COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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	**)**	**CASE NO. 2014-00002**

RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
AND KENTUCKY UTILITIES COMPANY
TO THE ATTORNEY GENERAL'S THIRD DATA REQUESTS
DATED SEPTEMBER 5, 2014

FILED: SEPTEMBER 19, 2014

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) **SS:**
COUNTY OF JEFFERSON)

The undersigned, **Gregory J. Meiman**, being duly sworn, deposes and says that he is Director, Corporate Tax and Benefit Plan Compliance for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Gregory J. Meiman

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 19th day of September 2014.

Notary Public (SEAL)

My Commission Expires:

SHERI L. GARDNER
Notary Public, State at Large, KY
My Commission expires Dec. 24, 2017
Notary ID # 501600

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) **SS:**
COUNTY OF JEFFERSON)

The undersigned, **David S. Sinclair**, being duly sworn, deposes and says that he is Vice President, Energy Supply and Analysis for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

David S. Sinclair

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 19th day of September 2014.

Notary Public (SEAL)

My Commission Expires:

SHERI L. GARDNER
Notary Public, State at Large, KY
My Commission expires Dec. 24, 2017
Notary ID # 501600

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) **SS:**
COUNTY OF JEFFERSON)

The undersigned, **Edwin R. Staton**, being duly sworn, deposes and says that he is Vice President, State Regulation and Rates, for Louisville Gas and Electric Company and Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Edwin R. Staton

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 19th day of September 2014.

Notary Public (SEAL)

My Commission Expires:

SHERI L. GARDNER
Notary Public, State at Large, KY
My Commission expires Dec. 24, 2017
Notary ID # 501600

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) **SS:**
COUNTY OF JEFFERSON)

The undersigned, **John N. Voyles, Jr.**, being duly sworn, deposes and says that he is Vice President, Transmission and Generation Services for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

John N. Voyles, Jr.

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 19th day of September 2014.

Notary Public (SEAL)

My Commission Expires:

SHERI L. GARDNER
Notary Public, State at Large, KY
My Commission expires Dec. 24, 2017
Notary ID # 501600

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 1

Witness: David S. Sinclair

Q-1. Reference page 13 of David Sinclair's supplemental testimony. To the extent Mr. Sinclair's workpapers used to support the annual capital and O&M revenue requirements for each year of the analysis of the Brown Solar Facility have changed in any way since the date of his original testimony, please provide those workpapers in electronic format with in electronic format with data and formulae in all cells and rows intact and fully accessible. Additionally, indicate whether these revenue requirements reflect the investment tax credit for the facility.

A-1. No assumptions or workpapers related to the analysis of the Brown Solar Facility have changed in any way since the date of Mr. Sinclair's original testimony. The revenue requirements presented in Mr. Sinclair's original testimony reflect the investment tax credit for the facility.

CONFIDENTIAL INFORMATION REDACTED

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 2

Witness: David S. Sinclair / Gregory J. Meiman

Q-2. Provide the estimated cumulative present value of the revenue requirement benefit associated with the investment tax credit for the Brown Solar Facility as reflected in the Company's base case economic analysis of the facility.

A-2. The Brown Solar Facility was evaluated over a range of estimated capital costs. The table below lists the present value of the revenue requirement ("RR") benefit associated with the investment tax credit ("ITC") at each capital cost level consistent with DSS-1. See also response to KPSC 1-8. The information requested is confidential and proprietary, and is being provided under seal pursuant to a Joint Petition for Confidential Protection.

Capital Cost ($2018)	**Present Value of ITC RR Benefit ($2014 Millions)**
$24.0 Million ($2,400/kW)	[redacted]
$34.8 Million ($3,500/kW)	[redacted]
$36.3 Million ($3,600/kW)	[redacted]
$41.3 Million ($4,100/kW)	[redacted]

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 3

Witness: Gregory J. Meiman

Q-3. Identify the level of investment tax credits or production tax credits that have been in effect for solar generating facilities for each year since 2004.

A-3. From 2004 through 2007, a 10% federal business energy investment credit for energy property that included equipment using solar energy to generate electricity was in effect.

Since 2008, there has been available a 30% federal business energy investment credit for energy property that includes equipment using solar energy to generate electricity.

