PARTICIPATION AGREEMENT

BY AND AMONG

LOUISVILLE GAS AND ELECTRIC COMPANY
220 West Main Street
Post Office Box 32010 (40232)
Louisville, Kentucky 40202

AND

KENTUCKY UTILITIES COMPANY
220 West Main Street
Post Office Box 32010 (40232)
Louisville, Kentucky 40202

AND

INDIANA MUNICIPAL POWER AGENCY
11610 North College Avenue
Carmel, Indiana 46032

AND

ILLINOIS MUNICIPAL ELECTRIC AGENCY
919 South Spring Street
Springfield, Illinois 62704

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PARTICIPATION AGREEMENT

This Participation Agreement, dated as of February 9, 2004, is among Louisville Gas and Electric Company, a Kentucky corporation ("Louisville" or a "Party"), Kentucky Utilities Company, a Kentucky corporation ("Kentucky Utilities" or a "Party"), Indiana Municipal Power Agency, a body corporate and politic and a political subdivision of the State of Indiana ("IMPA" or a "Party"), and Illinois Municipal Electric Agency, a body politic and corporate, municipal corporation and unit of local government of the State of Illinois ("IMEA" or a "Party," and, collectively with Louisville, Kentucky Utilities and IMPA, the "Parties").

WHEREAS, Louisville and Kentucky Utilities each are regulated public utilities that own and operate facilities for the generation, transmission, and distribution of electric power and energy in their respective service territories; and

WHEREAS, IMPA is a joint agency and is authorized to own and operate electric generation and transmission facilities to supply power and energy to its members; and

WHEREAS, IMEA is a joint action agency and is authorized to own and operate electric generation and transmission facilities to supply power and energy to its members; and

WHEREAS, Louisville and IMEA are party to that certain Participation Agreement, dated September 24, 1990 (the "IMEA Participation Agreement"), pursuant to which, among other things, IMEA acquired from Louisville: a twelve and twelve one-hundredths percent (12.12%) undivided ownership interest, as a tenant in common, in a four hundred ninety-five (495) megawatt coal-fired generating unit ("Trimble County Unit 1") located at the Trimble County Generating Station operated by Louisville; a non-exclusive license to use certain of the general plant facilities; and a non-exclusive easement over a certain portion of the site on which the Trimble County Generating Station is located pertaining to IMEA's use of Trimble County Unit 1; and

WHEREAS, Louisville and IMPA are party to that certain Participation Agreement (the "IMPA Participation Agreement") dated February 1, 1993, pursuant to which, among other things, IMPA acquired from Louisville: a twelve and eighty-eight one-hundredths percent (12.88%) undivided ownership interest as a tenant in common in Trimble County Unit 1; a non-exclusive license to use certain of the general plant facilities; and a non-exclusive easement over a certain portion of the site on which the Trimble County Generating Station is located pertaining to IMPA's use of Trimble County Unit 1; and

WHEREAS, the IMEA Participation Agreement and the IMPA Participation Agreement (collectively, the "Unit 1 Participation Agreements") each provide certain rights of first refusal in favor of IMEA and IMPA, respectively, to participate in ownership in the event that Louisville shall apply to the Kentucky Public Service Commission for a certificate of public convenience and necessity for the installation at the Trimble County Site of a second coal-fired generating unit for use by its system as a base-load plant; and

WHEREAS, Louisville, together with Kentucky Utilities, is currently contemplating the design, procurement and construction of a second coal-fired base-load generating unit at the Trimble County Site and anticipates applying for CCNs therefor in calendar year 2004; and

WHEREAS, IMEA and IMPA desire to participate in the ownership of such second coal-fired generating unit.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants herein set forth, and subject to the terms and conditions herein set forth, the Parties agree as follows:

ARTICLE 1.
DEFINITIONS AND INTERPRETATION

1.1 Definitions.

Affiliate. An "affiliate" of, or a Person "affiliated with" a specified Person, is a Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with the Person specified. The term "control" (including the terms "controlling," "controlled by," and "under common control with") means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract, or otherwise.

Affiliate Contract. Affiliate Contract has the meaning specified in Article 20.25.

Agreed Rate. The lesser of (i) two (2) percent per annum above the "Prime Rate" as published in the "Money Rates" table of The Wall Street Journal from time-to-time and (ii) the maximum rate of interest permitted by Applicable Law.

Agreement. This Participation Agreement among Louisville, Kentucky Utilities, IMPA and IMEA dated as of the date set forth in the first paragraph of this Agreement.

Annual Capital Budget. Annual Capital Budget has the meaning specified in Section 17.4.3.

Annual O&M Budget. Annual O&M Budget has the meaning specified in Section 17.4.4.

Applicable Law. Any applicable statute, law, treaty, rule, code, ordinance, regulation, permit, license, approval, interpretation, certificate or order of any Governmental Authority, or any judgment, decision, decree, injunction, writ, order or like action of any court, arbitrator or other Governmental Authority.

Applicable Transmission Provider. The Midwest Independent System Operator, its successor or other applicable transmission provider or transmission arrangement applicable to a Party.

Attributes. The attributes of Trimble County Unit 2 (e.g., capacity, ramp rate, ancillary services, etc.).

Authorization to Construct. Authorization of the Coordination Committee pursuant to Article 17.3(x) for the Companies to commence the Construction Work (or to issue full releases under contracts pursuant to which limited Work has been released) on the date of the Construction Closing, and thereafter pursue the Construction Work, including executing (or releasing Construction Work under) final design, equipment and construction contracts authorizing equipment procurement and installation, and authorizing or performing all other necessary activities and procurements to commence and complete construction, start-up and interconnection of Trimble County Unit 2 and the Trimble County General Plant Facilities. The Authorization to Construct shall specify the expected date of the Construction Closing, the expected Net Electric Generating Capacity, a description of the technology and unit configuration, major equipment specifications, fuel type, and the expected Construction Schedule.

Authorized Person. An officer of Louisville; an officer of Kentucky Utilities; the President or a Vice President of IMPA; or the General Manager and CEO of IMEA.

Auxiliary Power. Power required for operation of Trimble County Unit 2, a reasonable portion of the Trimble County General Plant Facilities, and a reasonable portion of any other shared Trimble County Site electric usage.

Available. The state in which a unit is capable of providing service regardless of the capacity level that can be provided.

Best Efforts. Best Efforts signify a diligent, good faith, and commercially reasonable level of effort to achieve the identified goal or result. Such level of effort does not require efforts or actions that are not commercially reasonable under the circumstances faced by the Party obligated to employ Best Efforts.

Booked. With respect to Development Costs owed to a non-Affiliate of the Companies, the date paid. With respect to Development Costs to be reimbursed to Louisville, Kentucky Utilities or any Affiliate of the Companies, the date such Development Costs are recorded on the books of Louisville, Kentucky Utilities or any Affiliate of the Companies.

CCNs. The certificates of public convenience and necessity to be sought by the Companies from the KPSC and by Kentucky Utilities from the VSCC for the installation at the Trimble County Site of a second coal-fired generating unit for use in their respective systems as a base-load plant.

Commercial Operation Date. The date upon which Trimble County Unit 2 and the Trimble County General Plant Facilities (to the extent modifications or additions are necessary to accommodate Trimble County Unit 2) are determined by the Companies to be ready to enter commercial service.

Commission Approvals. Licenses, certificates, approvals, consents, permits or other permissions of the FERC, SEC, ICC, IURC, KPSC, KSB or VSSC.

Companies. Except as provided in Articles 6.5.1 and 14.2.5, Louisville and Kentucky Utilities.

Construction Budget. Construction Budget has the meaning specified in Article 17.4.2.

Construction Closing. The delivery of documents and certificates and the payment of money, all as contemplated in Article 6.

Construction Contractor(s). Construction Contractor(s) has the meaning specified in Article 5.5.

Construction Contract(s). The contract(s) entered into by the Companies, as agent for the Parties, with Construction Contractors.

Construction Costs. The costs of Construction Work, including reasonably documented internal expenses of the Companies incurred in connection with the Construction Work and the costs described in the second sentence of Article 12.3.

Construction Phase. The Construction Phase commences on the date of the Construction Closing and concludes on the Commercial Operation Date or such later date as is necessary to complete the original construction of Trimble County Unit 2 and the Trimble County General Plant Facilities.

Construction Schedule. The schedule of Construction Work to be developed by the Companies prior to the Construction Closing, showing, to the extent then ascertainable, construction milestones and the expected Commercial Operation Date.

Construction Work. Work performed during the Construction Phase.

Coordination Committee. The committee established pursuant to Article 17.

Defaulting Party. Defaulting Party has the meaning specified in Article 19.1.

Deferred Development Costs. Deferred Development Costs has the meaning specified in Article 3.2.

Delivery Point. The high side of the main step-up transformer adjacent to Trimble County Unit 2 at the Trimble County Plant.

Development Budget. Development Budget has the meaning specified in Article 17.4.1.

Development Closing. The delivery of documents as contemplated in Article 3.

Development Costs. The costs of the Development Work, including reasonably documented internal expenses of the Companies incurred in connection with the Development Work and the costs described in the second sentence of Article 12.3.

Development Phase. The Development Phase began on or about July 1, 2001, and ends on the date of the Construction Closing.

Development Reasons. Development Reasons means (i) Force Majeure, (ii) a decision by the Companies not to proceed with the development of the Trimble County Unit 2 Project because it cannot be developed on a commercially reasonable basis or (iii) a decision by the Companies not to proceed with the development of the Trimble County Unit 2 Project because Commission Approvals or other permits and approvals cannot be obtained from Governmental Authorities on a commercially reasonable basis.

Development Work. Work performed during the Development Phase.

Dispatch, Dispatched or Dispatching. Requesting, in accordance with the terms and conditions of this Agreement, the use of Electric Capacity Entitlement utilizing real-time generation control hardware and software that interfaces with the Companies' generation control system.

Disputing Parties. Disputing Parties has the meaning specified in Article 18.4.

Electric Capacity Entitlement. The percentage of the Net Electric Generating Capacity to which a Party is entitled under Article 7.2 as it may be otherwise adjusted in accordance with Article 7.

Emergency. A condition that, in the Companies' reasonable opinion, does or may present a physical threat to persons or property on or near the Trimble County Site, does or may seriously interfere with the safety or operation of the interconnected power system, or may cause or contribute to an imminent disruption of electric service to customers of the Parties.

Energy Allocation. Energy Allocation has the meaning specified in Article 7.3.

Escrow Account. Escrow Account has the meaning specified in Article 18.4.

E.S.T. Eastern Standard Time.

