ghent 2</u>	<u>Ghent 4</u>
2021					
2022					
2023					
2024					
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2026					
2027					
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2029					
2030					
2031					
2032					
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2050					

Process Water System Chemicals (\$/MWh)

Includes hydrochloric acid, hydrated lime, polymer, organosulfide, and ferric chloride

	<u>Mill Creek 1</u>	<u>Mill Creek 2</u>	<u>Mill Creek 3</u>	<u>Mill Creek 4</u>	<u>Trimble 1</u>	<u>Trimble 2</u>	<u>Brown 3</u>	<u>Ghent 1</u>	<u>Ghent 2</u>	<u>Ghent 3</u>	<u>Ghent 4</u>
2021											
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LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 11

Responding Witness: David S. Sinclair

- Q-11. Refer to the Supplemental Sinclair Testimony, Exhibit DSS-2, page 7, footnote 6.
- a. Provide the direct link or hard copy for the specific spreadsheet(s) from National Renewable Energy Laboratory's 2020 Annual Technology Baseline that supply the CT capital and fixed operating costs.
 - b. Specify which CT technology and scenario the Companies used and why (ex: high/medium/low CF, advanced/moderate/conservative, etc.)
- A-11.
- a. See the response to PSC 7-32(a).
 - b. Because the capital costs and fixed O&M assumptions were the same among all of NREL's Gas CT alternatives, it was not necessary for the Companies to use a specific CT technology or scenario.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 12

Responding Witness: John K. Wolfe

- Q-12. Refer to the Supplemental Testimony of John K. Wolfe (Supplemental Wolfe Testimony), pages 1–3, where Mr. Wolfe outlines the conceptual framework for avoided distribution capacity costs. Provide the following:
- a. All state commissions that have adopted a similar framework for determining avoided distribution capacity costs with line citations to support your claim; and
 - b. All literature and reports that supports the conceptual framework.
- A-12. The cited portion of Mr. Wolfe's testimony does not make a "claim"; rather, it provides a common-sense conceptual framework the Companies believe is helpful if the goal is to discern genuinely avoidable distribution capacity costs. The Companies are not aware of another state commission that has adopted a similar framework, though they have not attempted to conduct a review of other states' regulations or commission orders on the subject. Similarly, the Companies are not aware of any literature or reports that support the framework, though they have not attempted to conduct a review of literature and reports on the subject. Rather, it is the Companies' view that if there are no discernable distribution capacity savings resulting from NMS-2 customers' projected energy exports, then the avoided distribution capacity cost component of NMS-2 compensation rates should be zero.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 13

Responding Witness: John K. Wolfe

- Q-13. Refer to Supplemental Wolfe Testimony, page 3, lines 5–7. Identify the benefits/savings that are “likely eliminated” by limiting distributed energy resources (DER) penetrations on line sections. Provide all research LG&E has undergone studying these benefits and how to realize them for ratepayers.
- A-13. As noted in the Supplemental Wolfe Testimony, the Companies believe that the Kentucky Public Service Commission’s current Net Metering Interconnection Guidelines were drafted to ensure net metering would have no appreciable impact on the distribution system.

This was confirmed in Mr. Wolfe’s Supplemental Rebuttal Testimony filed on August 5, 2021 (see Attachment JKW-1). Through modeling, the Companies have shown that even with DER penetrations in excess of 15% on a line section, there are no financial savings related to capacity expansion. It would take significantly higher DER penetrations on a circuit or substation transformer to produce measurable results. Furthermore, there is a potential for some cost increases due to the need for larger service transformers when DER is installed. Based on DER interconnections currently on the Companies’ distribution system and forecasted growth, it is unlikely that these localized penetration levels would be reached before the Companies’ aggregate net metering capacity reaches 1% of the annual peak load as limited by KRS 278.466(1).

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 14

Responding Witness: John K. Wolfe

- Q-14. Refer to Supplemental Wolfe Testimony, page 4, lines 3–8. Provide the incremental kW or MWs that were analyzed. Provide all references that are available that support the incremental kW or MW evaluated was in line with best practice.
- A-14. Supplemental Wolfe Testimony, page 4, lines 3-8 discusses the actual and planned capacity-based investment projects for the distribution system which were reviewed to identify any that have been or could be avoided due to net metering resources interconnected or forecasted to be interconnected to the distribution system during the associated planning horizon. For the purposes of assessing avoided-capacity based investments, the Companies reviewed capacity-based projects completed between 2016 and 2020 and planned between 2022 and 2025. The incremental MWs analyzed were 89.6MW for LG&E and 344.9MW for KU. See the responses to Question No. 16 and Question No. 17.

The processes by which the Companies identify capacity-based problems and assess alternatives to address them are based on good utility practices, some of which are highlighted in the Companies' Distribution System Guidelines provided as an attachment to PSC 5-16. These guidelines reflect methods and technical analysis practiced by a significant portion of the electric industry, and are consistent with good business practices, reliability, safety, and expediency.

The Companies' distribution engineers are routinely charged with identifying, forecasting, and solving problems on the electric delivery system in a safe, compliant, reliable, and least cost manner. Capacity-based corrections on the system generally involve step changes in load characteristics over a period of time. The Companies' engineers closely monitor the performance of substation transformers and circuitry year-to-year, and they routinely assess opportunities to enhance operational efficiency and reduce constraints or congestion on the system. Whenever a substation transformer actually experiences or is forecasted to experience peak loads greater than 90% of its nameplate rating, specialized planning engineers begin to monitor the transformer and develop potential solutions to reduce the load on the transformer or invest in capacity-based plant additions. Generally, small increments in load change from year to year do not

result in the need to expand capacity. Alternative solutions, such as switching load, can be typically deployed to avoid capital expansion investments.

To this point, the Companies have experienced very modest growth in distributed generation behind customer meters. As of June 2021, only 1,672 net metering customers with 16.5MW of nameplate capacity were interconnected to the electric distribution system. This represents only approximately 0.17% of the Companies' total customers and 0.13% of the actual substation transformer capacity on the distribution system.

To further illustrate the relationship of current and forecasted distributed net metering generation to the Companies' distribution system, please see the attachment being provided in Excel format, which is an analysis of distribution substation transformers forecasted to experience loadings at 90% of their nameplate rating before 2031. This analysis compares peak load forecasts for each substation transformer with and without projected net energy export contributions from net metering customers' generating facilities interconnected behind each substation transformer. The analysis assumes continued growth of net metering resources through the distribution planning horizon, resulting in exceedance of the existing statutory cap of 1% by 2027, which is an assumption consistent with the projected growth rate of net metering if NMS-1 were to remain in effect for all current and future net metering customers (see the response to PSC 2-108). The analysis further assumes Mr. Barnes's solar capacity factor of 58.14%,⁵ and it assumes 40% of that capacity will be available for export at the time of each substation transformer's peak based on information from the national Solar Energy Industries Association.⁶ In other words, the analysis assumes the contribution of net metering customers' exports offset load on each substation transformer is 23.26% of the AC nameplate rating of interconnected net metering generation resources (note that $58.14\% \times 40\% = 23.26\%$).

The results of the analysis fully support the Companies' conclusion that current and forecasted energy exports from net metering customers will not influence any changes to the Companies' distribution capacity decisions within the current planning horizon as long as the existing statutory 1% cap is in place. For LG&E and KU-Winter peaking substation transformers, the analysis shows that even with significant distributed generation growth through 2031, well beyond the 1% statutory cap, no changes in distribution capacity-based decisions would occur. For KU-summer peaking units, three substation transformer units would require a slightly accelerated correction decision, but only after the existing 1% cap thresholds were well exceeded.

⁵ See Barnes Rebuttal Testimony at line 19 of page 6 through line 2 of page 7.

⁶ See Solar Energy Industries Association website at <https://www.seia.org/initiatives/net-metering> ("On average, only 20-40% of a solar energy system's output ever goes into the grid, and this exported solar electricity serves nearby customers' loads.").