The federal production tax credit amounts since 2004 in cents per kilowatt hour of electricity produced are as follows:

Year	Rate
2004	1.8
2005	1.9
2006	1.9
2007	2.0
2008	2.1
2009	2.1
2010	2.2
2011	2.2
2012	2.2
2013	2.3

The production tax credit expired for solar generating facilities at the end of 2013.

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 4

Witness: Gregory J. Meiman

Q-4. Does the Company expect that tax credits for solar generating facilities will no longer be available after 2016? If so, provide the analysis or other basis supporting this opinion.

A-4. Based on existing law, tax credits for solar generating facilities will be available after 2016, but at a reduced rate. Per 26 United States Code Section 48 (a) (2) (A) (ii), the investment tax credit for solar generating facilities will be reduced from a 30% credit to a 10% credit after 2016.

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 5

Witness: David S. Sinclair

Q-5. Reference the response to question no. 153 of the Attorney General's initial data requests. Provide the analysis and data supporting the assumed energy production level of the Brown Solar facility and indicate whether the Company is willing to guarantee this level of performance over the life of the project.

A-5. See responses to PSC 1-28, PSC 1-35, AG 1-137, and AG 2-59.

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 6

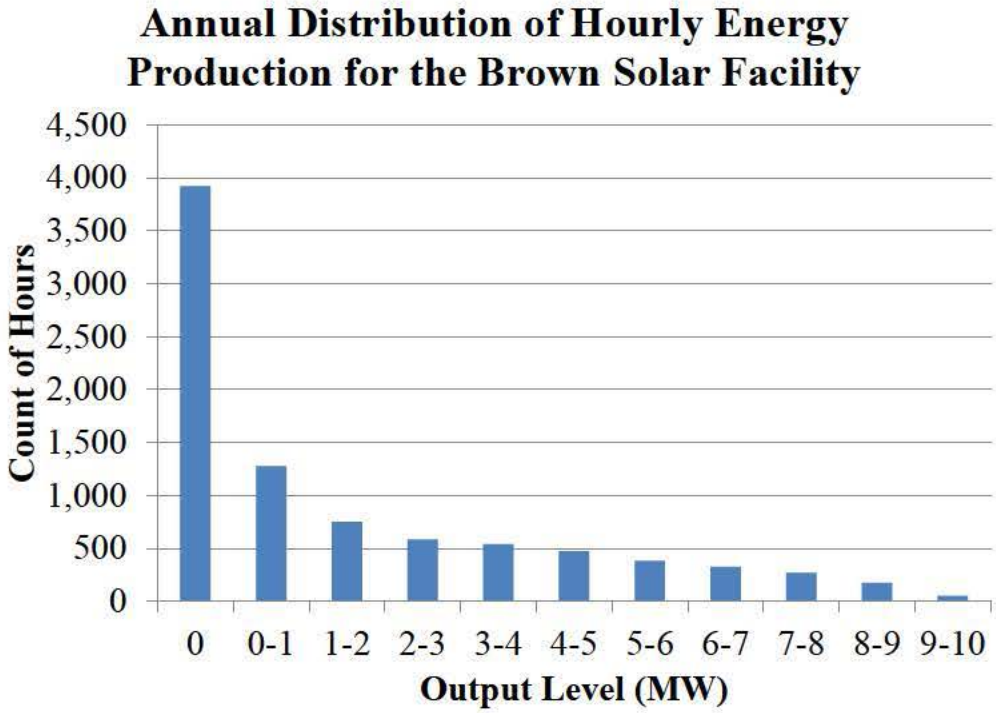
Witness: David S. Sinclair

Q-6. Provide the estimated annual average cost of energy produced by the Brown Solar Facility along with the estimated cost of energy avoided by the project for each year of the base case analysis of the facility expressed on a dollars per MWh basis, including each component of the avoided energy cost.

A-6. See attached. The information requested is confidential and proprietary, and is being provided under seal pursuant to a Joint Petition for Confidential Protection. In the attachment, the annual production cost savings (per MWh) were computed by dividing the difference in production costs between cases C58A and C50A by annual solar generation. The present value of revenue requirements for these cases is presented in Table 36 in Exhibit DSS-1 at page 45. The production cost savings can vary somewhat from year to year since relatively small changes in generation supply and load can create challenges for the model's dispatch optimization logic. However, the overall results are reasonable considering the complete analysis period.