Event of Default. Event of Default has the meaning specified in Article 16.5.1.

Execution Date. The date as of which the Parties enter into this Agreement, which date appears at the beginning of this Agreement.

Expected Ramp Rate Capability. The expected ramp rate capability of Trimble County Unit 2 as determined from time to time by the Coordination Committee with respect to various conditions (e.g., temperature, humidity, unit conditions, etc.).

FERC. United States Federal Energy Regulatory Commission.

Filing Date. The later of (i) the date on which both petitions for the CCNs are filed by the Companies or (ii) the date on which the last of the two (2) petitions for the CCNs is filed by the Companies.

Fixed Operation and Maintenance Expenses. Fixed Operation and Maintenance Expenses are calculated as the sum of the following expenses as they directly relate to the

operation and maintenance of the Trimble County Unit 2 Project, as recorded in the accounting records for the Trimble County Unit 2 Project under the Uniform System of Accounts:

(i) Operation supervision and engineering (Account 500)

(ii) Steam expenses (Account 502 except for scrubber reactant)

(iii) Electric expenses (Account 505)

(iv) Miscellaneous steam power expenses (Account 506)

(v) Rents (Account 507)

(vi) Allowances (Account 509)

(vii) Maintenance supervision and engineering (Account 510)

(viii) Maintenance of structures (Account 511)

(ix) Maintenance of boiler plant (Account 512)

(x) Maintenance of electric plant (Account 513)

(xi) Maintenance of miscellaneous steam plant (Account 514)

Expenses in Account 509 shall not be allocated to IMPA or IMEA except to the extent the Companies obtain allowances on behalf of IMPA or IMEA pursuant to Article 7.6.

Force Majeure. Any cause beyond the reasonable control of a Party, and which by using its Best Efforts the Party is unable to overcome, including the following: acts of God; strikes, lockouts, or other industrial disturbances; acts of public enemies; acts, orders, or the absence of necessary orders and permits of any kind, from any Governmental Authority; delay in transportation; unforeseen soil conditions; equipment, material, supplies, labor, or machinery shortages; epidemics; landslides; lightning; earthquakes; fire; hurricanes; tornadoes; storms; floods; washouts; drought; arrest; war; civil disturbances; insurrections; riots; acts of terrorism; explosions; breakage or accident to machinery, equipment, transmission lines, pipes, or canals; partial or entire failure of utility service; breach of contract by any supplier, contractor, subcontractor, laborer, or materialman; sabotage; injunction; blight; famine; blockage; quarantine; or any other similar or dissimilar cause or event not reasonably within the control of the Party.

Fuel/Reactant Operation Expenses. Fuel/Reactant Operation Expenses are calculated as the sum of the following expenses as they relate to the operation of the Trimble County Unit 2 Project as recorded in the accounting records for the Trimble County Unit 2 Project under the Uniform System of Accounts:

(i) Fuel (Account 501)

(ii) Scrubber reactant expenses in Steam Expenses (Account 502)

(iii) Ammonia (Account 512)

Good Utility Practice. At a particular time, any of the practices, methods, or acts, which, in the exercise of reasonable judgment in the light of the facts known at the time the decision was made, would reasonably have been expected to accomplish the desired result or further the possibility of achieving such result, at a reasonable cost consistent with reliability and safety and in accordance with Applicable Law pertaining to the Trimble County Unit 2 Project. Such practices, methods, or acts shall include any of the practices, methods, or acts generally engaged in or approved by other members of the electric utility industry at, prior to, or subsequent to the time the decision was made, provided, however, practices, methods or acts that have previously been engaged in by members of the electric utility industry but, at the time the decision was made, have been generally discredited will not be considered 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 encompass a range of reasonable practices, methods, or acts.

Governmental Authority. Any United States federal, state or local governmental entity, authority or agency, court, tribunal, regulatory commission or other body, whether legislative, judicial or executive, civilian or military (or a combination or permutation thereof).

ICC. Illinois Commerce Commission.

IMEA. IMEA has the meaning specified in the first (1st) paragraph of this Agreement.

IMEA Participation Agreement. The IMEA Participation Agreement has the meaning specified in the fourth (4th) Whereas clause of this Agreement.

IMPA. IMPA has the meaning specified in the first (1st) paragraph of this Agreement.

IMPA Participation Agreement. IMPA Participation Agreement has the meaning specified in the fifth (5th) Whereas clause of this Agreement.

Incremental Capital Assets. All assets of the Trimble County Unit 2 Project that are not included in Accounts 101, 106, or 107 of the Uniform System of Accounts on the Commercial Operation Date or such later date as is necessary to complete the original construction of Trimble County Unit 2 or the Trimble County General Plant Facilities and which, over the life of Trimble County Unit 2, are necessary or desirable for the continued reliable, economical operation of Trimble County Unit 2.

Initial Capital Assets. All assets of the Trimble County Unit 2 Project that are included in Accounts 101, 106, or 107 of the Uniform System of Accounts on the Commercial Operation Date, or such later date as is necessary to complete the original construction of the Trimble County Unit 2 Project.

Initial Construction Budget. Initial Construction Budget has the meaning specified in Article 17.4.2.

Interconnection and Operating Agreement. An agreement, a copy of which is attached hereto as Appendix I, pursuant to which Trimble County Unit 2 will be interconnected to the

grid, by and among the Applicable Transmission Provider and one or more of the Companies, in its or their capacities as "Transmission Owner" and "Generator" as such terms are therein defined.

IURC. Indiana Utility Regulatory Commission.

KPSC. Kentucky Public Service Commission.

KSB. Kentucky State Board on Electric Transmission and Generating Siting.

Kentucky Utilities. Kentucky Utilities has the meaning specified in the first (1st) paragraph of this Agreement.

Louisville. Louisville has the meaning specified in the first (1st) paragraph of this Agreement.

Major Change. Major Change has the meaning specified in Article 17.4.2.

Minimum Generation. Minimum Generation means (i) the level of generation below which Trimble County Unit 2 cannot operate in a stable manner without stabilization fuel while in compliance with the standard of conduct established in Article 20.24, (ii) such greater level as may be appropriate from time to time consistent with the standard of conduct established in Article 20.24 (e.g., for required or recommended testing, etc.), or (iii) during the ramp from synchronization to the level described in clause (i) and any ramp up to the level described in clause (ii), the actual level of generation from time to time during the ramp.

NERC. North American Electric Reliability Council.

Net Electric Generating Capacity. The maximum continuous ability to produce electric energy that Trimble County Unit 2 can be ramped up to at any particular time, less Auxiliary Power, taking into account all relevant conditions and factors affecting or limiting the capability of the unit to produce electric power at such time, including availability and quality of fuel, any mechanical or other defects, breakdowns, malfunctions, and environmental and permit limitations then existing.

Net Normal Operating Capacity. The amount, measured in kilowatts, designated from time to time by the Coordination Committee as the steady hourly output, less Auxiliary Power, which Trimble County Unit 2 can produce under normal, day-to-day conditions of unit operations that allow reliable long-term operation, adjusted due to seasonal variations in ambient temperature, condensing water availability and/or temperature and other factors that vary seasonally.

Net Seasonal Capacity. The capacity of Trimble County Unit 2 as determined according to testing criteria defined in the East Central Area Reliability Coordination Agreement's Document No. 4 entitled, "Criteria and Method for the Uniform Rating of Generating Equipment" or any successor document.

Non-Defaulting Parties. Non-Defaulting Parties has the meaning specified in Article 19.1.

O&M. O&M has the meaning specified in Article 17.4.4.

Offered Interest. Offered Interest has the meaning specified in Article 14.2.

Operating Work. All engineering, contract preparation or contract negotiation, purchasing, repair, supervision, recruitment, training, expediting, inspection, accounting, testing, protection, operating, management, maintenance, and all other work and activities associated with operating the Trimble County Unit 2 Project that are not included in Development Work or Construction Work, but excluding all work on any Incremental Capital Assets.

Ownership Interest. The interests of a Party in the Trimble County Unit 2 Project.

Party or Parties. Party or Parties has the meaning specified in the first (1st) paragraph of this Agreement.

Percentage. Each Party's Percentage is a percentage equal to that Party's percentage ownership interest in Trimble County Unit 2 and the Trimble County Unit 2 Site.

Person. Any individual, corporation, partnership, joint venture, association, joint stock company, trust, limited liability company, unincorporated organization, Governmental Authority or any other form of entity.

Plant Subjects. Plant Subjects has the meaning specified in Article 18.2.

Ramping Request. A Request by a Party with respect to a period of time for an amount of that Party's Electric Capacity Entitlement that is greater than or less than that Requested by that Party for the immediately preceding period of time.

Refund Amount. Refund Amount has the meaning specified in Article 6.5.6.

Return Notice. Return Notice has the meaning specified in Article 14.2.

Request, Requested or Requesting. The act of requesting the use of Electric Capacity Entitlement by Scheduling or Dispatching in accordance with the terms of this Agreement.

Schedule, Scheduled or Scheduling. The act of requesting, in accordance with the terms and conditions of this Agreement, the use of a fixed megawatt amount of Electric Capacity Entitlement in each hour. The megawatt amount that is Scheduled may vary from hour to hour in accordance with Article 7.

SEC. United States Securities and Exchange Commission.

Taxes. Taxes has the meaning specified in Article 12.1.

Transaction Documents. Those documents referenced in Article 6.2.4.

Transferring Party. Transferring Party has the meaning specified in Article 14.2.

Transmission Service Arrangement. Transmission Service Arrangement means the respective agreement or arrangement between each Party and the Applicable Transmission Provider for the transmission of its Electric Capacity Entitlement to such Party's points of delivery.

Trimble County General Plant Facilities. Facilities on the Trimble County Site identified in Appendix B that are necessary for use by IMPA and IMEA with respect to their respective Ownership Interest, for which IMPA and IMEA shall each be granted a non-exclusive license pursuant to Article 6.2.3.

Trimble County Plant. The generating and ancillary facilities at a site along the Ohio River at river mile 571.4 at Wises Landing in Trimble County, Kentucky, which include Trimble County Unit 1, the Trimble County General Plant Facilities (as defined in the Unit 1 Participation Agreements) and other generating facilities located thereon; and will include Trimble County Unit 2, the Trimble County General Plant Facilities and other generating facilities to be constructed on the site in the future.

Trimble County Site. Certain land, consisting of approximately 2,200 acres, and certain rights in land owned by Louisville, including:

(i) that portion of the land underlying Trimble County Unit 1 in which undivided interests were conveyed to IMPA and IMEA under the Unit 1 Participation Agreements (the "Trimble County Unit 1 Site"), respectively; and

(ii) Trimble County Unit 2 Site.