Note that the analysis does not take into consideration any effects of the Companies' planned Conservation Voltage Reduction program introduced as part of its Advanced Metering Infrastructure initiative. The program will reduce customer energy use and likely extend the period before net metering resources start influencing capacity-based investment decisions on the LG&E and KU distribution systems.

The attachment is being provided in a separate file in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 15

Responding Witness: John K. Wolfe

- Q-15. Refer to Supplemental Wolfe Testimony, in general. Discuss whether and, if so, how LG&E has attempted to influence the location of DERs on the distribution system. Provide support documentation.
- A-15. No, the Company has not attempted to influence the location of net metering customer-generators' eligible electric generating facilities, which are the "DERs" to which the Company assumes this request intends to refer.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 16

Responding Witness: John K. Wolfe

Q-16. Refer to Supplemental Wolfe Testimony, in general. Provide the actual capacity-related distribution costs in total and by distribution system planning region for most recent five calendar years. For each year, provide the quantity of distribution system capacity increased in total and by distribution system planning region.

A-16.

Distribution Capacity Projects	2016	2017	2018	2019	2020
LG&E- Capacity Investments (\$ in Thousands)	6,386				
LG&E- Capacity (MW)	44.8				
KU- Capacity Investments (\$ in Thousands)		2,630	13,802	11,653	75
KU- Capacity (MW)		36.4	97	52.7	

Note: The 2020 added capacity value for KU is zero because associated plant assets will not be placed in service until 2021.

As noted in John Wolfe's Supplemental Rebuttal Testimony the eight substation transformers the Companies' placed in service from 2016 through 2020 due to load growth:

- Two of the new transformers were placed on circuits with zero connected NMS customers;
- None of the new transformers have connected NMS nameplate capacity greater than 1% of the transformer rating; and
- The highest ratio of connected NMS resources to one of the new distribution substation transformers is 0.54%

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 17

Responding Witness: John K. Wolfe

Q-17. Refer to Supplemental Wolfe Testimony, in general. Provide the forecasted capacity-related distribution investments in total and by distribution system planning region for the next ten years. For each year, provide the quantity of distribution system capacity increases in total and by distribution system planning region.

A-17.

Forecasted Distribution Capacity Projects	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
LG&E- Capacity Investments (\$ in Thousands)		3,200	2,700		1,215	1,252	1,289	1,328	1,368	1,409
LG&E- Capacity (MW)			44.8							
KU- Capacity Investments (\$ in Thousands)	7,261	9,705	8,357	2,024	6,545	6,741	6,943	7,152	7,366	7,587
KU- Capacity (MW)	46.4	22.4	74.6	15.4						

Notes:

1. The 2023 added capacity value for LG&E is zero because linked plant assets will not be placed in service until 2024.
2. Distribution's most recent completed business plan term is 2021 – 2025. All funding shown for this period reflects budgeted estimates for planned capacity-based projects. Funding indicated for years 2026 – 2031 reflect the most-recent five-year average escalated at 3% per annum.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 18

Responding Witness: John K. Wolfe

- Q-18. Refer to Supplemental Wolfe Testimony, in general. Provide a categorization framework or decision tree showing how specific types of distribution projects are categorized within LG&E's distribution system planning (or other) process (e.g., non-capacity related, customer driven, asset health, etc.).
- A-18. See attached.

**Electric Distribution Operations
Capital Investment Project Framework
2021-2025 Business Plan**

Introduction

Electric Distribution Operations (EDO) categorizes investments and expenses under five strategic categories for budgeting and accounting purposes:

- Connect New Customers
- Enhance the Network
- Maintain the Network
- Repair the Network
- Miscellaneous

Each category is further subdivided into groupings, based on investment or expense type. Under each grouping, unique ***project*** and ***blanket*** account numbers are assigned to enable budgeting and cost accounting at needed, yet practical, levels.

- Proposed projects are evaluated and prioritized in the Asset Investment Strategy (AIS) financial model and ranked using a benefit to cost methodology. Key components of the evaluation include capacity to serve, reliability and cost impacts. Key strategic projects/programs such as the Pole Inspection and Treatment Program (PITP), Aging Infrastructure (AI) programs, Reliability and Resiliency Improvement Plans, and Capacity Enhancements are included in the model and may be classified as either non-discretionary or discretionary for evaluation purposes based on their strategic value. A technical review team of subject matter experts from various functional areas of EDO reviews and validates predetermined key metrics for each proposed project before evaluating its priority and deciding whether to include it in EDO's proposed capital plan. The final Business Plan is developed following iterative reviews with senior leadership and Accounting and adjusting projects and priorities where necessary to balance operational needs and Corporate financial targets.
- Blanket accounts are used to budget and account for routine, short cycle, high-volume work types. Blanket spend is monitored, analyzed and trended using a combination of financial and volumetric measures, applicable area economic indicators, and detailed input from area operational managers. Key information, with consideration for known influences on historical trends, is used to develop annual budget allocations for each strategic category.

Connect New Customers

EDO's *Connect New Customer* category consists of project accounts which allocate funding for extending and adding electric facilities to serve new customers.

- **New Business – Commercial/Industrial** – capital funding budgeted for annual plant additions needed to serve new commercial and industrial customers.

- **New Business – Residential** – capital funding budgeted for annual plant additions needed to serve new residential customers.
- **New Business – Subdivisions** – capital funding budgeted for annual plant additions to serve new subdivisions or subdivision expansions.
- **New Business – Services** – capital funding budgeted for installing and connecting new overhead and underground temporary and permanent services lines.
- **New Business – Street Lighting** – capital funding budgeted for installing and connecting new streetlights.
- **New Business – Network Vaults** – capital funding budgeted for plant additions needed to serve new customers and load in the LG&E low-tension network.
- **New Business – Line Transformers** – capital funding budgeted for line transformers.

Funding allocated in the 2021-2025 capital plan for connecting new customers is shown in Table 1.

2021-2025 Capital Allocation (\$000)					
	2021	2022	2023	2024	2025
DIST OPER-CONNECT NEW CUSTOMER	\$ 70,138	\$ 69,006	\$ 71,023	\$ 73,149	\$ 75,341
NEW BUSINESS COMMERCIAL/INDUSTRIAL	\$ 15,982	\$ 15,982	\$ 15,982	\$ 15,982	\$ 15,982
NEW BUSINESS RESIDENTIAL	\$ 15,246	\$ 15,246	\$ 15,246	\$ 15,246	\$ 15,246
NEW ELECTRIC SERVICES	\$ 11,468	\$ 11,468	\$ 11,468	\$ 11,468	\$ 11,468
NEW BUSINESS SUBDIVISION	\$ 3,856				
NEW BUSINESS/STREET LIGHTING	\$ 6,626	\$ 6,955	\$ 7,163	\$ 7,381	\$ 7,602
NEW NETWORK VAULTS	\$ 2,030	\$ 2,132	\$ 2,196	\$ 2,261	\$ 2,329
TRANSFORMERS	\$ 14,929	\$ 15,399	\$ 15,807	\$ 16,278	\$ 16,767

Table 1. Connect New Customers capital budget, 2021 Business Plan

Enhance the Network

The *Enhance the Network* category is used to budget and account for major and minor system investments needed to satisfy demand, improve system reliability and resiliency, relocate infrastructure, and construct customer requested projects. Funding allocated in the 2021 Business Plan under this category is shown in Table 2.

2021-2025 Capital Allocation (\$000)					
	2021	2022	2023	2024	2025
DIST OPER-ENHANCE THE NETWORK	\$ 80,480	\$ 61,367	\$ 57,586	\$ 51,859	\$ 46,881
CIRCUIT HARDENING/RELIABILITY	\$ 29,561	\$ 15,288	\$ 18,078	\$ 16,206	\$ 16,965
CUSTOMER REQUESTED PROJECTS	\$ 1,969	\$ 2,036	\$ 2,010	\$ 2,073	\$ 2,136
PUBLIC WORKS PROJECTS	\$ 3,058	\$ 3,058	\$ 3,058	\$ 3,058	\$ 3,058
SYS ENHANCE FOR EXISTING CUST	\$ 44,791	\$ 40,879	\$ 34,298	\$ 30,268	\$ 24,368
LAND	\$ 1,100				

Table 2. Enhance the Network capital budget, 2021-2025 Business Plan

Projects and blankets under the **circuit hardening/reliability grouping** include distribution automation, customers experiencing multiple interruptions, circuits identified for improvement, system hardening, wildlife protection, and operating center reliability blankets.