To further understand the avoided production costs without the model's optimization limitations, the attachment also contains the avoided energy cost from the twelve scenarios evaluated for case C50A. The avoided energy cost reflects the weighted average of the hourly marginal energy cost during the hours that the Brown Solar facility produces electricity (a histogram of forecasted generation from the Brown Solar facility is included below; the avoided energy cost values are weighted based on the Brown Solar facility's generation). These values indicate a consistent year-to-year pattern of avoided costs. Based on the first full year of avoided costs in 2017, these values are consistent with the $40/MWh cases shown in Exhibit DSS-3. Furthermore, the compound annual growth rate of the avoided energy cost over all the cases ranges from 3% to 7% which are greater than the 2% annual growth rate assumed in Exhibit DSS-3 for the avoided energy cost.

Finally, note that the estimated annual average cost of energy produced by the Brown Solar facility as well as the production cost savings and avoided energy costs include fuel, variable operating and maintenance costs, CO2 emission costs.



Brown Solar

Year	Annual Average Cost of Energy ($/MWh)
2013	0.00
2014	0.00
2015	0.00
2016	0.80
2017	0.82
2018	0.83
2019	0.85
2020	0.87
2021	0.88
2022	0.90
2023	0.92
2024	0.94
2025	0.96
2026	0.98
2027	0.99
2028	1.01
2029	1.03
2030	1.06
2031	1.08
2032	1.10
2033	1.12
2034	1.14
2035	1.17
2036	1.19
2037	1.21
2038	1.24
2039	1.26
2040	1.29
2041	1.31
2042	1.34

Production Cost Savings ($/MWh, Case 58A versus Case 50A)

Year	BGBL0C	BGLL0C	LGBL0C	LGLL0C	HGBL0C	HGLL0C	BGBLMC	BGLLMC	LGBLMC	LGLLMC	HGBLMC	HGLLMC
2013	[redacted]											
2014												
2015												
2016												
2017												
2018												
2019												
2020												
2021												
2022												
2023												
2024												
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2031												
2032												
2033												
2034												
2035												
2036												
2037												
2038												
2039												
2040												
2041												
2042												

Avoided Energy Cost ($/MWh, Case 50A)

Year	BGBL0C	BGLL0C	LGBL0C	LGLL0C	HGBL0C	HGLL0C	BGBLMC	BGLLMC	LGBLMC	LGLLMC	HGBLMC	HGLLMC
2013	[redacted]											
2014												
2015												
2016												
2017												
2018												
2019												
2020												
2021												
2022												
2023												
2024												
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2040												
2041												
2042												

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 7

Witness: David S. Sinclair

Q-7. Reference the response to question no. 154 of the Attorney General's initial data requests, provide the analysis and data supporting the assumed 90% capacity credit for the Brown Solar Facility.

A-7. The response to PSC 1-22 includes an Excel workbook with hourly solar irradiance data for Lexington from the National Renewable Energy Laboratory (see \02_Analysis\Phase3\Iteration3\SolarCon\20131001_SolarData_0073.xlsx); solar generation is a function of solar irradiance. In a typical summer, the Companies' peak demand occurs in July or August between 2:00 PM and 4:00 PM. Over the period from 2000 to 2009, solar irradiance during these hours on a peak summer day was approximately 80-95% of the peak solar irradiance for the year. However, the economic analysis does not include a value for capacity credit for the Brown solar project. See the Companies' response to Q-8.

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 8

Witness: David S. Sinclair

Q-8. Provide the cumulative present value of the economic benefit produced from the assumed 90% capacity credit for the Brown Solar Facility as reflected in the Company's base case analysis.

A-8. Consistent with the Companies' analysis of other "small" alternatives (see Exhibit DSS-1 beginning at page 30), the Companies assumed the Brown Solar Facility would have no impact on their resource expansion plan. Therefore, the cumulative present value of this benefit is zero.

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 9

Witness: Edwin R. Staton

Q-9. Reference the response to question no. 156 of the Attorney General's initial data requests, provide the average cost of RECs purchased ($/REC) for the Companies' Green Energy Program for each of the last four calendar years.

A-9. The RECs purchased for the Companies' Green Energy Program are acquired at the lowest possible cost, regardless of source (e.g., solar, wind, landfill gas). However, because the price of solar RECs is higher than non-solar RECs, the Companies have not purchased solar RECs for their Green Energy Program.