Trimble County Unit 1. Trimble County Unit 1 has the meaning specified in the fourth (4th) Whereas clause of this Agreement.

Trimble County Unit 1 Site. Trimble County Unit 1 Site has the meaning specified in clause (i) of the definition of Trimble County Site.

Trimble County Unit 2. The nominal seven hundred fifty (750) net megawatt coal-fired unit expected to be located at the Trimble County Site as more particularly described in Appendix A, as supplemented from time to time by the Parties.

Trimble County Unit 2 Project. The Trimble County Unit 2 Project shall consist of Trimble County Unit 2, Trimble County General Plant Facilities and the Trimble County Unit 2 Site.

Trimble County Unit 2 Site. Trimble County Unit 2 Site has the meaning specified in Article 6.2.2.

Uniform System of Accounts. The FERC's "Uniform System of Accounts Prescribed for Public Utilities and Licensees (Class A and Class B)," in effect as of the Execution Date, as such Uniform System of Accounts may be modified from time to time. References in this Agreement

to any specific account number shall mean the account number in effect as of the Execution Date or to any successor account.

Unit 1 Participation Agreements. Unit 1 Participation Agreements has the meaning specified in the sixth (6th) Whereas clause of this Agreement.

VSCC. Virginia State Corporation Commission.

Withdrawal Event. Withdrawal Event has the following meaning as it applies to the specified Parties: with respect to the Companies, an Event of Default that is the responsibility of the Companies has occurred and is continuing, any applicable cure period associated with such Event of Default has expired, and such Event of Default has resulted or will result in the cancellation, termination, or suspension of the construction of Trimble County Unit 2 for a period of at least ninety (90) calendar days. With respect to IMPA or IMEA, an Event of Default has occurred and is continuing for failure to make a payment of Construction Costs (or the supervisory fee thereon) otherwise due and owing hereunder and any applicable cure period associated with such Event of Default has expired.

Withholding Party. Withholding Party has the meaning specified in Section 18.4.

Work. All necessary or desirable work, services, equipment, materials and supplies arising out of or in connection with the development or completion of the Trimble County Unit 2 Project, its integration into the Trimble County Plant, and its interconnection with the Louisville 345 kV system at the Trimble County Plant switchyard as determined in accordance with the Interconnection and Operating Agreement, including site preparation, acquisition of interconnection transmission right-of-way, design, engineering, permitting, procurement, construction, training, start-up, commissioning, testing, management, administration, expediting, inspecting and other services, all items, materials (including, all water, utilities, chemicals, reactants, lubricating and fuel oils and other consumables), and equipment whether or not such items, services, materials, or equipment are expressly specified herein, as recorded in the accounting records for the Trimble County Unit 2 Project under the Uniform System of Accounts. Work shall include work, services, items, materials or equipment provided or undertaken directly by one or both of the Companies or their Affiliates or performed under contracts, including the preparation, negotiation, and administration of such contracts, and shall include and the services of consultants, experts and attorneys in connection therewith. Work shall not include any efforts or expenses made or incurred by a Party to negotiate this Agreement, obtain the approval of Boards of Directors, Boards of Commissioners, members, parent companies or any of their Affiliates in planning for or in anticipation of participation in the Trimble County Unit 2 Project as well as any Commission Approvals. Notwithstanding the foregoing, work related to obtaining a siting permit for Trimble County Unit 2 whether such permit is part of the process of obtaining the CCNs or any other permit or approval of the KPSC shall constitute part of the Work.

1.2 Rules of Interpretation.

(i) The terms defined above have the meanings set forth above for all purposes, and such meanings are equally applicable to both the singular and plural forms of the terms defined.

(ii) The words "include," "includes," and "including" shall be deemed to be followed by "without limitation" whether or not they are in fact followed by such words or words of like import.

(iii) Any agreement, instrument or Applicable Law defined or referred herein means such agreement or instrument or Applicable Law as from time to time amended, modified, or replaced, restated or supplemented, including (in the case of agreements or instruments) by waiver or consent and (in the case of Applicable Law) by succession of a comparable successor Applicable Law and includes (in the case of agreements or instruments) references to all attachments thereto and instruments incorporated therein.

(iv) References to a Person are also deemed to include references to its successors and assigns permitted by Article 14 or Article 15.

(v) Any term defined above by reference to any agreement, instrument or Applicable Law has such meaning whether or not such agreement, instrument or Applicable Law is in effect.

(vi) "Hereof," "herein," "hereunder" and comparable terms refer, unless otherwise expressly indicated, to the entire agreement or instrument in which such terms are used and not to any particular article, section or other subdivision thereof or attachment thereto. References in an instrument to "Article," "Section," "Subsection" or another subdivision or to an attachment are, unless the context otherwise requires, to an article, section, subsection or subdivision of or an attachment to such agreement or instrument. All references to exhibits or appendices in any agreement or instrument are to exhibits or appendices attached to such instrument or agreement.

(vii) The word "or" will have the inclusive meaning represented by the phrase "and/or."

(viii) "Shall" and "will" have equal force and effect.

ARTICLE 2.
OWNERSHIP

2.1 Ownership.

Trimble County Unit 2 shall be owned by the Parties as tenants in common. The undivided ownership interest of each Party shall be free and clear of the lien of any indenture or mortgage, deed of trust, bond resolution, or other instrument (hereinafter called "indenture") establishing a lien upon some or all of the property of the other Parties. The Percentages of the Parties shall be: the Companies, seventy-five percent (75.0%); IMPA, twelve and eighty-eight one hundredths percent (12.88%); and, IMEA twelve and twelve one-hundredths percent (12.12%), respectively. On or before the tenth (10^{th}) calendar day prior to the Construction Closing, the Companies will notify the other Parties in writing of the exact Percentages of Louisville and of Kentucky Utilities in Trimble County Unit 2. Louisville shall retain ownership of the Trimble County General Plant Facilities as described in Appendix B attached hereto, provided, however, Louisville shall grant non-exclusive licenses to use such facilities in accordance with Article 6.2.3. Louisville retains ownership of the Trimble County Site except

for those portions of the Trimble County Site to be conveyed to IMPA, IMEA and Kentucky Utilities pursuant to Article 6.2.2, and except for that portion of the Trimble County Site previously conveyed to IMPA and IMEA pursuant to the Unit 1 Participation Agreements.

The Parties acknowledge that various items of property included in the Trimble County Unit 2 Project may be leased from time-to-time in lieu of purchasing such items. Nothing in this Agreement shall preclude the Parties from leasing such items. Such leased property shall be held by the Parties in an undivided leasehold as tenants in common.

2.2 Additional Generating Units.

The Companies shall have the sole and exclusive right to own, install, enlarge, modify and operate any generating unit or units other than Trimble County Unit 2, as well as any other facility, including necessary appurtenances thereto, on the Trimble County Site, provided, however, such other units or facilities shall not be so installed, enlarged, modified, and operated, as the case may be, as to unreasonably impair (economically or operationally) the operation of Trimble County Unit 2, and provided, further, that with respect to Trimble County Unit 1, the rights of Louisville, IMPA and IMEA shall be determined in accordance with the Unit 1 Participation Agreements.

2.3 Modification of Existing Property.

Subject to the approval of the Coordination Committee, and in accordance with the terms of this Agreement, the Companies shall have the right to use, enlarge, modify or relocate any facilities installed as a part of Trimble County Unit 2 or the Trimble County General Plant Facilities in connection with the installation, enlargement, modification, or operation, as the case may be, of such other unit or units or facilities described in Article 2.2, provided, however:

(i) Such use, enlargement, modification, or relocation of Trimble County Unit 2 facilities or Trimble County General Plant Facilities shall not unreasonably impair (economically or operationally) the operation of Trimble County Unit 2; and

(ii) The cost of such use, enlargement, modification or relocation of Trimble County Unit 2 facilities or Trimble County General Plant Facilities, in connection with such other unit or units or facilities, shall be borne by the Companies (except that if such use, enlargement, or relocation of Trimble County Unit 2 facilities or Trimble County General Plant Facilities is in connection with the installation, enlargement, modification of any additional unit or units or facilities that are owned or to be owned by the Parties in common, then the cost of such use, enlargement, modification, or relocation of said Trimble County Unit 2 facilities or Trimble County General Plant Facilities shall be shared by the Parties in proportion to their respective ownership interests in such additional unit or units or facilities), provided, however, that for the purposes of this Article 2.3(ii), subject to Article 14 or Article 15, and so long as Louisville and Kentucky Utilities are Affiliates, the Ownership Interest of Kentucky Utilities herein shall be deemed to be an interest of Louisville when assessing whether facilities are owned by the Parties in common; and

(iii) Such action shall not enlarge or diminish the respective Ownership Interests of the Parties in any part of the Trimble County Unit 2 Project; and

(iv) Such action shall not enlarge or diminish the Parties' respective obligations to share in the costs of any part of the Trimble County Unit 2 Project; and

(v) Where modification of existing property and rights requires revisions to existing documents setting forth the respective rights and interests of the Parties, or where new conveyances are required to properly effectuate the modifications to property and rights made hereunder, the Parties shall cooperate to promptly execute and deliver such documents.

ARTICLE 3.
DEVELOPMENT CLOSING

3.1 Development Closing.

The Development Closing shall occur simultaneously with the execution of this Agreement at such location and time as may be selected by the Parties, on such date as mutually agreed upon by the Parties.

3.2 Development Costs.

On April 1, 2004, IMPA and IMEA shall each pay to the Companies, in immediately available funds, their proportionate share of the sum (the "Deferred Development Costs") of (i) the aggregate Development Costs (based on their respective Percentages) incurred by the Companies prior to such date, (ii) interest at the Agreed Rate computed from the date that each such Development Cost was Booked to April 1, 2004, and (iii) the supervisory fee thereon as described in Article 9.1. Such sums shall be wired to a single account that is specified by the Companies not less than ten (10) calendar days prior to April 1, 2004. The Parties agree that the aggregate amount of Development Costs incurred by the Companies to and until the last day of December 2003, is as set forth in Appendix D. After the Development Closing, invoicing and payment of Development Costs shall be as provided in Article 9.1.

3.3 Deliveries of Louisville at the Development Closing.

Louisville shall deliver to IMPA, IMEA and Kentucky Utilities a title insurance commitment of Commonwealth Land Title Insurance Company, dated within ten (10) calendar days of the date of the Development Closing, with respect to that portion of the Trimble County Site on which Trimble County Unit 2 is likely to be constructed, which commitment shall be in form and substance satisfactory to each of IMPA and IMEA.