- **Distribution Automation** – project includes remaining budget allocated for plant investments needed to complete the distribution automation program in which LG&E and KU received Certificate of Public Convenience and Necessity (CPCN) authority from the Kentucky Public Service Commission in July 2017. The three primary components of the Companies’ approved \$112M, seven-year, DA program include:
 1. Installation of supervisory control and data acquisition (“SCADA”) capable electronic reclosers;
 2. Implementation of distributed SCADA (“DSCADA”) software to monitor and communicate with those reclosers; and,
 3. Deployment of a Distribution Management System (“DMS”) that interfaces with the DSCADA system to provide intelligent control over the electronic reclosers.
- **Customers Experiencing Multiple Interruptions** – budget allocated for planned reliability improvement investments targeted for circuits with customers experiencing multiple interruptions (CEMI) during a prescribed period and at a prescribed frequency. Annual allocations vary by plan cycle based on the number of circuits impacted and by actual circuit performance across both utilities.
- **Circuits Identified for Improvement** – project classification covers reliability improvement investments that are prioritized based on all circuit’s 5-year average SAIFI performance. CIFI circuit improvements include updating line protective coordination and targeted aging asset replacements where reliability is negatively impacted. Annual funding allocations vary based on the number of circuits targeted, scope of investments needed for targeted circuits, and relative circuit performance across both utilities.
- **Circuit Hardening** – budget provides for distribution lines rear easement hardening, conductor upgrades, and circuit relocations. Generally, rear easement hardening covers the rehabilitation or relocation of older, storm sensitive overhead lines in difficult to maintain rear easements where they have demonstrated poor reliability or storm performance. Aspects of this program include replacement of undersized and/or defective small wire, stronger and/or taller poles, selective undergrounding, storm guying, elimination of secondary, replacement of aged and defective equipment, and/or relocations of lines to less problematic areas. System hardening projects are prioritized based on AIS rankings. Circuit hardening projects are prioritized based on each candidate circuit’s five-year conductor failure/outage history.
- **Wildlife Protection** – project provides for adding wildlife protection to targeted distribution assets to prevent/reduce outages and equipment damage caused by wildlife contact.
- **Reliability Improvement Blankets and Planned Projects** – provides funding across the plan period for operations centers engineers to address abrupt downturns in reliability performance of distribution components and complete planned reliability improvement projects.

Projects and blankets under the **public works** grouping budget and account for plant investments needed to relocate overhead and underground electric facilities as requested/required by state and local government, where needed to accommodate roadway widenings or other projects under their jurisdiction.

Projects and blankets under the **customer requested projects** grouping include plant investments needed to relocate electric facilities as requested by customers to accommodate new construction, establish necessary horizontal and vertical clearances, underground overhead facilities, relocate infrastructure, etc.

Projects and blankets under the **system enhancements for existing customers** grouping include plant additions for substation contingency, major substation and circuit work projects, SCADA expansion, and operating centers’ system enhancement blankets.

Enhance the Network	2021	2022	2023	2024	2025
System Enhancements To Meet Demand	\$ 37,992	\$ 32,878	\$ 28,898	\$ 27,368	\$ 21,168
System Enhancements - Operations Centers Blankets	\$ 3,277	\$ 3,396	\$ 3,427	\$ 3,520	\$ 3,625
Substation Transformer Contingency Program	\$ 12,001	\$ 9,703	\$ 11,301	\$ 7,500	\$ 7,900
Major Substation and Circuit Work Projects	\$ 22,410	\$ 19,469	\$ 13,852	\$ 16,021	\$ 9,307
Distribution Capacitors - For Transmission	\$ 304	\$ 310	\$ 318	\$ 327	\$ 336

Table 3. System Enhancements to Meet Demand

- **Substation Transformer Contingency Program** – project allocates funding for EDO’s substation transformer contingency program, which targets large, high impact substations in a priority rank order and ties with substation/circuit upgrades, capacity additions and enhancements at critical substations for the purpose of adding contingency for substation transformer failures and outages.

Targeted substations are stations where large numbers of customers or critical loads will be without service for extended periods of time during transformer failures/outages due to lack of contingency from area stations. This initiative is separate from capacity additions to serve existing customers although identified solutions have potential to address near term loading issues in addition to contingency.

Substation transformer contingency projects include in the 2021-2025 business plan are listed in Table 4:

Substation Transformer Contingency Projects	2021	2022	2023	2024	2025
N-1 DIST XFMR LONDON NORTH SUB					\$ 2,500
N-1 DIST XFMR SHVER CHAPEL SUB				\$ 1,000	
N1DT CENTERFIELD SUB TRANS	\$ 973				
N1DT CENTERFIELD/RUSSELL CW	\$ 2,132				
N1DT CENTERFIELD/RUSSELL SUB	\$ 1,139				
N1DT Dixie Sub CW				\$ 600	
N1DT Dixie Substation			\$ 2,800	\$ 2,800	
N1DT FLOYD CW			\$ 1,300		
N1DT HARRODSBURG CW		\$ 683	\$ 328		
N1DT HARRODSBURG SUBSTATION		\$ 2,619	\$ 2,672		
N1DT HOOVER CW	\$ 1,300	\$ 1,000			
N1DT HOOVER SUBSTATION	\$ 3,567	\$ 5,401			
N1DT Middlesboro 2 4kV 780_1	\$ 792				
N1DT Middlesboro 2 Area Sub	\$ 155				
N1DT Middlesboro Area Sub	\$ 1,942				
N1DT MUD LANE CW				\$ 1,500	
N1DT MUD LANE SUBSTATION			\$ 4,200	\$ 1,500	
N1DT SEMINOLE SUB					\$ 4,400
N1DT STR London N Dist					\$ 1,000
N1DT STR Shavers Chapel				\$ 100	

Table 4. Substation Transformer Contingency Program, 2021-2025 Business Plan

- **Major Substation and Circuit Work Projects**

Large, generally multiyear substation/circuit work projects are planned so that they can be completed in the year when the asset is forecasted to reach 95% - 100% of its “normal” seasonal operating limit. Also included are other enhancement projects that have demonstrated value.

The forecasted load of large substation capacity enhancements projects is based on a 10-year non-coincidental substation load forecast which is updated annually and includes known new loads. Projects can also be placed in the plan when substations and circuits are at risk of exceeding their “emergency” operating limits under extreme weather events (such as the Polar Vortex of 2014 and Artic Blast of 2015) or where projects have substantial reliability benefits. The number of major new projects varies across the plan due to expected load growth (from the forecast) and/or expected system improvement benefits. Projects in the outer years of the plan may be adjusted forward or backward in future business plans based on actual load growth, uncertainties, or other system developments.

Major Substation and Circuit Work projects included in the 2021-2025 Business Plan are included in Table 5. Projects highlighted in red text indicates projects which were initiated by Distribution Planning to add capacity to address actual or forecasted capacity constraints on the distribution system.