Avg. Cost ($ / REC)
2010 $4.69
2011 $2.03
2012 $2.15
2013 $2.02

The RECs created by the Brown Solar Facility will be sold at the highest possible price, based on the market for solar RECs. See response to AG 1-166.

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 10

Witness: John N. Voyles, Jr.

Q-10. Reference the response to question no. 163 of the Attorney General's initial data requests. Provide the interconnection request filed for the Brown Solar Facility and discuss the results of the analysis of transmission upgrades and the related costs of such upgrades required for the Brown Solar Facility.

A-10. Attached is the Small Generator Interconnection Request for the Brown Solar project which was submitted to the ITO (TranServ) under the Companies Open Access Transmission Tariff (OATT) on August 22, 2014.

TranServ has not started the study but no significant transmission upgrades are expected. Previously, we expected to file this request in the 2nd quarter, however, the Companies decided to hold the request until after the informal conference with the Commission Staff and Intervenors. This request is next in the queue for TranServ and the Companies would anticipate a starting date for the study later this year. Also see responses to AG 1-91 and AG 2-60.

APPENDIX 2 TO SGIP
SMALL GENERATOR INTERCONNECTION REQUEST

(Application Form)

ITO: TranServ international Inc.

LG&E –KU

Designated Contact Person: Stuart Wilson – Manager Generation Planning

Address: 220 West Main Street, Louisville, Kentucky, 40202

Telephone Number: 502-627-4993

Fax: 502-217-2267

E-Mail Address: Stuart.wilson@lge-ku.com

An 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 Interconnection Request by hand delivery, mail, e-mail, or fax to the ITO.

Processing Fee or Deposit:

If the Interconnection Request is submitted under the Fast Track Process, the non-refundable processing fee is $500.

If the Interconnection Request is submitted under the Study Process, whether a new submission or an 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:

Louisville Gas and Electric Company – Kentucky Utilities Company (LGE – KU)

Contact Person: Stuart Wilson

Mailing Address: 220 West Main Street

City: Louisville State: KY Zip: 40202

Facility Location (if different from above):

EW Brown Generating Station
815 Dix Dam Road
Harrodsburg, Kentucky 40330

Telephone (Day): 502-627-4993 Telephone (Evening): _____

Fax: 502-217-2267 E-Mail Address: stuart.wilson@lge-ku.com

Alternative Contact Information (if different from the Interconnection Customer)

Contact Name: _____

Title: _____

Address:

_____

_____

Telephone (Day): _____ Telephone (Evening): _____

Fax: _____ E-Mail Address: _____

Application is for: X New Small Generating Facility
___ Capacity addition to Existing Small Generating Facility

Indicate if request is for Interim Interconnection Service. Yes ___ No X

If capacity addition to existing facility, please describe:

Will the Small Generating Facility be used for any of the following?

Net Metering? Yes ___ No **X**

To Supply Power to the Interconnection Customer? Yes ___No **X**

To Supply Power to Others? Yes ____ No **X**

For installations at locations with existing electric service to which the proposed Small Generating Facility will interconnect, provide:

(Local Electric Service Provider*)_____

(Existing Account Number*)_____

[*To be provided by the Interconnection Customer if the local electric service provider is different from the ITO]

Contact Name:_____

Title:_____

Address: _____

Telephone (Day) _____ Telephone (Evening)_____

Fax: _____ E-Mail Address: _____

Requested Point of Interconnection: EW Brown CCRT 13.8 KV Bus

Interconnection Customer's Requested In-Service Date: 1/1/2016

Small Generating Facility Information

Data apply only to the Small Generating Facility, not the Interconnection Facilities.

Energy Source: ___ Solar _X_ 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 X PV __Other

Type of Generator: ____Synchronous ____Induction _X__ Inverter

Generator Nameplate Rating: _____kW (Typical) Generator Nameplate kVAR: _____

Interconnection Customer or Customer-Site Load: **20** kW (if none, so state)
Interconnection Load corresponds to control power only.

Typical Reactive Load (if known): **44 kVAR**
Reactive Load identified corresponds to collector transformer no-load VAR losses.