3.4 Effect of Development Closing on Article 15 Rights.

Upon execution of this Agreement, IMEA and IMPA each waive any rights it may have pursuant of Article 15 of the Unit 1 Participation Agreement to which it is a Party, subject to the reinstatement of such rights only to the extent expressly provided in this Agreement.

ARTICLE 4.
REPRESENTATIONS AND WARRANTIES

4.1 IMPA Representations and Warranties.

IMPA hereby represents and warrants to the Companies and IMEA as follows:

(i) IMPA Organization. IMPA is a body corporate and politic and a political subdivision of the State of Indiana, duly organized, validly existing and in good standing under the laws of the State of Indiana, has the full power, legal capacity, and authority to enter into this Agreement and related agreements, to carry out the transactions contemplated by this Agreement, and to carry on its business as it is now being conducted. IMPA has delivered to the other Parties a true and complete copy of the Contract Creating the IMPA and its by-laws as amended to date.

(ii) Authority Relative to This Agreement. The execution, delivery, and performance by IMPA of this Agreement have been duly authorized by all necessary corporate action on the part of IMPA. The execution, delivery, and performance by IMPA of this Agreement do not contravene any Applicable Law, applicable to IMPA or its properties, or the Contract Creating the IMPA or its by-laws and do not and will not contravene the provisions of, or constitute a default under, any indenture, mortgage, contract, or other instrument to which IMPA is a party or by which IMPA is bound, and this Agreement constitutes a legal, valid, and binding obligation of IMPA, enforceable in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, or similar laws at the time in effect.

(iii) Approvals and Consents. Any consent or approval of, giving of notice to, registration with, or taking of any other action by any applicable Governmental Authority in connection with the execution, delivery, and performance of this Agreement by IMPA required to be obtained by IMPA on or before the date hereof have been obtained.

(iv) Legal Proceedings. There is no materially adverse legal action, suit, arbitration, governmental investigation, or other legal or administrative proceeding, or any order, decree, or judgment in progress, pending or in effect, or to the knowledge of IMPA threatened in writing against or relating to IMPA in connection with or relating to the transactions contemplated by this Agreement, and IMPA does not know or have any reason to be aware of any basis for the same.

4.2 Louisville Representations and Warranties.

Louisville hereby represents and warrants to IMPA, IMEA and Kentucky Utilities as follows:

(i) Louisville Organization. Louisville is a corporation duly organized and validly existing under the laws of the Commonwealth of Kentucky, and has corporate power to carry on its business as it is now being conducted and as it is contemplated to be conducted. Louisville has delivered to the other Parties a true and complete copy of its articles of incorporation and by-laws as amended to date.

(ii) Authority Relative to This Agreement. The execution, delivery, and performance by Louisville of this Agreement have been duly authorized by all necessary corporate action on the part of Louisville, do not contravene any Applicable Law, applicable to Louisville or its properties, or the articles of incorporation or by-laws of Louisville and do not and will not contravene the provisions of, or constitute a default under, any indenture, mortgage, contract, or other instrument to which Louisville is a party or by which Louisville is bound, and this Agreement constitutes a legal, valid, and binding obligation of Louisville, enforceable in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, or similar laws at the time in effect.

(iii) Approvals and Consents. Any consent or approval of, giving of notice to, registration with, or taking of any other action by any applicable Governmental Authority in connection with the execution, delivery, and performance of this Agreement by Louisville required to be obtained by Louisville on or before the date hereof have been obtained.

(iv) Legal Proceedings. There is no materially adverse legal action, suit, arbitration, governmental investigation, or other legal or administrative proceeding, or any order, decree, or judgment in progress, pending or in effect, or to the knowledge of Louisville threatened in writing against or relating to Louisville in connection with or relating to the transactions contemplated by this Agreement, and Louisville does not know or have any reason to be aware of any basis for the same.

4.3 Kentucky Utilities Representations and Warranties.

Kentucky Utilities hereby represents and warrants to IMPA, IMEA and Louisville as follows:

(i) Kentucky Utilities Organization. Kentucky Utilities is a corporation duly organized and validly existing under the laws of the Commonwealth of Kentucky, and has corporate power to carry on its business as it is now being conducted and as it is contemplated to be conducted. Kentucky Utilities has delivered to the other Parties a true and complete copy of its articles of incorporation and by-laws as amended to date.

(ii) Authority Relative to This Agreement. The execution, delivery, and performance by Kentucky Utilities of this Agreement have been duly authorized by all necessary corporate action on the part of Kentucky Utilities, do not contravene any Applicable Law, applicable to Kentucky Utilities or its properties, or the articles of incorporation or by-laws of Kentucky Utilities and do not and will not contravene the provisions of, or constitute a default under, any indenture, mortgage, contract, or other instrument to which Kentucky Utilities is a party or by which Kentucky Utilities is bound, and this Agreement constitutes a legal, valid, and binding obligation of Kentucky Utilities, enforceable in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, or similar laws at the time in effect.

(iii) Approvals and Consents. Any consent or approval of, giving of notice to, registration with, or taking of any other action by any applicable Governmental Authority in connection with the execution, delivery, and performance of this Agreement by Kentucky

Utilities required to be obtained by Kentucky Utilities on or before the date hereof have been obtained.

(iv) Legal Proceedings. There is no materially adverse legal action, suit, arbitration, governmental investigation, or other legal or administrative proceeding, or any order, decree, or judgment in progress, pending or in effect, or to the knowledge of Kentucky Utilities threatened in writing against or relating to Kentucky Utilities in connection with or relating to the transactions contemplated by this Agreement, and Kentucky Utilities does not know or have any reason to be aware of any basis for the same.

4.4 IMEA Representations and Warranties.

IMEA hereby represents and warrants to the Companies and IMPA as follows:

(i) IMEA Organization. IMEA is a body politic and corporate, municipal corporation and unit of local government of the State of Illinois duly organized and validly existing under the laws of the State of Illinois, and has full power, legal capacity and authority to enter into this Agreement and related agreements, to carry out the transactions contemplated by this Agreement, and to carry on its business as it is now being conducted. IMEA has delivered to the other Parties a true and complete copy of its Agency Agreement and by-laws as amended to date.

(ii) Authority Relative to This Agreement. The execution, delivery, and performance by IMEA of this Agreement have been duly authorized by all necessary corporate action on the part of IMEA. The execution, delivery, and performance by IMEA of this Agreement do not contravene any law, or any governmental rule, regulation, or order applicable to IMEA or its properties, or the Agency Agreement or by-laws of IMEA and do not and will not contravene the provisions of, or constitute a default under, any indenture, mortgage, contract, or other instrument to which IMEA is a party or by which IMEA is bound, and this Agreement constitutes a legal, valid, and binding obligation of IMEA, enforceable in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, or similar laws at the time in effect.

(iii) Approvals and Consents. Any consent or approval of, giving of notice to, registration with, or taking of any other action by any applicable Governmental Authority in connection with the execution, delivery, and performance of this Agreement required to be obtained by IMEA on or before the date hereof have been obtained.

(iv) Legal Proceedings. There is no materially adverse legal action, suit, arbitration, governmental investigation, or other legal or administrative proceeding, or any order, decree, or judgment in progress, pending or in effect, or to the knowledge of IMEA threatened in writing against or relating to IMEA in connection with or relating to the transactions contemplated by this Agreement, and IMEA does not know or have any reason to be aware of any basis for the same.

ARTICLE 5.
DEVELOPMENT AND CONSTRUCTION

5.1 Responsibility for Development.

The Parties agree to jointly develop the Trimble County Unit 2 Project. Trimble County Unit 2 is intended to consist of a single coal-fired steam-electric generating unit of a super-critical design and associated facilities with a Net Electric Generating Capacity of approximately seven hundred fifty (750) megawatts, generally as described in the "Trimble County Unit 2 Project Approach" prepared by Burns & McDonnell Engineering Company, dated September 30, 2002, as further described in Appendix A and Appendix B, and as further developed and refined during the Development Phase. The Parties will use their respective Best Efforts to complete the Development Phase by December 1, 2005, subject to Article 6.5.

Subject to the provisions of Article 6.5, the Companies, as agent of the Parties, shall have the authority and obligation to manage, control, administer, enter into contracts, perform services and make all decisions necessary and appropriate for the performance of the Development Work. The Companies shall discharge such obligations in accordance with the provisions of this Agreement, including the standard of conduct established in Article 20.24 and Article 17. IMPA and IMEA do hereby appoint the Companies to be their attorneys-in-fact, which appointment is coupled with an interest, to act in their names, places and steads in the negotiation, execution and administration of contracts with Affiliates and non-Affiliates of the Companies in connection with the Development Work. Such appointment shall not be revocable during the Development Phase.

5.2 Responsibility for Permits.

Except for Commission Approvals required to be obtained by IMEA or IMPA, the Companies shall be responsible for obtaining all environmental, land use and other licenses, permits and approvals for construction and operation of the Trimble County Unit 2 Project. IMPA shall be responsible for obtaining any Commission Approvals or other approvals of Governmental Authorities applicable to its ownership or participation in the Trimble County Unit 2 Project or the execution, delivery and performance of this Agreement by IMPA. IMEA shall be responsible for obtaining any Commission Approvals or other approvals of Governmental Authorities applicable to its ownership or participation in the Trimble County Unit 2 Project or the execution, delivery and performance of this Agreement by IMEA.

5.3 Development Schedule.

The Parties expect to complete the Development Phase of the Trimble County Unit 2 Project by December 31, 2005. The Parties recognize that there are and will likely be uncertainties relating to the obtaining of necessary licenses, permits and approvals for the Trimble County Unit 2 Project, some of which are beyond the control of some or all of the Parties. Notwithstanding such uncertainties, during the Development Phase, the Parties shall exercise their respective Best Efforts to seek and obtain according to the following milestone schedule, the joint and individual decisions, approvals and commitments necessary to achieve Construction Closing:

(i) Agreement by each Party and the Applicable Transmission Provider of a Transmission Service Arrangement by July 1, 2004;

(ii) Execution of the Interconnection and Operating Agreement with the Applicable Transmission Provider by December 1, 2003;

(iii) Decisions from applicable Governmental Authorities with respect to necessary Commission Approvals by July 1, 2005;

(iv) Receipt of final major environmental permits, not subject to appeal, rehearing or review by February 1, 2005;

(v) Final authorization, including arrangements for project funding by each Party by November 1, 2005; and

(vi) Construction Closing by December 31, 2005.