Major Substation and Circuit Work Projects	2021	2022	2023	2024	2025
CROFTON TXFMR UPGRADE	900	760			
DSP Ashbottom Sub			3,200	2,700	
DSP BEECHMONT SUB UPGRADE	820				
DSP Detroit Harv 743-2 801	182				
DSP Detroit Hrvstr Sub Bkr	150				
DSP Fariston 0217 Recond				60	150
DSP Fariston 12KV				1,852	1,874
DSP Horse Cave Ind Exit Ckt				432	
DSP Horse Cave Industrial			2,483	2,613	
DSP IN-1296 CW	2,100				
DSP LaGrange Distribution		500	750		
DSP LaGrange Property	500				
DSP LaGrange Substation		2,618	2,672		
DSP Lakeshore Ckt 132 Blue Sky		1,240			
DSP Mannington Crofton	158	54			
DSP Mount Sterling Sub	2,793	2,702			
DSP Mt Sterling Sub - Dist	200	200			
DSP Pavilion Dr Distribution			600	600	
DSP Pavilion Dr Substation Pro	600				
DSP Pavilion Drive			3,200	2,800	
DSP Rogers Gap	1,971				
DSP Uniontown 4kv-12kv Dist	33				
DSP Uniontown Sub	1,916				
DSP Versailles 4kv to 12kv	250	50			
LGE SMAC 2017 Project	570				
MAGAZINE 4KV SWGR UPG	300	1,500			
Magazine Sub Upgrade Trans	2,002	848			
Magazine Substation Upgrade	2,608	4,512			
Magazine Substation Upgrade CW	2,002	848			
Manslick Substation Expansion			300	4,300	7,000
Paynes Mill Rd Sub/Dist/fds	300				
Rogers Gap Dist Ckt Exits	138				
SCM KU XFMR Cooling	100				
UPGRADE 14KV GND FAULT	360	369	378	388	
UPGRADE 14KV GND TRANSF	256	263	269	276	283
VERSAILLES 4KV SUB CONV	1,200	3,005			

Table 5. Substation Transformer Contingency Program, 2021-2025 Business Plan

- KU SCADA Expansion** – capital funding allocated to expanding SCADA capabilities to KU substations. The project was initiated during 2018, when only approximately 20% of circuits in the KU service territory were equipped with SCADA connectivity - accounting for approximately 30% of KU customers (including ODP). The expansion of SCADA capabilities in KU substations allows distribution system operations to have the necessary information to identify outages and take remedial measures in those substations in real time.

Maintain the Network

The *Maintain the Network* category is used to budget and account for plant investments needed to maintain the condition of the electric delivery system, replace failed or defective substation and line

equipment, and address aging infrastructure. Funding allocated in the 2021 Business Plan under this category is shown in Table 6.

2021-2025 Capital Allocation (\$000)					
	2021	2022	2023	2024	2025
DIST OPER-ENHANCE THE NETWORK	\$ 80,480	\$ 61,367	\$ 57,586	\$ 51,859	\$ 46,881
AGING INFRASTRUCTURE	\$ 34,736	\$ 14,524	\$ 16,705	\$ 13,507	\$ 10,742
CAP/RECLOSER MAINTENANCE	\$ 2,672	\$ 2,060	\$ 1,261	\$ 1,298	\$ 1,336
POLE TREATMENT	\$ 13,026	\$ 13,416	\$ 13,818	\$ 14,173	\$ 14,528
REPAIR/REPLACE DEFECTIVE STREET LIGHTING	\$ 9,512	\$ 9,762	\$ 9,876	\$ 10,115	\$ 10,418
REPAIR/REPLACE POLES	\$ 12,152	\$ 12,547	\$ 12,739	\$ 13,120	\$ 13,513
REPAIR REPLACE DEFECTIVE EQUIPMENT	\$ 17,956	\$ 15,170	\$ 12,793	\$ 13,131	\$ 13,481
SUBSTATION MAINTENANCE	\$ 4,009	\$ 4,115	\$ 4,217	\$ 4,316	\$ 4,429
VAULT MAINTENANCE	\$ 1,420	\$ 1,469	\$ 1,496	\$ 1,541	\$ 1,587

Table 6. Enhance the Network capital budget, 2021 Business Plan

Projects and blankets under the **aging infrastructure** grouping include plant investments to address aging infrastructure. Associated projects are driven by asset age, quantity in service, failure data, field experience, equipment specialty knowledge, and industry best practices. O&M considerations include cost to maintain, availability of spare parts, and environmental considerations. Targeted assets are typically beyond their life expectancy and/or are experiencing declining reliability performance and unacceptable risk. Major projects designated under this grouping for the 2021 Business Plan include:

- Substation Relay Replacement Upgrade
- Substation Circuit Breaker Replacements
- Paper Insulated Lead Cable Replacement
- Network Vent Type Protector Replacement
- Manhole Structural Repairs
- Substation - Underground Exit Cable Replacement
- Network Vault Structures and Tops Repair and Replacement

Projects and blankets under the **capacitor and recloser maintenance** grouping budget capital for plant investments needed for reactive repair and replacement of capacitors, regulators, and reclosers where necessary on the distribution system based on asset condition.

Capital allocated under the **pole treatment** project provides for a systematic and focused approach to prolonging the service life of distribution poles through a pole-by-pole inspection and assessment, and execution of condition based corrective actions where deficiencies are identified. Potential corrective actions include preservative retreatment, pole reinforcement, or pole replacement.

Blankets under the **repair/replace defective streetlights** grouping allocate capital funding to cover reactive maintenance, repair and replacement of street lighting bulbs, photo-controls, poles, and

conductor on the distribution system. Work is driven by system inspections, customer and public notifications, and abnormal operating conditions.

Projects and blankets under the **repair/replace poles** grouping account for maintenance, repair or replacement of distribution poles. Associated investments provide for pole replacement, bracing, or reinforcement based on pole condition derived from general system inspections, follow up work from repairs, or notification from internal and external reports.

Projects and blankets under the **repair/replace defective equipment** grouping cover the cost of planned and reactive repair and replacement of overhead and underground distribution lines and equipment. Work is driven by system inspections, customer and public notifications, abnormal operating conditions, and work to support the transmission system. Major projects under this category include transmission line clearance and pad-mounted switchgears.

Projects and blankets under the **substation maintenance** grouping allocate capital funding for planned and reactive repair and replacement of defective substation equipment at each substation operations center. Projects include replacement of failed equipment that cannot be effectively repaired, wildlife protection at unprotected stations, upgrades for compliance (NESC, cooling fans, oil containment capital repairs), buildings and grounds repairs, and minor improvements to reduce future maintenance/repair (transformer oil filtration, addition of lightning protection), and purchase/maintenance of portable equipment needed to temporarily maintain or restore service when other equipment fails or is out of service due to maintenance activities.

Blankets under the **vault maintenance** grouping allocate capital funding for reactive repairs and replacement of defective or aging electric vault equipment and structures serving the downtown Louisville business district.

Repair the Network

Distribution’s *Repair the Network* category is used to budget and account for plant investments needed to repair the distribution system and restore service when system damages and customer outages occur due to weather, natural disasters, interference from third parties, wildlife or vegetation, and equipment failure. Funding allocated in the 2021 Business Plan under this category is shown in the Table 7.

	2021-2025 Capital Allocation (\$000)				
	2021	2022	2023	2024	2025
DIST OPER-REPAIR THE NETWORK	\$ 18,584	\$ 19,169	\$ 19,430	\$ 19,991	\$ 20,560
REPAIR THIRD PARTY DAMAGE	\$ 1,934	\$ 2,002	\$ 2,013	\$ 2,073	\$ 2,135
STORM RESTORATION	\$ 4,801	\$ 4,921	\$ 5,048	\$ 5,172	\$ 5,297
SUBSTATION TRANSFORMER REWINDS	\$ 3,333	\$ 3,433	\$ 3,535	\$ 3,642	\$ 3,752
SYSTEM RESTORATION NON WEATHER	\$ 8,517	\$ 8,813	\$ 8,834	\$ 9,104	\$ 9,376

Table 7. Repair the Network capital budget, 2021 Business Plan

Projects and blankets under the **storm restoration** grouping budget capital needed to restore the distribution grid following major and minor weather events or other natural disasters. Major and minor storms are assigned unique account numbers when they occur, to enable accurate accounting of all costs required to restore the system and customer service. Minor weather events are tracked under blankets assigned to each operations center.

Blankets under the **repair third party damage** grouping budgets capital needed to restore the distribution system damage resulting from third parties. Examples include damages resulting from struck by vehicles or equipment, dig-ins, and vandalism.

Blankets under the **system restoration non-weather** grouping budgets capital needed to restore the distribution system and customer outages resulting from routine trouble. Examples include investments needed to repair or replace assets due to damages resulting from failed equipment, downed trees, wildlife interference, and vandalism.