Maximum Physical Export Capability Requested: **10,000 kW**
List components of the Small Generating facility equipment package that are currently certified:

Equipment Type	Certifying Entity
1. **Inverter**	**UL1741, IEEE 1547, IEEE C62.41, IEEE C62.45, IEEE C37.90.1, IEEE C37.90.2**
2. **Transformers**	**IEEE C37.108, IEEE C12.00, 28, 34, 90 and 91.**
3. **13.8 kV Swgr**	**ANSI/IEEE C37.04, C37.06, C37.20.4, C37.22, C37.30.3, C37.57, C37.58**
4. **Protective Relay**	**IEEE C37.90.1, IEEE C37.90.2**
5. **PV Modules**	**UL1703, CEC Listed, MCS and CE**

Is the prime mover compatible with the certified protective relay package? **X** Yes

____No

Generator (or solar collector)

Manufacturer, Model Name & Number: **JA Solar, JAP6-72-300, 39,995 modules or equal**

Version Number:_____

Nameplate Output Power Rating in kW: (Summer) **10,000** (Winter) **10,000**

Nameplate Output Power Rating in kVA: (Summer) **10,000** (Winter) **10,000**

Individual Generator Power Factor

Rated Power Factor: Leading: **Unity** Lagging: **Unity**

Total Number of Generators in wind farm to be interconnected pursuant to this Interconnection Request: _____ Elevation: _____ ___Single phase

___Three phase

Inverter Manufacturer, Model Name & Number (if used)

Satcon, PowerGate Plus 20 @500 kW each or equal

List of adjustable set points for the protective equipment or software:

Under/Overvoltage, Under/Overfrequency, Low Voltage Ride Through, Power Factor Control

Note: A completed Power Systems Load Flow data sheet must be supplied with the Interconnection Request.

Small Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current: **120%** Instantaneous _____ or RMS?

Harmonics Characteristics: **<3% THD**

Start-up requirements: **Control Power from system approximately 500 W per inverter**

Small Generating Facility Characteristic Data (for rotating machines)

RPM Frequency: _____

(*) Neutral Grounding Resistor (If Applicable): _____

Synchronous Generators:

Direct Axis Synchronous Reactance, Xd: _____P.U.

Direct Axis Transient Reactance, X' d: _____P.U.

Direct Axis Subtransient Reactance, X" d: _____P.U.

Negative Sequence Reactance, X2: _____ P.U.

Zero Sequence Reactance, X0: _____ P.U.

KVA Base: _____

Field Volts: _____

Field Amperes: _____

Induction Generators:

Motoring Power (kW): _____

I22t or K (Heating Time Constant): _____

Rotor Resistance, Rr: _____

Stator Resistance, Rs: _____

Stator Reactance, Xs: _____

Rotor Reactance, Xr: _____

Magnetizing Reactance, Xm: _____

Short Circuit Reactance, Xd": _____

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 Interconnection Request to 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? **X** Yes

___No

Will the transformer be provided by the Interconnection Customer? **X** Yes ____No
Transformer Data (If Applicable, for Interconnection Customer-Owned Transformer):

Ten (10) three-phase three winding pad-mount transformers each rated 1000-500/500 kVA are provided transforming the inverter output voltage (300V) to the proposed interconnection voltage of 13.8 kV.

Is the transformer: ___single phase **X** three phase? Size: **1000/500/500** kVA

Transformer Impedance: **5.75** % on **500** kVA Base

If Three Phase:

Transformer Primary: **13,800** Volts **X** Delta ____Wye ____Wye Grounded

Transformer Secondary: **300** Volts ____ Delta **X** Wye ____Wye Grounded

Transformer Tertiary: **300** Volts ____ Delta **X** 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)

Fuses applied to the distribution/collection system feeders per the one line diagram.

Manufacturer: **Bussmann** Type: **CL-14** Size: **200A and 250A** Speed: **Class E**

Interconnecting Circuit Breaker (if applicable):

Manufacturer: **Eaton or equal** Type: **Vacuum**

Load Rating (Amps): **1200** Interrupting Rating (Amps): **37,000** Trip Speed (Cycles): **5**

Interconnection Protective Relays (If Applicable):

If Microprocessor-Controlled: **SEL 351-7**

List of Functions and Adjustable Setpoints for the protective equipment or software:

Setpoint Function	**Minimum**	**Maximum**
1. **Undervoltage and Overvoltage**	**TBD**	**TBD**
2. **Underfrequency and Overfrequency**	**TBD**	**TBD**
3. **Time & Inst Overcurrent (Phase & Gnd)**	**TBD**	**TBD**
4. **Directional Overcurrent (Phase & Gnd)**	**TBD**	**TBD**
5. **Breaker Failure**	**TBD**	**TBD**
6. **Sync Check**	**TBD**	**TBD**

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)
Curves to be provided later.