5.4 Authorization to Construct.

At least thirty (30) calendar days prior to the conclusion of the Development Phase and the Construction Closing, the Parties, acting through the Coordination Committee, shall undertake consideration and issuance of the Authorization to Construct and determine whether or not to proceed to the Construction Closing. The Parties currently expect to achieve a Commercial Operation Date between October 1, 2009, and March 1, 2010, which date range is subject to adjustment based on the facts and circumstances that arise during the Development Phase and the Construction Phase.

5.5 Responsibility for Construction.

The Companies, as agent for the Parties, shall have the authority and obligation to manage, control, administer, perform services and make all decisions necessary and appropriate for the supervision of the Construction Work, including the supervision of the design, procurement and construction of the Trimble County Unit 2 Project. The Companies shall discharge such obligations in accordance with the provisions of this Agreement, including the standard of conduct established in Article 20.24 and Article 17. The Companies, as agent of the Parties, shall be entitled to contract with one or more Persons (the "Construction Contractors") for the performance of the Construction Work in a good and workmanlike manner and in all material respects in accordance with Applicable Laws. IMPA and IMEA do hereby appoint the Companies to be their attorneys-in-fact, which appointment is coupled with an interest to act in their names, places and steads in the negotiation, execution and administration of the Construction Contracts and the performance of their other obligations in connection with the Construction Work. Such appointment shall not be revocable during the Construction Phase.

5.6 Construction Schedule.

The Companies shall manage, administer and perform support services in aid of the construction effort in accordance with the standard of conduct established in Article 20.24, with

the goal of achieving the expected Commercial Operation Date specified in the Authorization to Construct, within the Construction Budget, subject to Article 17.

ARTICLE 6.
CONSTRUCTION CLOSING AND WITHDRAWAL

6.1 Construction Closing.

The Construction Closing shall occur on or before December 31, 2005 (as such date may be extended by the decision of the Coordination Committee or otherwise in accordance with Article 21.1.2), subject to the right of each Party to withdraw in accordance with and subject to the provision of Article 6.5, or this Agreement shall terminate as provided in Article 21. The Construction Closing shall occur on such date and at such location and time as the non-withdrawing Parties shall agree.

6.2 Closing Actions.

6.2.1 Payment to Louisville.

At the Construction Closing, IMPA shall pay Louisville the sum of twelve thousand eight hundred eighty dollars ($12,880), IMEA shall pay Louisville the sum of twelve thousand one hundred twenty dollars ($12,120), and Kentucky Utilities shall pay Louisville the sum calculated by multiplying one hundred thousand dollars ($100,000) by the Percentage of Kentucky Utilities, respectively, representing their proportionate share of the purchase price for the land and easements conveyed by Louisville pursuant to this Agreement. Such payments shall be made to a single account that is specified by Louisville at least ten (10) calendar days prior to the Construction Closing.

6.2.2 Conveyance of Real Property.

At the Construction Closing, Louisville shall sell and convey to IMPA and IMEA by general warranty deed, substantially in the form shown in Appendix E, an undivided ownership interest of twelve and eighty-eight one-hundredths percent (12.88%) and twelve and twelve one-hundredths percent (12.12%), respectively, in that portion of the real estate constituting the Trimble County Site underlying Trimble County Unit 2 (the "Trimble County Unit 2 Site") to be held as tenants in common. Prior to the Construction Closing, Louisville shall sell and convey to Kentucky Utilities by general warranty deed, substantially in the form shown in Appendix E, an undivided ownership interest in its Percentage of the Trimble County Unit 2 Site. Upon such conveyances, the undivided percentage ownership interests of the Trimble County Unit 2 Site will be as follows: the Companies – seventy-five percent (75.00%); IMPA – twelve and eighty-eight one-hundredths percent (12.88%); and IMEA – twelve and twelve one-hundredths percent (12.12%).

6.2.3 Licenses and Easements.

Louisville shall grant to each IMPA, IMEA and Kentucky Utilities non-exclusive licenses, substantially in the form of Appendix C, to use the Trimble County General Plant Facilities and non-exclusive easements, substantially in the form of Appendix F, over that portion of the Trimble County Site owned by Louisville, as the Trimble County General Plant

Facilities and the Trimble County Site pertain to IMPA's, IMEA's and Kentucky Utilities' ownership and use of Trimble County Unit 2. IMPA, IMEA and Kentucky Utilities acknowledge that the Trimble County General Plant Facilities to be licensed hereunder are also subject to the pre-existing non-exclusive licenses to IMPA and IMEA to all or a part of such facilities delivered in accordance with the Unit 1 Participation Agreements.

6.2.4 Transaction Documents.

At the Construction Closing, the Parties shall execute and/or deliver the documents to be executed by them as contemplated by or referenced in Articles 6.3 or 6.4, together with such other documents and instruments as the Coordination Committee unanimously determines are necessary or desirable to confirm completion of the Development Phase and to enable and allow the Parties to proceed with the Construction Phase and the completion of the Trimble County Unit 2 Project.

6.3 Conditions Precedent.

The following conditions constitute the conditions precedent to each Party's participation in the Construction Closing. If any such condition is not satisfied, each Party, in its sole discretion, is entitled to waive such condition with respect to its participation in the Construction Closing:

(i) The Coordination Committee shall have issued the Authorization to Construct in accordance with Article 17.3(x).

(ii) The Transaction Documents, including design, major, equipment and construction contracts are in substantially final form and have been approved by the Coordination Committee.

(iii) The Construction Budget and the Construction Schedule shall have been approved by the Coordination Committee.

(iv) The final major environmental permits for the construction of Trimble County Unit 2 have been duly issued, are in full force and effect and are not subject to appeal, reconsideration or review.

(v) All other necessary regulatory approvals, including Commission Approvals, necessary for the execution, delivery and performance of this Agreement, land use approvals, and other licenses, permits and approvals for the construction of the Trimble County Unit 2 Project (other than those, which in light of the status of the project as of the date of the Construction Closing, are not yet required to have been obtained pursuant to Applicable Law and can be obtained without substantial difficulty, expense or delay) have been duly issued, are in full force and effect and are not subject to appeal, reconsideration or review.

(vi) The Interconnection and Operating Agreement is in full force and effect and one or more of the Companies, in the capacity as "Generator" thereunder, shall have assigned a portion of its or their rights and obligations to IMPA and IMEA, as appropriate, such that the "Generator" constitutes all of the Parties to this Agreement in accordance with the Parties'

respective Percentages. IMPA and IMEA, as appropriate, also shall have assumed the assigned obligations under the Interconnection and Operating Agreement.

(vii) Each Party shall have tendered at the Construction Closing the documents, instruments and other items that it is required to deliver at the Construction Closing pursuant to Article 6.4, subject only to the delivery by the other Parties of the documents, instruments and other items that they are obligated to deliver at the Construction Closing pursuant to Article 6.4.

(viii) Each of the representations and warranties of Louisville, Kentucky Utilities, IMPA and IMEA, respectively, contained in Article 4 shall be true and correct as of the Construction Closing.

(ix) Each of the Parties shall have performed all obligations and complied with all covenants that are to be performed or complied with in all material respects necessary to be performed or complied with on or before the Construction Closing.

(x) Each of the Parties shall have entered into their respective Transmission Service Arrangement with the Applicable Transmission Provider and such arrangement shall be in full force and effect.

(xi) Each of the Parties shall have tendered at the Construction Closing written evidence of the approval of its Board of Directors or Board of Commissioners, as applicable, to proceed with the Construction Closing and the transactions contemplated herein.

6.4 Deliveries at Construction Closing.

6.4.1 Payment of Funds by IMPA.

The moneys required to be paid by IMPA to Louisville at the Construction Closing in accordance with Article 6.2.1 shall be paid in immediately available funds.

6.4.2 Payment of Funds by IMEA.

The moneys required to be paid by IMEA to Louisville at the Construction Closing in accordance with Article 6.2.1 shall be paid in immediately available funds.

6.4.3 Payment of Funds by Kentucky Utilities.

The moneys required to be paid by Kentucky Utilities at the Construction Closing in accordance with Article 6.2.1 shall be paid in immediately available funds.

6.4.4 General Warranty Deeds.

Louisville shall deliver to IMPA, IMEA and Kentucky Utilities general warranty deeds in accordance with Article 6.2.2.

6.4.5 Licenses to Trimble County General Plant Facilities.

Louisville shall deliver to IMPA, IMEA, and Kentucky Utilities licenses to use the Trimble County General Plant Facilities in accordance with Article 6.2.3.

6.4.6 Non-Exclusive Easements of Trimble County Site.

Louisville shall deliver to IMPA, IMEA, and Kentucky Utilities non-exclusive easements over a portion of the Trimble County Site in accordance with Article 6.2.3.

6.4.7 Reserved.

6.4.8 Representations and Warranties.

Each Party shall deliver a certificate executed by an Authorized Person of such Party to each of the other Parties certifying that the representations and warranties of such Party as contained in Article 4 are true and correct as of the date of the Construction Closing.

6.4.9 Conditions.

Each Party shall deliver a certificate executed by an Authorized Person of such Party to each of the other Parties certifying that all of the conditions to its obligations to the Construction Closing have been satisfied or waived.

6.4.10 Release from Lien of Louisville's Indenture.

Louisville shall furnish to each of IMPA, IMEA, and Kentucky Utilities a properly executed release of that portion of the real property being conveyed to IMPA, IMEA and Kentucky Utilities at the Construction Closing from the lien of any and all indentures (other than indentures created by IMPA, IMEA or Kentucky Utilities).

6.4.11 Opinion of Counsel for Louisville.

Louisville shall furnish to IMPA, IMEA, and Kentucky Utilities an opinion of counsel for Louisville, which may include counsel employed directly by Louisville, and which counsel shall be satisfactory to the Parties, in form and substance satisfactory to the Parties, dated the date of the Construction Closing, to the effect that:

(i) Louisville is a corporation duly organized and validly existing under the laws of the Commonwealth of Kentucky and has the corporate power and authority to carry on its business as presently conducted and to enter into and perform its obligations under this Agreement; and

(ii) The execution, delivery, and performance by Louisville of this Agreement have been duly authorized by all necessary corporate action on the part of Louisville, do not contravene any law, or any governmental rule, regulation, or order applicable to Louisville or its properties, or the articles of incorporation or by-laws of Louisville, and do not and will not contravene the provisions of, or constitute a default under, any indenture, mortgage, contract, or other instrument to which Louisville is a party or by which Louisville is bound; and

(iii) The documents executed by Louisville in connection with the Construction Closing have been duly authorized, executed, and delivered by Louisville; and

(iv) Any consent or approval of, giving of notice to, registration with or taking of any other action by, any Governmental Authority, including Commission Approvals, in connection

with the execution, delivery, and performance of this Agreement required to be obtained by Louisville on or before the Construction Closing has been obtained; and

(v) There is no action, suit, or proceeding pending against Louisville that would materially adversely affect the ability of Louisville to perform its obligations under this Agreement.