Blankets under the **substation transformer rewinds** grouping budgets capital needed to repair/rewind substation transformers following in-service failure.

Miscellaneous

Distribution’s *Miscellaneous* budget category is comprised of various capital projects not directly associated with connecting new customers or enhancing, maintaining or repairing the network. The Miscellaneous category consists of projects to address special needs when necessary, but primarily budgets and accounts for tools, equipment, hardware, and vehicle investments. Funding allocated in the 2021 Business Plan under this category is shown in Table 8.

2021-2025 Capital Allocation (\$000)					
	2021	2022	2023	2024	2025
DIST OPER-MISCELLANEOUS	\$ 2,214	\$ 1,912	\$ 1,535	\$ 1,592	\$ 1,357
HARDWARE	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300
TOOLS AND EQUIPMENT	\$ 1,914	\$ 1,612	\$ 1,235	\$ 1,292	\$ 1,057

Table 8. Miscellaneous capital budget, 2021-2025 Business Plan

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 19

Responding Witness: Elizabeth J. McFarland

- Q-19. Refer to the Supplemental Testimony of Beth McFarland. For the most recent five calendar years available, provide the \$/MW-year rates for firm point-to-point transmission service within the Company's applicable open access transmission tariff (OATT). Provide the source documents in native format and where applicable, provide in Excel spreadsheet format with all rows, columns, and formulas unprotected and fully accessible.
- A-19. See attachments being provided in Excel format. LG&E and KU's joint firm point-to-point transmission service rates are updated annually and are effective from June 1 through May 31 of the following year. Corrections or updates to the rates are trued up in accordance with LG&E and KU's Formula Rate Protocols (Exhibit I of Attachment O under the OATT). As such, "as filed" and "as revised" rates are provided where applicable. The following rates were in effect during the most recent five calendar years.

<u>Effective Date</u>	<u>Firm PTP Rate (\$/MW-year)</u>	
	<u>As Filed</u>	<u>As Revised</u>
June 1, 2016	\$20,195	
June 1, 2017	\$22,278	
June 1, 2018	\$23,771	
June 1, 2019	\$24,437	\$24,255
June 1, 2020	\$27,272	\$27,279
June 1, 2021	\$33,929	

The attachments are
being provided in
separate files in Excel
format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 20

Responding Witness: David S. Sinclair

- Q-20. Refer to LG&E's response to the Attorney General and Kentucky Industrial Utility Customers (KIUC) First Request for Information, Item 172, Attachment 2. Also refer to the Supplemental Sinclair Testimony, Exhibit DSS-1. Provide equivalent support for the 2021 updated avoided energy costs that now differ by generating technologies in Excel spreadsheet format with all rows, columns, and formulas unprotected and fully accessible. Ensure that the equivalent spreadsheet includes at least as much detail as contained in response to Item 172, confidential attachment 2.
- A-20. See the response to PSC 7-29 in which the Companies provided an example of the avoided energy cost calculation for one MW for one year in addition to the results of a data-intensive process performed using SAS that showed the avoided energy cost of each avoidable MW on an hourly basis for 2022-2045 for each renewable technology type. To further demonstrate the full calculation of avoided energy costs, the Companies are providing a set of 96 attachments. Each attachment shows the full calculation of hourly avoided energy costs for one of each of the years between 2022 and 2045 and for one of each of the four renewable technologies. See attachments being provided in Excel format. The information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

The attachment is
Confidential and
provided separately
under seal in Excel
format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 21

Responding Witness: David S. Sinclair

- Q-21. Refer to the May 14, 2021 Order in Case No. 2020-00174,⁸ Appendix B. Calculate LG&E's avoided cost of carbon using the same methodology that the Commission used in that Order, using the most recent available data for LG&E, and providing references for each input. Provide all workpapers used for the calculation.
- A-21. See attachment being provided in Excel format. The CO₂ price forecast reflects the "High" CO₂ price forecast from the Companies' 2018 IRP.⁹ The CO₂ emissions forecast reflects the emissions from the Companies' existing and potential replacement units. The net load forecast reflects the energy requirements forecast from the Companies' 2021 Business Plan. The discount rate reflects the Companies' weighted average cost of capital, the components of which are shown on page 16 of Exhibit LEB-2.

⁸ Case No. 2020-00174, Electronic Application of Kentucky Power Company for (1) A General Adjustment of Its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) Approval of a Certificate of Public Convenience and Necessity; and (5) All Other Required Approvals and Relief, (Ky. PSC May 14, 2021).

⁹ The "High" CO₂ price forecast was based on the Synapse Energy Economics Spring 2016 National Carbon Dioxide Price Forecast Low Case. The Companies' 2018 IRP also considered a "Zero" CO₂ price forecast based on the current regulatory status quo.

The attachment is being provided in a separate file in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 22

Responding Witness: David S. Sinclair

- Q-22. Refer to the Application, Tab 16, "Generation Forecast Process, Generation Planning & Analysis 2020," page 3, where it states that a generation forecast is prepared annually.
- a. Explain whether this forecast is used for the calculation of the avoided energy cost component as this is described in attachment DSS-1. If not, explain in detail each different input, assumption, and modeling constraint in the two forecasts.
 - b. Explain whether this same annual generation forecast is used for the fuel burn & fuel expense forecast that informs LG&E's fuel cost recovery filings. If not, explain in detail each different input, assumption, and modeling constraint in the two forecasts.
 - c. Refer to the generation forecast informing the avoided cost calculation as described in attachment DSS-1. Provide all the PROSYM input files containing the information described in Figure 1 of the Generation Forecast Process document (generation input files, fuel inputs, energy requirements, market Inputs, resource expansion plan, system constraints).
 - d. Explain whether the coal cost included in the dispatch decision in the PROSYM generation forecast includes the total coal cost as defined in each unit's coal supply agreement and the associated transportation agreement. If the coal cost as included in the dispatch decision for PROSYM is not equal to the CSA and transportation cost, explain how the two differ and why.
 - e. Provide all PROSYM output files including the generation forecast for each unit and the system's marginal price on an 8760 basis for all years simulated.
 - f. Provide a table with the forecasted generation in MWh, fuel consumption in MMBtu, and fuel expenses that LG&E seeks to recover per generating unit through the most recent fuel docket.

A-22.

- a. The process described in the “Generation Forecast Process” was applicable to the 2021 Business Plan, which is the basis for developing the avoided energy costs in Supplemental Exhibit DSS-1 with the following changes.
 - Off-system market sales were not considered in the development of the avoided energy costs to focus the analysis on the cost of serving native load customers.
 - The planned 100 MW Rhudes Creek solar PPA was included starting 1/1/2023.
- b. LG&E’s fuel adjustment clause filings are based on actual fuel costs, not forecasts. The following link is to the monthly fuel adjustment clause filings detailing LG&E’s actual fuel expenses:

LG&E Form A Filings:

<https://psc.ky.gov/Home/Library?type=FAC&folder=Louisville%20Gas%20%26%20Electric>

LG&E’s fuel adjustment clause operates pursuant to 807 Kentucky Administrative Regulation 5:056, which defines, *inter alia*, the costs that are recoverable and how the fuel factor is calculated. See also the response to part f and the response to PSC 6-13.

- c. See attached.
- d. The coal cost in PROSYM’s dispatch decision includes the contracted coal costs plus any forecasted open position coal costs for coal volumes that are not currently contracted. PROSYM’s dispatch decision includes only the variable transportation costs, exclusive of any fixed transport costs.
- e. See attached. The attached PROSYM file is a text file that is extremely large for the period requested on an hourly basis and is difficult to read. Therefore, the Companies have also attached an hourly generation forecast in Excel format. See attachment being provided in Excel format. For the system’s hourly marginal cost, see the response to PSC 7-29, Attachment 1, Tab “2_HourlyMarginalCosts”, Column “P”.
- f. See the response to part b. Although forecasted costs are not used to recover fuel costs, LG&E does do utilize forecasted data during its two-year examinations (see Section 3(4)(a) of 807 Kentucky Administrative Regulation 5:056) to analyze whether the current base fuel rate is at an

appropriate level or should be adjusted. LG&E's most recent two-year examination of the fuel adjustment clause⁹ can be accessed at the link below.