Manufacturer: **To be determined**

Type: **TBD** Accuracy Class: **C400** Proposed Ratio Connection: **600:5**

Manufacturer:

Type: Accuracy Class: Proposed Ratio Connection: ____

Potential Transformer Data (If Applicable):

Manufacturer: **To be determined**

Type: **TBD** Accuracy Class: **0.3 WXYZM** Proposed Ratio Connection: **14,400:120**

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?

__X__ 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).
A property retracement survey and Site Arrangement Drawing 221566-CGA-S1001 Rev B are attached.

Proposed location of protective interface equipment on property (include address if different from the Interconnection Customer's address)

Protective relaying to be located in 13.8 kV switchgear at north side of solar facility

Enclose copy of any site documentation that describes and details the operation of the protection and control schemes. Is Available Documentation Enclosed? ___Yes __X__ 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 __X__ No

Applicant Signature

I hereby certify that, to the best of my knowledge, all the information provided in this Interconnection Request is true and correct.

For Interconnection Customer: _____ Date: 4/2/2014

Revisions

(3) L.A.
1200/5A (3)
1200/5A (3)
600/5A
ABB
138-13.2kV
TRANS. #1
10/14MVA
HS, X2 ONLY
1200/5A (3)
L.A. (3)
(3)
13.2kV-120V
POT. TRANSF.
2000/5A (3)
2000/5A (3)
CB2
2000/5A (3)
TO CCRT
(3) 3000/5A
(3) 3000/5A
CB1
(3) 3000/5A
(3) 3000/5A
(3) L.A.
CB1B

138kV BUS 1

703

MAIN TRANS. UNIT #2
726T
2000/5A
C 726 T
726B

RESERVE AUX. TRANS.
738T
2000/5A
C 738 T
738B

MAIN TRANS. UNIT #1
716T
2000/5A
C 716 T
716B

764B
C 764 T
2000/5A
2000/5AT
764L
BROWN N-
BROWN C.T.

754B
C 754 T
2000/5A
754L
BROWN N-
BROWN C.T.

744B
C 744 T
2000/5A
744L
LT
DANVILLE N-
BROWN C.T.