6.4.12 Opinion of Counsel for Kentucky Utilities.

Kentucky Utilities shall furnish to IMPA, IMEA, and Louisville an opinion of counsel for Kentucky Utilities, which may include counsel employed directly by Kentucky Utilities, and which counsel shall be satisfactory to the Parties, in form and substance satisfactory to the Parties, dated the date of the Construction Closing, to the effect that:

(i) Kentucky Utilities is a corporation duly organized and validly existing under the laws of the Commonwealth of Kentucky and has the corporate power and authority to carry on its business as presently conducted and to enter into and perform its obligations under this Agreement; and

(ii) The execution, delivery, and performance by Kentucky Utilities of this Agreement has been duly authorized by all necessary corporate action on the part of Kentucky Utilities, do not contravene any law, or any governmental rule, regulation, or order applicable to Kentucky Utilities or its properties, or the articles of incorporation or by-laws of Kentucky Utilities, and do not and will not contravene the provisions of, or constitute a default under, any indenture, mortgage, contract, or other instrument to which Kentucky Utilities is a party or by which Kentucky Utilities is bound; and

(iii) The documents executed by Kentucky Utilities in connection with the Construction Closing have been duly authorized, executed, and delivered by Kentucky Utilities; and

(iv) Any consent or approval of, giving of notice to, registration with or taking of any other action by, any Governmental Authority, including Commission Approvals, in connection with the execution, delivery, and performance of this Agreement required to be obtained by Kentucky Utilities on or before the Construction Closing has been obtained.

(v) There is no action, suit, or proceeding pending against Kentucky Utilities that would materially adversely affect the ability of Kentucky Utilities to perform its obligations under this Agreement.

6.4.13 Opinion of Counsel for IMPA.

IMPA shall furnish to the Companies and IMEA an opinion of counsel for IMPA, which may include counsel employed directly by IMPA, and which counsel shall be satisfactory to the Parties, in form and substance satisfactory to the Parties, dated the date of the Construction Closing, to the effect that:

(i) IMPA is a body corporate and politic and a political subdivision of the State of Indiana and has the corporate power, legal capacity, and authority to carry on its business as presently conducted and to enter into and perform its obligations under this Agreement; and

(ii) The execution, delivery, and performance by IMPA of this Agreement have been duly authorized by all necessary corporate action on the part of IMPA, do not contravene any law, or any governmental rule, regulation, or order, applicable to IMPA or its properties, or the Contract Creating the IMPA, or the by-laws of IMPA and do not and will not contravene the provisions of, or constitute a default under, any indenture, mortgage, contract, or other instrument to which IMPA is a party or by which IMPA is bound; and

(iii) This Agreement has been duly executed and delivered by IMPA and constitutes the legal, valid, and binding obligations of IMPA enforceable in accordance with its respective terms, except as limited by applicable bankruptcy, insolvency, reorganization, or similar laws at the time in effect; and

(iv) Any consent or approval of, giving of notice to, registration with, or taking of any other action by, any Governmental Authority, including Commission Approvals, in connection with the execution, delivery, and performance of this Agreement required to be obtained by IMPA on or before the Construction Closing has been obtained.

(v) There is no action, suit, or proceeding pending against IMPA that would materially adversely affect the ability of IMPA to perform its obligations under this Agreement.

6.4.14 Opinion of Counsel for IMEA.

IMEA shall furnish to the Companies and IMPA an opinion of counsel for IMEA, which counsel shall be satisfactory to the Parties, in form and substance satisfactory to the Parties, dated the date of the Construction Closing to the effect that:

(i) IMEA is a body politic and corporate, municipal corporation and unit of local government of the State of Illinois and has the corporate power, legal capacity, and authority to carry on its business as presently conducted and to enter into and perform its obligations under this Agreement; and

(ii) The execution, delivery, and performance by IMEA of this Agreement have been duly authorized by all necessary corporate action on the part of IMEA, do not contravene any law, or any governmental rule, regulation, or order, applicable to IMEA or its properties, or the Agency Agreement, or the by-laws of IMEA and do not and will not contravene the provisions of, or constitute a default under, any indenture, mortgage, contract, or other instrument to which IMEA is a party or by which IMEA is bound; and

(iii) This Agreement has been duly executed and delivered by IMEA and constitutes the legal, valid, and binding obligations of IMEA enforceable in accordance with its respective terms, except as limited by applicable bankruptcy, insolvency, reorganization, or similar laws at the time in effect; and

(iv) Any consent or approval of, giving of notice to, registration with, or taking of any other action by, any Governmental Authority, including Commission Approvals, in connection with the execution, delivery, and performance of this Agreement required to be obtained by IMEA on or before the Construction Closing has been obtained.

(v) There is no action, suit, or proceeding pending against IMEA that would materially adversely affect the ability of IMEA to perform its obligations under this Agreement.

6.4.15 Transaction Documents.

The Parties shall execute and deliver the Transaction Documents in accordance with Article 6.2.4.

6.4.16 Title Commitment.

Louisville shall deliver to IMPA and IMEA a title insurance commitment of Commonwealth Land Title Insurance Company, dated within ten (10) calendar days prior to the date of the Construction Closing, with respect to the Trimble County Unit 2 Site which commitment shall be in form and substance (other than specific metes and bounds) similar to the title commitment delivered by Louisville as a condition of the Development Closing in all material respects.

6.4.17 Property Taxes.

Louisville shall deliver to IMPA and IMEA evidence that it has paid all property taxes that are assessed on the real property conveyed to IMPA and IMEA (as applicable) hereunder, except for property taxes assessed but not yet payable by the time of the Construction Closing.

6.5 Withdrawal.

6.5.1 Withdrawal Prior to Construction Closing.

If at any time, a Party determines that it will not participate in the Construction Closing, it shall give prompt written notice to the other Parties of its withdrawal from this Agreement, which notice shall specify the reasons for such withdrawal in reasonable detail. Effective thirty (30) calendar days after giving such notice, the notifying Party shall cease to be a party to this Agreement. Except as specifically provided herein, a Party that withdraws from this Agreement in accordance with this Article 6.5.1 shall remain liable for all of its obligations incurred hereunder prior to the date of withdrawal and shall not be entitled to a refund or return of any amounts paid or expended under this Agreement. If either Louisville or Kentucky Utilities (but not both) gives notice of withdrawal under this Article 6.5.1 prior to the Construction Closing, the other shall automatically succeed to its withdrawing Affiliate's Ownership Interest, assume the obligations related thereto and be entitled to exercise the rights of its withdrawing Affiliate hereunder. Upon such withdrawal, the defined term "Companies" shall be deemed to refer only to such non-withdrawing Party.

6.5.2 Withdrawal of IMPA or IMEA.

If, prior to the Construction Closing, either (but not both) IMPA or IMEA gives notice of its withdrawal in accordance with Article 6.5.1 above, the other Parties shall assume such Party's

Ownership Interest in proportion to their respective Percentages immediately prior to such assumption. A Party withdrawing under this Article 6.5.2 shall have no further liability to the other Parties on account of such withdrawal, provided, however, such Party shall remain liable for all of its obligations incurred prior to date of its withdrawal and provided, further, such Party shall not be entitled to a refund or return of any amounts paid or expended under this Agreement. The rights of such withdrawing Party pursuant to Article 15 of the applicable Unit 1 Participation Agreement shall not be thereafter reinstated.

6.5.3 Withdrawal by the Companies or IMPA and IMEA.

If, on or prior to the Construction Closing, Louisville and Kentucky Utilities shall give notice of withdrawal in accordance with Article 6.5.1, then upon receipt of notice by the remaining Parties, this Agreement shall terminate in accordance with Article 6.5.6 or 21.1.3, as appropriate. If, on or prior to the Construction Closing, IMPA and IMEA give notice of withdrawal in accordance with Article 6.5.1, then upon receipt of notice by the remaining Parties, this Agreement shall terminate in accordance with Article 21.1.4.

6.5.4 No Withdrawal During Construction Phase.

No Party shall cause a Withdrawal Event to occur during the Construction Phase, provided, however, a Party may transfer its Ownership Interest during the Construction Phase on the following conditions: If any Party (for purposes of this Article 6.5.4, a "Withdrawing Party") shall desire to withdraw from this Agreement after the Construction Closing but prior to the Commercial Operation Date: (i) the Withdrawing Party shall use its Best Efforts to expeditiously transfer its Ownership Interest to one or more third parties pursuant to the terms and conditions of Article 14.2; (ii) the Parties will continue the construction of Trimble County Unit 2 in an expeditious manner, and will otherwise continue to perform their respective obligations under this Agreement; (iii) the Withdrawing Party shall remain responsible for its proportionate share of all Construction Costs (and the supervisory fee thereon, as applicable) pursuant to this Agreement until the transfer of its Ownership Interest has been completed; and (iv) any costs incurred by the Withdrawing Party in connection with the transfer of its Ownership Interest shall be borne solely by the Withdrawing Party.

6.5.5 Breach by IMPA or IMEA During the Construction Phase.

The Parties agree that it would be extremely difficult and impracticable under the presently known and anticipated facts and circumstances to ascertain and fix the actual damages that would be incurred if, during the Construction Phase, a Withdrawal Event occurs with respect to IMPA or IMEA. Upon receipt of written notice by the Companies, as the exclusive remedy of the Companies for breach of Article 6.5.4 by IMPA or IMEA, all rights of the non-paying Party hereunder shall terminate and the non-paying Party shall transfer all of its right, title and interest in and to the Trimble County Unit 2 Project (free and clear of all liens, security interests, charges, claims and other encumbrances) to the remaining Parties in proportion to their respective Percentages. The Parties agree to promptly undertake any and all reasonable actions, including the execution, delivery and filing of appropriate instruments, to effect the transactions contemplated by this Article 6.5.5.