LG&E: <https://psc.ky.gov/Case/ViewCaseFilings/2021-00056>

⁹ Case No. 2021-00056, An Electronic Examination of the Application of the Fuel Adjustment Clause of Louisville Gas and Electric Company from November 1, 2018 to October 31, 2020, Question No. 22, (Ky. PSC March 4, 2021)

The attachment is being provided in a separate file in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 23

Responding Witness: David S. Sinclair

- Q-23. Explain whether LG&E has conducted any forward-looking research on the proportion of residential and commercial solar facilities that will be paired with energy storage. If yes, provide the research and supporting documents and spreadsheets. If no, explain why not and whether storage could impact the long-term value provided by customer-sited generation.
- A-23. The Companies have not performed research to assess the proportion of residential and commercial solar facilities that will be paired with energy storage. The Companies are aware of the ability of energy storage facility customer management of demand charges, shift consumption to off-peak periods, and provide back-up generation. From a generation planning perspective, energy storage is about moving energy around in time and is not needed to integrate the amount of renewables contemplated in these proceedings (i.e., up to 1,000 MW) assuming fossil fuel generation is still permissible. The Companies are evaluating energy storage as a peaking resource, and pairing energy storage with renewables reduces the value of energy storage as a peaking resource because it reduces the likelihood of it being charged when needed to serve load. The impact on the value of customer-sited generation to the homeowner of placing storage behind the customer meter would depend on factors such as the retail energy rate that could be avoided, the rate paid by other customers for energy produced to the grid, and time of day rate differentials that would encourage grid charging of the battery in off-peak periods. In general, the value of storage is enhanced by having a reliable, low-cost energy source for charging regardless of where on the grid the battery is located.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 24

Responding Witness: David S. Sinclair

- Q-24. Refer to the 2018 IRP. Confirm that the marginal capacity unit used in the IRP is an NGCC. If not, provide line citations within the IRP record to the determined marginal capacity unit.
- A-24. Not confirmed. See the response to PSC 7-38.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 25

Responding Witness: David S. Sinclair

- Q-25. Provide all PROSYM input files in Excel spreadsheet format with all rows, columns, and formulas unprotected and fully accessible.
- A-25. PROSYM files are text files as required by the PROSYM software. The Companies have transferred the text from the PROSYM files into Excel as requested. See the attachment being provided in Excel format. The data from each PROSYM file is shown on one of each of the tabs in the attachment. However, because the PROSYM text files are not spreadsheets, the data is not functional in Excel.

The attachment is being provided in a separate file in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 26

Responding Witness: Robert M. Conroy / David S. Sinclair

- Q-26. Provide all current coal supply agreements/contracts.
- A-26. See the response to PSC 6-13. All fuel contracts have previously been filed with the Commission pursuant to 807 KAR 5:056 and are available at the following link:

https://psc.ky.gov/PSC_WebNet/FuelContracts.aspx.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 27

Responding Witness: David S. Sinclair

- Q-27. Provide all projected annual costs associated with all CCR and steam electric effluent limitations guidelines (ELG) compliance projects for the expected lifetime of all of LG&E's coal plants.
- A-27. See attachment 1 for O&M and attachment 2 for Capital.

O&M

LG&E	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Mill Creek										
CCR	\$ (482,440)	\$ 41,300	\$ (192,716)	\$ 184,541	\$ 475,822	\$ 485,338	\$ 495,045	\$ 376,217	\$ 383,742	\$ 391,417
ELG	\$ -	\$ -	\$ -	\$ 1,644,148	\$ 3,441,759	\$ 3,510,594	\$ 3,580,806	\$ 2,721,290	\$ 2,775,715	\$ 2,831,230
Total Mill Creek	\$ (482,440)	\$ 41,300	\$ (192,716)	\$ 1,828,689	\$ 3,917,581	\$ 3,995,933	\$ 4,075,851	\$ 3,097,507	\$ 3,159,457	\$ 3,222,646
Trimble County										
CCR	\$ 1,773,099	\$ 1,921,384	\$ 2,915,512	\$ 2,995,479	\$ 3,101,980	\$ 3,164,019	\$ 3,227,300	\$ 3,291,846	\$ 3,357,683	\$ 3,424,836
ELG	\$ -	\$ -	\$ 669,718	\$ 1,388,151	\$ 1,438,670	\$ 1,467,444	\$ 1,496,792	\$ 1,526,728	\$ 1,557,263	\$ 1,588,408
Total Trimble County	\$ 1,773,099	\$ 1,921,384	\$ 3,585,229	\$ 4,383,630	\$ 4,540,650	\$ 4,631,463	\$ 4,724,092	\$ 4,818,574	\$ 4,914,945	\$ 5,013,244
Total LG&E										
CCR	\$ 1,290,659	\$ 1,962,684	\$ 2,722,796	\$ 3,180,020	\$ 3,577,802	\$ 3,649,358	\$ 3,722,345	\$ 3,668,063	\$ 3,741,424	\$ 3,816,253
ELG	\$ -	\$ -	\$ 669,718	\$ 3,032,299	\$ 4,880,429	\$ 4,978,038	\$ 5,077,599	\$ 4,248,018	\$ 4,332,978	\$ 4,419,638
Total LG&E	\$ 1,290,659	\$ 1,962,684	\$ 3,392,513	\$ 6,212,319	\$ 8,458,231	\$ 8,627,395	\$ 8,799,943	\$ 7,916,081	\$ 8,074,403	\$ 8,235,891

Notes:

- (1) -LG&E's Business Plan only includes five years of projected expenses. For projection purposes, a 2% escalator was added past 2025 with a percentage of expenses continuing the year a unit retires based on remaining units; using Summer Net MWs per unit as the basis for the ongoing percentage.
- (2) - The above costs include all CCR related items including beneficial reuse, process water systems (CCR Rule), and landfill operations and maintenance
- (3) - These costs include both base rate and ECR mechanism items.

O&M

LG&E	2031	2032	2033	2034	2035	2036	2037	2038	2039
Mill Creek									
CCR	\$ 399,245	\$ 407,230	\$ 415,374	\$ 423,682	\$ 432,155	\$ 440,799	\$ 449,615	\$ 458,607	
ELG	\$ 2,887,854	\$ 2,945,611	\$ 3,004,524	\$ 3,064,614	\$ 3,125,906	\$ 3,188,425	\$ 3,252,193	\$ 3,317,237	
Total Mill Creek	\$ 3,287,099	\$ 3,352,841	\$ 3,419,898	\$ 3,488,296	\$ 3,558,062	\$ 3,629,223	\$ 3,701,808	\$ 3,775,844	\$ -
Trimble County									
CCR	\$ 3,493,333	\$ 3,563,200	\$ 3,634,464	\$ 3,707,153	\$ 3,781,296	\$ 3,856,922	\$ 3,934,060	\$ 4,012,741	\$ 4,092,996
ELG	\$ 1,620,176	\$ 1,652,580	\$ 1,685,631	\$ 1,719,344	\$ 1,753,731	\$ 1,788,806	\$ 1,824,582	\$ 1,861,073	\$ 1,898,295
Total Trimble County	\$ 5,113,509	\$ 5,215,779	\$ 5,320,095	\$ 5,426,497	\$ 5,535,027	\$ 5,645,727	\$ 5,758,642	\$ 5,873,815	\$ 5,991,291
Total LG&E									
CCR	\$ 3,892,578	\$ 3,970,429	\$ 4,049,838	\$ 4,130,835	\$ 4,213,451	\$ 4,297,720	\$ 4,383,675	\$ 4,471,348	\$ 4,092,996
ELG	\$ 4,508,031	\$ 4,598,191	\$ 4,690,155	\$ 4,783,958	\$ 4,879,637	\$ 4,977,230	\$ 5,076,775	\$ 5,178,310	\$ 1,898,295
Total LG&E	\$ 8,400,608	\$ 8,568,621	\$ 8,739,993	\$ 8,914,793	\$ 9,093,089	\$ 9,274,951	\$ 9,460,450	\$ 9,649,659	\$ 5,991,291