734B
C 734 T
2000/5A
734L
LT
FAWKES

728B
C 728 T
2000/5A
728L
LT
WEST CLIFF
SUB. #2

718B
C 718 T
2000/5A
718L
LT
WEST CLIFF
SUB. #1

LEGEND:
——— BUS
—·—·— AC
----- DC TRIP
– – – DC CLOSE
——— AC VOLTAGE

PRELIMINARY - NOT FOR CONSTRUCTION

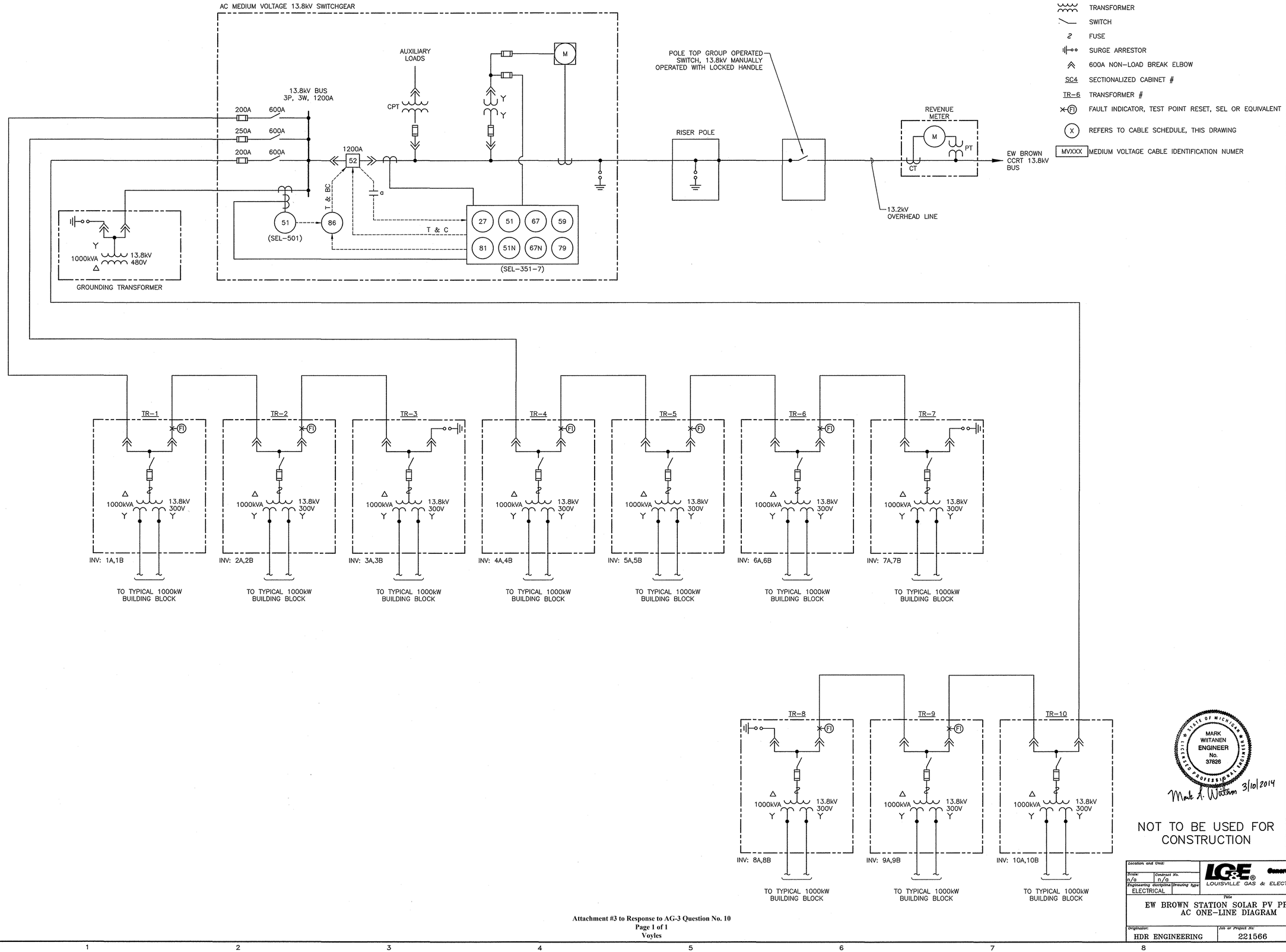
LG&E KU
a PPL company

Project:	Drawn:	Checked:	

BROWN SUBSTATION

138/13.2kV ONE LINE DIAGRAM

Scale:	Drawing Number:	Revision
NONE	SK-ONE LINE	A



Revisions	
A	10 JAN 2014
INITIAL ISSUE	

STATE OF MICHIGAN
MARK WIITANEN
ENGINEER
No. 37826
REGISTERED PROFESSIONAL ENGINEER

Mark A. Wiitanen 3/10/2014

NOT TO BE USED FOR CONSTRUCTION

Location and Unit:	LG&E Generation Services LOUISVILLE GAS & ELECTRIC COMPANY		Drawn: AOK 12/23/13
Scale: n/a	Contract No. n/a		Checked:
Engineering discipline: ELECTRICAL	Drawing type:		Approved:
Title: EW BROWN STATION SOLAR PV PROJECT AC ONE-LINE DIAGRAM			Released for:
			Alternate Drawing No. CMP-E1001
Originator: HDR ENGINEERING	Job or Project No: 221566	Drawing No: 221566-CMP-E1001	Rev.
			DMS Version 2.0

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 11

Witness: David S. Sinclair

Q-11. Provide the estimated average cost of wind energy alternatives which are available to the Companies for each of the next ten calendar years.

A-11. The Companies received three wind proposals from a single counterparty in response to their September 2012 RFP. See Exhibit DSS-1 at page 49 for the terms of these proposals.

LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to the Attorney General's Third Data Requests
Dated September 5, 2014

Case No. 2014-00002

Question No. 12

Witness: David S. Sinclair

Q-12. Provide the results of any economic analysis which was conducted to compare the Brown Solar facility to wind energy alternatives.

A-12. No direct comparison of the Brown Solar facility to wind energy alternatives was performed. Table 25 in Exhibit DSS-1 at page 32 contains the results of the analysis of small proposals received in response to the September 2012 RFP. The results for the most competitive solar and wind responses are provided in lines 9 and 10 of Table 25.