Upon the conclusion of the Construction Work, the Companies shall determine the actual per kilowatt cost of the Trimble County Unit 2 Project. In consideration of the transfer of all of

its right, title and interest in and to the Trimble County Unit 2 Project (free and clear of all liens, security interests, charges, claims and other encumbrances) to the other Parties in proportion to their respective Percentages and in full and complete settlement and release of all claims, causes of action, liabilities, damages or expenses of the other Parties, direct or indirect, known or unknown, that such other Parties have or may have in the future against the non-paying Party arising out of such non-payment, the other Parties, as liquidated damages and not as a penalty, will pay to the non-paying Party an amount determined by the formula set forth below. The amount to be paid by the paying Parties shall be in proportion to their respective Percentages.

$$X \div Y = Z$$

$$A \div Z = N$$

$$N \times \$1000/\text{kilowatt} = P$$

where:

X = Aggregate Development Costs and Construction Costs (plus the supervisory fees paid thereon) paid by all Parties to complete the Trimble County Unit 2 Project

Y = Actual Net Normal Operating Capacity of Trimble County Unit 2, adjusted to 59° F on the Commercial Operation Date, measured in kilowatts

Z = Actual per kilowatt Development Costs and Construction Costs (plus the supervisory fees thereon) of the Trimble County Unit 2 Project

A = Aggregate Development Costs and Construction Costs (plus the supervisory fees paid thereon) actually paid by the non-Paying Party

N = The number of kilowatts actually paid for by the non-paying Party

P = Payment to non-paying Party

6.5.6 CCNs Not Filed.

If the Companies (i) do not file petitions for the CCNs on or prior to December 31, 2004, or (ii) file petitions for the CCNs but exercise their rights to withdraw pursuant to Article 6.5.1 on or prior to the date that is one hundred eighty (180) days after the Filing Date, this Agreement shall terminate on the date of such withdrawal or December 31, 2004, if the Filing Date has not occurred, and no Party shall have any further liability, each to the other, on account of such termination, provided, however, the Companies shall refund to each of IMPA and IMEA an amount equal to the sum of Development Costs, the supervisory fee thereon and interest on the Deferred Development Costs paid by such Party to the Companies (the "Refund Amount"). Upon such termination, the respective rights of each of IMPA and IMEA pursuant to Article 15 of the Unit 1 Participation Agreement to which it is a party shall be reinstated.

ARTICLE 7.
OPERATING ARRANGEMENTS

7.1 Authority for Operation and Management.

From and after the Commercial Operation Date and subject to the provisions of Article 17, the Companies shall have the sole obligation and authority to manage, control, maintain (including adding Incremental Capital Assets in accordance with Article 17.4.3) and operate the Trimble County Unit 2 Project, as agent for the Parties, giving due consideration to each Party's respective interest of which the Companies are aware, and the Companies shall take all steps that they deem necessary or appropriate for that purpose. The Companies shall discharge such obligation and authority in accordance with the standard of conduct established in Article 20.24 and the other provisions of this Agreement. IMPA and IMEA do hereby appoint the Companies to be their attorney-in-fact for such purposes, which appointment is coupled with an interest, to act in their names, places and steads, and which appointment shall not be revocable during the term of this Agreement. The Companies may not assign their obligation or authority to manage, control, maintain and operate the Trimble County Unit 2 Project without prior written consent of the Parties, which consent shall not be unreasonably withheld.

7.2 Electric Capacity Entitlements.

Each Party's Electric Capacity Entitlement at any one time shall be the Net Electric Generating Capacity at that time multiplied by that Party's Percentage. The Net Electric Generating Capacity shall not exceed the applicable Net Normal Operating Capacity except under criteria established by the Coordination Committee. The Companies shall declare the Net Seasonal Capacity of Trimble County Unit 2 twice annually.

The Parties shall each be entitled to take up to their respective Electric Capacity Entitlement through Scheduled or Dispatched transactions in accordance with the standard of conduct established in Article 20.24.

Electric Capacity Entitlements and Energy Allocations shall begin at the Commercial Operation Date and continue until Trimble County Unit 2 ceases to be used for the generation of electric energy and is permanently retired from service.

7.3 Scheduling and Dispatching of Electric Generation.

When Trimble County Unit 2 is Available, each Party shall have the right, in its sole discretion, to Schedule or Dispatch in accordance with provisions of this Agreement all or any part of its Electric Capacity Entitlement, provided, however, throughout all periods when Trimble County Unit 2 is being operated, each Party shall Schedule or Dispatch no less than its share of Minimum Generation from time to time. Each Party's share of Minimum Generation shall be that Party's Percentage of Minimum Generation, provided, however, if one or more Parties have Scheduled or Dispatched for any one time in excess of their share of Minimum Generation, the other Parties share of Minimum Generation for that time will be reduced by the amount of such excess allocated among them in proportion to their Percentages. If any Party fails to take its entire share of Minimum Generation, that Party will be responsible for all attendant costs and losses and the Companies may take appropriate corrective actions consistent

with the standard of conduct established in Article 20.24. If Trimble County Unit 2 is off line, but Available, the Companies shall cause Trimble County Unit 2 to start up and commence operating at the Request of any Party at any time.

The energy Scheduled or Dispatched by a Party with respect to any hour represents that Party's requested energy delivery for that hour. Except to the extent otherwise provided in the following paragraph regarding ramping, each Party will be allocated (its "Energy Allocation") the actual Trimble County Unit 2 production (net of Auxiliary Power) pro rated to each Party in proportion to the amount of energy they each Requested for that hour. The Requested energy delivery per hour and the current Energy Allocation per hour will be used every five (5) minutes to forecast each Party's Energy Allocation for the hour. Each Party will be provided the current forecast of its hourly Energy Allocation approximately every five (5) minutes through electronic means at such Party's request and cost.

No Party may at any time submit a Ramping Request for a ramp rate greater than that Party's Percentage of the then Expected Ramp Rate Capability. If at any time for any reason Trimble County Unit 2 is unable to produce the aggregate ramp rate required to fulfill two or more Parties' overlapping Ramping Requests, the then actual ramping capability of Trimble County Unit 2 will be allocated among such Parties in proportion to their respective Percentages, with no Party being thereby allocated a greater ramp rate than it Requested. The ramping as provided by this paragraph will be reflected in the integrated Energy Allocation to each Party during ramping.

7.3.1 Submittal of Schedules.

Unless and until it has elected to Dispatch pursuant to Article 7.3.4 by written notice to the Companies, each Party shall Schedule with the Companies' generation dispatch staff the amount of electric energy to be delivered for each hour of each day. The Schedule for each day shall be submitted prior to 12:00 noon E.S.T. of the day prior to that day (or if the day prior is a Saturday, Sunday or holiday recognized by the Companies, the last normal work day prior to the weekend and/or holiday) (or at such other time as is required or permitted by prevailing industry practices applicable to the Companies at the time such Schedule is made). The Scheduling Party may change Schedules at any time after the deadline for submitting such Schedule only with the mutual consent of the Companies, which consent shall not be unreasonably withheld.

The Companies will endeavor to provide the Parties by telephonic, electronic or other means notice of any non-outage related occurrence expected to cause Trimble County Unit 2 to over or under produce more than ten (10) MWh integrated over any one (1) hour as soon as reasonably practicable after they become aware of such expected change. IMEA and IMPA may contact the Companies' designated contact person at any time for an update on unit conditions and expected changes in unit conditions.

7.3.2 Scheduling Procedures. Each Party shall be entitled to Schedule, in accordance with Article 7.3.1, up to the Net Normal Operating Capacity multiplied by its Percentage (with the result of that product rounded to the nearest whole applicable increment) in any hour, provided that, except as mutually agreed by the Parties, the change in any Party's Schedule from hour to hour shall not exceed such Party's Percentage of the Expected Ramp Rate Capability over the applicable ramping period. Each Scheduling Party will be liable pursuant to Article

7.3.3 for any energy imbalance services required as a result of (i) the portion of the actual ramp rate of Trimble County Unit 2 allocated to the Scheduling Party being different than the ramp rate Requested by the Scheduling Party and (ii) the Energy Allocation for that Scheduling Party being different from the energy Scheduled by that Scheduling Party. A Scheduling Party may Schedule a ramp greater than its Percentage of the Expected Ramp Rate Capability if it has reached an agreement with the Companies to provide any necessary greater ramp rate and energy from the Companies' system. The availability and price of system ramping and energy will be determined at the sole discretion of the Companies and established by agreement between the Companies and the applicable Party prior to the Schedule change.

All Schedules shall be in increments of whole megawatts unless applicable industry rules permit smaller increments and may in no event exceed a Party's Electric Capacity Entitlement. Schedules shall show the requested output for each hour of the Schedule period, the beginning and end times of any required ramping and the requested ramp rate.

7.3.3 Utilization of Electric Capacity Entitlement and Companies' System Power.

No Party will deliberately (i) utilize more than its Electric Capacity Entitlement or any portion of another Party's Energy Allocation or (ii) fail to take all of its Energy Allocation. Parties will be required to change Schedules on an hourly basis after reserve-sharing energy is utilized within industry scheduling standards, or to change Dispatch signals in real-time to comply with this requirement. Notwithstanding the preceding sentence, the Parties recognize that variations in the real time operations of Trimble County Unit 2 may result in unplanned variances between a Party's Energy Allocation and the amount of energy Requested by that Party. Such variances and the resulting inadvertent utilization by a Party of more or less electric energy on an integrated hourly basis than its Energy Allocation (the Party's "energy imbalance") will be rounded to the nearest whole megawatt hour (or such smaller increment that becomes customary in the industry) and then will be treated as follows:

(x) For that portion of a Party's energy imbalance that is within a deviation band of +/- 1.5% (or +/-2MW, if greater) of the Party's Requested energy that hour (the "deviation band"), the amounts will be recorded and aggregated over each calendar month. At the end of the month, the Companies and the Party will negotiate in good faith to eliminate any net balance for that month by in kind transfers of energy during the following thirty (30) days. For any net balance not so eliminated by in-kind transfers within thirty (30) days, the Party will purchase or sell such energy from or to the Companies. The price for such energy sold to the Companies will be ninety percent (90%) of the Companies' average system lambda (based on fuel cost only) for the hours in the applicable month during which the Party inadvertently utilized less than its Energy Allocation. The price for such energy purchased from the Companies will be the greater of (a) $100.00 per megawatt-hour, or (b) the Companies' average actual incremental cost to supply that amount of energy for the hours in the applicable month during which the Party inadvertently utilized more than its Energy Allocation.

(y) For that portion of a Party's energy imbalance that is outside the deviation band for that hour, that Party will purchase or sell such energy from or to the Companies. The price for such energy sold to the Companies will be ninety percent (90%) of the Companies' system lambda (based on fuel cost only) for that hour. The price for such energy purchased from the

Companies will be the greater of (a) $100.00 per megawatt-hour, or (b) the Companies actual incremental cost to supply such energy that hour.

(z) Each Party will remain responsible for all costs associated with the production of its Energy Allocation.