O&M

LG&E	2040	2041	2042	2043	2044	2045	2046	2047	2048
Mill Creek									
CCR									
ELG									
Total Mill Creek	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Trimble County									
CCR	\$ 4,174,856	\$ 4,258,353	\$ 4,343,520	\$ 4,430,391	\$ 4,518,999	\$ 2,754,339	\$ 2,809,426	\$ 2,865,614	\$ 2,922,926
ELG	\$ 1,936,261	\$ 1,974,986	\$ 2,014,486	\$ 2,054,775	\$ 2,095,871	\$ 1,277,438	\$ 1,302,986	\$ 1,329,046	\$ 1,355,627
Total Trimble County	\$ 6,111,117	\$ 6,233,339	\$ 6,358,006	\$ 6,485,166	\$ 6,614,869	\$ 4,031,776	\$ 4,112,412	\$ 4,194,660	\$ 4,278,553
Total LG&E									
CCR	\$ 4,174,856	\$ 4,258,353	\$ 4,343,520	\$ 4,430,391	\$ 4,518,999	\$ 2,754,339	\$ 2,809,426	\$ 2,865,614	\$ 2,922,926
ELG	\$ 1,936,261	\$ 1,974,986	\$ 2,014,486	\$ 2,054,775	\$ 2,095,871	\$ 1,277,438	\$ 1,302,986	\$ 1,329,046	\$ 1,355,627
Total LG&E	\$ 6,111,117	\$ 6,233,339	\$ 6,358,006	\$ 6,485,166	\$ 6,614,869	\$ 4,031,776	\$ 4,112,412	\$ 4,194,660	\$ 4,278,553

O&M

LG&E	2049	2050	2051	2052	2053	2054	2055	2056	2057
Mill Creek									
CCR									
ELG									
Total Mill Creek	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Trimble County									
CCR	\$ 2,981,385	\$ 3,041,013	\$ 3,101,833	\$ 3,163,870	\$ 3,227,147	\$ 3,291,690	\$ 3,357,524	\$ 3,424,674	\$ 3,493,168
ELG	\$ 1,382,739	\$ 1,410,394	\$ 1,438,602	\$ 1,467,374	\$ 1,496,722	\$ 1,526,656	\$ 1,557,189	\$ 1,588,333	\$ 1,620,100
Total Trimble County	<u>\$ 4,364,124</u>	<u>\$ 4,451,407</u>	<u>\$ 4,540,435</u>	<u>\$ 4,631,244</u>	<u>\$ 4,723,869</u>	<u>\$ 4,818,346</u>	<u>\$ 4,914,713</u>	<u>\$ 5,013,007</u>	<u>\$ 5,113,267</u>
Total LG&E									
CCR	\$ 2,981,385	\$ 3,041,013	\$ 3,101,833	\$ 3,163,870	\$ 3,227,147	\$ 3,291,690	\$ 3,357,524	\$ 3,424,674	\$ 3,493,168
ELG	\$ 1,382,739	\$ 1,410,394	\$ 1,438,602	\$ 1,467,374	\$ 1,496,722	\$ 1,526,656	\$ 1,557,189	\$ 1,588,333	\$ 1,620,100
Total LG&E	<u>\$ 4,364,124</u>	<u>\$ 4,451,407</u>	<u>\$ 4,540,435</u>	<u>\$ 4,631,244</u>	<u>\$ 4,723,869</u>	<u>\$ 4,818,346</u>	<u>\$ 4,914,713</u>	<u>\$ 5,013,007</u>	<u>\$ 5,113,267</u>

O&M

LG&E	2058	2059	2060	2061	2062	2063	2064	2065	2066
Mill Creek									
CCR									
ELG									
Total Mill Creek	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Trimble County									
CCR	\$ 3,563,031	\$ 3,634,292	\$ 3,706,977	\$ 3,781,117	\$ 3,856,739	\$ 3,933,874	\$ 4,012,552	\$ 4,092,803	
ELG	\$ 1,652,502	\$ 1,685,552	\$ 1,719,263	\$ 1,753,648	\$ 1,788,721	\$ 1,824,495	\$ 1,860,985	\$ 1,898,205	
Total Trimble County	\$ 5,215,533	\$ 5,319,843	\$ 5,426,240	\$ 5,534,765	\$ 5,645,460	\$ 5,758,370	\$ 5,873,537	\$ 5,991,008	\$ -
Total LG&E									
CCR	\$ 3,563,031	\$ 3,634,292	\$ 3,706,977	\$ 3,781,117	\$ 3,856,739	\$ 3,933,874	\$ 4,012,552	\$ 4,092,803	
ELG	\$ 1,652,502	\$ 1,685,552	\$ 1,719,263	\$ 1,753,648	\$ 1,788,721	\$ 1,824,495	\$ 1,860,985	\$ 1,898,205	
Total LG&E	\$ 5,215,533	\$ 5,319,843	\$ 5,426,240	\$ 5,534,765	\$ 5,645,460	\$ 5,758,370	\$ 5,873,537	\$ 5,991,008	\$ -

Capital

LG&E	2021	2022	2023	2024	2025	Total
Mill Creek						
CCR	\$ 5,841,051	\$ 57,918	\$ 61,511	\$ 61,511	\$ 61,511	\$ 6,083,502
ELG	\$ 15,770,067	\$ 23,993,000	\$ 10,007,000	\$ 10,961,000	\$ -	\$ 60,731,067
Total Mill Creek	\$ 21,611,118	\$ 24,050,918	\$ 10,068,511	\$ 11,022,511	\$ 61,511	\$ 66,814,569
Trimble County						
CCR	\$ 13,472,249	\$ 7,538,837	\$ 16,273,904	\$ 27,018	\$ 27,018	\$ 37,339,026
ELG	\$ 7,308,801	\$ 10,858,380	\$ 4,711,590	\$ -	\$ -	\$ 22,878,771
Total Trimble County	\$ 20,781,050	\$ 18,397,217	\$ 20,985,494	\$ 27,018	\$ 27,018	\$ 60,217,797
Total LG&E						
CCR	\$ 19,313,300	\$ 7,596,755	\$ 16,335,415	\$ 88,529	\$ 88,529	\$ 43,422,528
ELG	\$ 23,078,868	\$ 34,851,380	\$ 14,718,590	\$ 10,961,000	\$ -	\$ 83,609,838
Total LG&E	\$ 42,392,168	\$ 42,448,135	\$ 31,054,005	\$ 11,049,529	\$ 88,529	\$ 127,032,366

Notes:

- (1) - The above costs include all CCR related items including CCR Rule Compliance and the Trimble County Landfill.
- (2) - These costs include both base rate and ECR mechanism items.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 28

Responding Witness: David S. Sinclair

- Q-28. Provide the projected annual capacity factors for the expected lifetime of all of LG&E's coal plants.
- A-28. See attached. The ownership of each of the Companies' coal-fired units is indicated in the attachment. The capacity factors for years in which a unit is assumed to retire mid-year only consider the months when the unit is operating.

Ownership	KU	Brown 3	Ghent 1	Ghent 2	Ghent 3	Ghent 4	Mill Creek 1	Mill Creek 2	Mill Creek 3	Mill Creek 4	Trimble County 1	Trimble County 2
	X	X	X	X	X							X
	LGE						X	X	X	X	X	X

Capacity Factor %

2021	23.5	59.8	64.5	59.8	54.7	70.4	24.0	63.7	72.9	71.6	62.0
2022	21.7	58.9	62.4	57.7	50.3	76.3	30.8	76.5	63.7	80.0	59.3
2023	25.6	65.5	64.3	55.4	51.9	69.5	30.3	66.6	72.9	76.0	54.5
2024	24.6	63.9	56.7	55.7	47.0	80.8	31.7	81.6	71.3	79.7	60.8
2025	23.1	59.8	62.4	54.2	51.9	0.0	79.6	75.0	78.2	70.0	61.9
2026	19.8	63.7	61.4	51.0	47.6	0.0	71.2	82.3	73.6	81.3	55.3
2027	18.4	63.2	54.0	55.1	48.5	0.0	79.4	68.4	79.0	77.8	61.0
2028	0.0	60.4	60.4	53.5	40.3	0.0	0.0	79.8	70.2	81.0	60.7
2029	0.0	54.2	58.1	50.9	44.4	0.0	0.0	73.3	76.4	76.9	59.6
2030	0.0	59.0	56.2	49.3	46.6	0.0	0.0	79.3	68.0	81.2	60.3
2031	0.0	61.9	59.2	54.5	47.6	0.0	0.0	74.7	77.6	74.4	60.3
2032	0.0	61.1	60.3	51.6	46.8	0.0	0.0	79.1	73.9	80.0	60.3
2033	0.0	61.9	58.5	52.9	47.5	0.0	0.0	74.4	77.9	68.0	60.9
2034	0.0	55.6	64.1	50.9	43.4	0.0	0.0	72.3	66.8	77.8	52.4
2035	0.0	0.0	0.0	48.9	41.7	0.0	0.0	61.8	68.7	71.9	57.4
2036	0.0	0.0	0.0	47.3	39.2	0.0	0.0	68.6	64.0	75.9	56.3
2037	0.0	0.0	0.0	55.0	42.0	0.0	0.0	60.3	61.4	69.1	53.3
2038	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.8	52.5	62.8	50.7
2039	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.7	61.9	57.9	47.7
2040	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.2	44.9
2041	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.0	38.5
2042	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.5	34.7
2043	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.2	39.3
2044	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.0	38.0
2045	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.2	34.7
2046	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3
2047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7
2048	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.8
2049	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3
2050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 29

Responding Witness: Elizabeth J. McFarland / John K. Wolfe

- Q-29. For each plant related FERC account functionalized as transmission and distribution, provide monthly balances from January 2015 through December 2020 in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.
- A-29. See the attachment being provided in Excel format.

The attachment is being provided in a separate file in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's Eighth Request for Information
Dated August 3, 2021**

Case No. 2020-00350

Question No. 30

Responding Witness: Robert M. Conroy / David S. Sinclair

- Q-30. Provide LG&E's environmental compliance costs, broken out by type of cost (e.g., CCR, ELG), for the past five years in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible. Provide the underlying workpapers and data in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible. Provide links or copies of all references used to support the workpapers. Describe the source and purpose for each of these costs including the regulation to which each is responsive. Explain how each cost category was calculated (ex: what portion of the total is based on fixed vs variable compliance costs and how those individual components are calculated). List all assumptions made in projecting these costs.
- A-30. Attached in Excel spreadsheet format are LG&E's monthly Environmental Surcharge Reports for the most recent five years (July 2016 through June 2021). Capital projects are separately reported on ES Form 2.01 and ES Form 2.10 for each Commission approved plan and underlying project. Operation and maintenance costs are separately reported on ES Form 2.50 by generation station for each Commission approved plan. The Environmental Surcharge Reports provide the calculations and supporting documentation to justify the amount of LG&E's Environmental Surcharge Factors and are filed monthly with the Commission at least 10 days prior to the effective date in accordance with KRS 278.183 to allow time for Commission review.

The Company filed applications with the Commission for approval of the projects contained in each of the 2009, 2011, 2016, and 2020 ECR Compliance Plans. Those applications and proceedings included all of the support for and justification of each project. Below are links to the case filings:

2009 Compliance Plan

Case No. 2009-00198 – The Application of Louisville Gas and Electric Company for a Certificate of Public Convenience and Necessity and Approval of its 2009 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2009-00198>

2011 Compliance Plan

Case No. 2011-00162 – The Application of Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Approval of its 2011 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2011-00162>

2016 Compliance Plan

Case No. 2016-00027 – The Application of Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Approval of its 2016 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2016-00027>

2020 Compliance Plan

Case No. 2020-00061 – Electronic Application of Louisville Gas and Electric Company for Approval of its 2020 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2020-00061>

See attached for a summary of the source and purpose for each Commission approved project by plan including the air pollutant or waste/byproduct to be controlled, the control facility, and regulations to which each is responsive.

All of the categories of environmental compliance cost the Company considers variable are listed in Supplemental Exhibit DSS-1 to the Supplemental Testimony of David S. Sinclair and are included in the Companies' avoided energy cost calculations and analysis. All other environmental compliance costs are considered fixed.

The attachment is being provided in a separate file in Excel format.

Case No. 2020-00350
Attachment to Response to PSC-8 Question No. 30
Page 1 of 1
Conroy

LOUISVILLE GAS AND ELECTRIC COMPANY

Project	Air Pollutant or Waste/By-Product To Be Controlled	Control Facility	Generating Station	Environmental Regulation	Environmental Permit
2009 ENVIRONMENTAL COMPLIANCE PLAN (Case No. 2009-00198)					
22	Fly & Bottom Ash, Fixated Calcium Sulfite	CCP Storage Landfill (Phase I)	Cane Run Station	401 KAR Chapter 45	Division of Waste Management - Landfill Permit
23	Fly & Bottom Ash, Gypsum	CCP Storage Ash Treatment Basin/Gypsum Storage (See Note 1)	Trimble County Station	401 KAR Chapter 5 KRS Chapter 151	Division of Water - KPDES Permit and Dam Construction Permit
24	Fly & Bottom Ash, Gypsum	CCP Storage Landfill (Phase I) (See Note 1)	Trimble County Station	401 KAR Chapter 5 401 KAR Chapter 45	Division of Waste Management - Landfill Permit Division of Water - KPDES Permit
25	Fly & Bottom Ash, Gypsum, Fixated	Beneficial Reuse	Trimble County Station All Stations	401 KAR Chapter 45	Permit-by-rule
2011 ENVIRONMENTAL COMPLIANCE PLAN (Case No. 2011-00162)					
26	SO ₂ , SO ₃ , NO _x , Hg and Particulate	Flue Gas Desulfurization, Baghouse with Powdered Activated Carbon Injection, SCR Turn-Down (Unit 3 & 4), and SCR upgrade (Unit 4), Sulfuric Acid Mist Mitigation	Mill Creek Unit 1	Clean Air Act (1990), NAAQS, HAPS and CATR	Title V Permit
			Mill Creek Unit 2		
			Mill Creek Unit 3		
			Mill Creek Unit 4		
27	NO _x , Hg and Particulate	Baghouse with Powdered Activated Carbon Injection	Trimble County Unit 1	Clean Air Act (1990), HAPS and CATR	Title V Permit
2016 ENVIRONMENTAL COMPLIANCE PLAN (Case No. 2016-00027)					
28	Mercury (Hg)	Supplemental Mercury Related Control Technologies	Mill Creek Units 1/2	Clean Air Act (1990) and MATS	Louisville Metropolitan Air Pollution Control District and Ky Division
			Mill Creek Unit 3		
			Mill Creek Unit 4		
			Trimble County Unit 1		
29	Fly & Bottom Ash, Gypsum	CCR Rule Compliance Construction and Construction of New Process Water Systems	Mill Creek Station	EPA CCR Rule	Division of Waste Management - Landfill Permit
30	Fly & Bottom Ash, Gypsum	CCR Rule Compliance Construction and Construction of New Process Water Systems	Trimble County Station		Division of Water - KPDES Permit
2020 ENVIRONMENTAL COMPLIANCE PLAN (Case No. 2020-00061)					
31	Process Wastewater	ELG Water Treatment System Diffuser	Mill Creek	U.S. Environmental Protection Agency's 2015 Effluent Limitations Guidelines Rule as amended	Division of Water - KPDES Permit and U.S. Army Corps of Engineers
32	Process Wastewater	ELG Water Treatment System	Trimble County		Division of Water - KPDES Permit