7.3.4 Dispatching Procedures.

Any Party that elects to Dispatch its Electric Capacity Entitlement shall install and maintain (or otherwise obtain the necessary access and use of) the necessary generation control hardware and software that interfaces with the Companies' generation control system at its own expense to implement such Dispatch. At the request of IMEA or IMPA, the Companies will provide IMEA or IMPA with a not-to-exceed price from a vendor that is not an Affiliate of the Companies to accommodate IMEA's or IMPA's interfaces with the Companies' generation control system. At the completion of the installation, IMEA or IMPA, as applicable, will reimburse the Companies for the actual charges imposed by the vendor. The Parties will agree in advance to the cost allocation of any future costs required to modify, upgrade or maintain the dispatch capability of Trimble County Unit 2 associated with the Companies' generation control system.

A Dispatching Party shall be entitled to Dispatch up to its Electric Capacity Entitlement. Each Party that is Dispatching its Electric Capacity Entitlement will have the right to change its desired output of its portion of Trimble County Unit 2 at any time, subject to the allocation of the unit's ramping capability as provided in Article 7.3. Real-time Dispatch shall be executed within the accuracy of the Companies' generation control system. The real-time Dispatch signal from a Party will be integrated over each hour to determine the Requested energy delivery for that hour. In the event of a failure of any Party's generation control system to control the output of Trimble County Unit 2, Dispatching for the affected Party or Parties will be accomplished manually by the Parties coordinating the desired energy to be Dispatched through a contact person designated by the Companies for such purpose.

7.3.5 Ancillary Services.

For Dispatching purposes, the Parties shall share in the Attributes of Trimble County Unit 2 in proportion to their respective Percentages as follows:

(i) Regulation. Any Party that is Dispatching its Electric Capacity Entitlement may use such Dispatching provisions to provide, through Trimble County Unit 2, a reasonable degree of regulation services for its system through appropriate use of automatic real-time generation control equipment normally expected of control areas (including generation only control areas) or load balancing authorities as defined by the North American Electric Reliability Council ("NERC") or other industry standard setting bodies. If the Dispatching activities of any of the Parties is found to have an adverse impact on the performance of Trimble County Unit 2 by causing extreme ramping up or down of the output of the generator, the Coordination Committee will address the issue at the request of any Party and establish guidelines for appropriate load following behavior by all Parties.

(ii) Operating Reserves. When Trimble County Unit 2 is on line, any Party that is Dispatching may designate the difference between its Electric Capacity Entitlement and the amount of such Electric Capacity Entitlement that it is currently Dispatching as operating reserves to any industry entity that is obligated or permitted to monitor or require such reserves.

(iii) Var Output. Each Party shall be entitled to its Percentage of the var capability of Trimble County Unit 2 and may utilize such vars itself or sell them to other entities, including the other Parties. The Coordination Committee will establish the procedures for requesting vars and having such requests fulfilled, which procedures shall be comparable to those set forth in this Agreement for Electric Capacity Entitlement. No Party will be obligated to buy vars from another Party. No Party will utilize another Party's var capability without the other Parties' permission. If industry practices permit, each Party may sell varhours to other entities. If the Companies are compensated for providing var support with respect to IMPA's and IMEA's use of Trimble County Unit 2, the vars used to provide such support will be deemed to be IMEA's and IMPA's and the Companies will pass through such compensation to IMEA and IMPA as applicable.

(iv) Other Ancillary Services. If, through changes in industry practices or otherwise, additional services can be derived or are required from Trimble County Unit 2, such services will be shared among the Parties in proportion to their respective Percentages.

7.3.6 Holidays.

Prior to each calendar year, the Companies shall notify the Parties of the holidays to be recognized by the Companies for that year. In the event the Companies fail to provide such notice, the holidays shall be the same as for the prior year.

7.3.7 Records.

The Companies shall maintain records adequate to determine each Party's energy utilization per hour.

7.3.8 Outage Schedules.

The Companies shall submit to the Parties, as far in advance as practicable, schedules showing the expected start date and time ("Start") and duration for planned outages of Trimble County Unit 2. The Companies will adjust such plans to accommodate any Party's request, where such adjustment would not harm any other Party and where, in the Companies' sole judgment, it is practicable to do so in accordance with the standard of conduct established in Article 20.24. The Companies shall seek the unanimous approval of the other Parties to change the Start of planned outages once the outage plan has been submitted by the Companies and accepted by the other Parties, provided, however, if such approval is not granted, the Companies shall have the right to change the Start of planned outages up to (and including) forty-five (45) days before then planned Start. The Companies may change the Start of planned outages less than forty-five (45) days before the then scheduled Start only if they receive the unanimous consent of the other Parties (which consent shall not be unreasonably withheld) or if such change is required for protection of the Trimble County Unit 2 Project or the electric system for reasons consistent with the standard of conduct established in Article 20.24.

For maintenance outages (and unplanned postponed outages, if possible), the Companies shall not change the Start within 48 hours prior to the then planned Start without the unanimous consent of the other Parties (which consent shall not be unreasonably withheld) unless such change is required for protection of the Trimble County Unit 2 Project or the electric system for reasons consistent with the standard of conduct established in Article 20.24. Should any of the Parties desire a schedule for maintenance outages (or unplanned postponed outages, if possible) that the Companies believe is impracticable or which another Party believes is injurious to it, any Party shall be entitled to submit the scheduling issue to the Coordination Committee for resolution provided that adequate time (at least 48 hours) is available to convene the Coordination Committee and resolve the conflict. The terms, "planned," "maintenance" and "unplanned postponed," when used to describe outages, are intended to have the meanings ascribed to them by the NERC Generation Availability Data System.

7.4 Pre-Commercial Energy.

Any net electric energy output from Trimble County Unit 2 prior to the Commercial Operation Date shall be classified as pre-commercial energy. Each Party shall be liable for and pay its Percentage of all costs associated with such energy production including fuel and reactant costs and any automatic reserve sharing or other similar charges imposed on the Companies as a result of fluctuations in the energy produced by Trimble County Unit 2. Each Party shall also take and dispose of its Percentage of all pre-commercial energy and will be liable for applicable energy imbalance charges should it fail to do so; provided, IMEA and IMPA shall each have the option (which option may only be exercised by giving the Companies notice at least ninety (90) days prior to the first scheduled production of pre-commercial energy by Trimble County Unit 2) to sell all of its Percentage of such energy to the Companies at a price each month per megawatt hour equal to the average cost that month of fuel and reactant used to produce a megawatt hour of electric energy at Trimble County Unit 1.

7.5 Operations Management.

7.5.1 Administration of Operating Work and Incremental Capital Assets.

The Companies shall perform all work, or execute and enforce (including any renegotiation and settlement of) all contracts, contractual obligations and arrangements for Operating Work and Incremental Capital Assets, including any and all warranties on equipment, facilities, materials, and services furnished pursuant to any such contracts. Warranties claims and other claims arising under this Article shall be administered in accordance with the provisions of Articles 7.5.6 and 7.5.7.

7.5.2 Purchasing Necessary Goods and Services.

The Companies shall purchase and procure, through and from any source they may select, the equipment, apparatus, machinery, tools, services, materials and supplies, and spare parts necessary for the performance of Operating Work or as Incremental Capital Assets.

7.5.3 Procurement of Fuel.

At all times, the Companies shall maintain an adequate supply of fuel in accordance with the standard of conduct established in Article 20.24. At any time when the Companies determine

to enter into fuel procurement negotiations for all or any part of the fuel requirements of Trimble County Unit 2, the Companies shall notify the other Parties in a reasonable and timely manner specifying the characteristics of the fuel being sought and the schedule for procurement. During the Companies' Trimble County Unit 2 fuel procurement negotiations, if IMPA or IMEA notify the Companies in a reasonable and timely manner and in accordance with the proposed procurement schedule, of alternative fuel supplies with equivalent or better quantities, quality, delivered cost, and/or other factors that affect Trimble County Unit 2 operation such that overall costs and reliability of Trimble County Unit 2 are improved, then such alternate supplies shall be considered by the Companies, in good faith, for Trimble County Unit 2 fuel procurement. No such alternative fuel supplies shall be selected unless the alternative fuel supplies meet or exceed the fuel specifications for Trimble County Unit 2 as defined by the Companies and the delivered cost of the alternative fuels results in a decrease in total fuel cost for Trimble County Unit 2.

7.5.4 Expenditure of Funds.

The Companies shall expend funds in accordance with the terms and conditions of this Agreement.

7.5.5 Insurance.

The Companies shall arrange for the placement and maintenance of insurance, as provided in Article 13.

7.5.6 Enforcement of Claims.

During the term of this Agreement, the Companies shall have the obligation to investigate, present and prosecute known claims with respect to the Trimble County Unit 2 Project, including claims against insurers and indemnitors providing insurance or indemnities with respect to any loss of or damage to any property of the Trimble County Unit 2 Project, or any interest of the Parties pertaining thereto, and with respect to any liability of the Parties covered by insurance or an indemnity agreement. To the extent that such loss, damage, or liability is not covered by insurance or by an indemnity agreement, the Companies shall present and prosecute claims therefor against any Persons who may be liable therefor, provided, however, the Companies are not required to resort to litigation or an alternative resolution procedure against an Affiliate of the Companies or to initiate, present, or prosecute any claim which, in their sole judgment exercised in good faith, is without sufficient merit to warrant such enforcement, or otherwise is inconsistent with the Parties' general business interests related to the Trimble County Unit 2 Project. Nothing herein shall require the Companies to invoke any certain type of enforcement procedure, or to seek, or to continue to seek, enforcement of any claim, when in the Companies' sole judgment, the Parties' general business interests related to the Trimble County Unit 2 Project are better served by settling or withdrawing such claim. If the amount of any such claim by the Parties against non-Affiliates of the Companies arising out of the (i) Development Phase or the Construction Phase exceeds five hundred thousand dollars ($500,000) or (ii) Operating Phase exceeds two hundred fifty thousand dollars ($250,000), the Companies shall notify the Parties of the existence and nature of such claim and shall also notify the Parties if and when any settlement of any such claim is accomplished by the Companies.

In the event that the Companies do not diligently attempt to settle or, failing settlement, prosecute a claim nothing herein shall prevent IMEA or IMPA from prosecuting such claim or

demand in its own name, to the extent of, and as such claim or demand affects its interest, provided, however, with respect to material claims against Affiliates of the Companies, IMEA and IMPA shall refrain from prosecution or demands until the Companies have had a reasonable period to settle or resolve such claim as provided below. Costs and expenses IMPA or IMEA incurs in prosecuting such claim shall be borne by IMPA or IMEA, as the case may be and the proceeds recovered are to be shared by the Parties prosecuting such claim in proportion to their respective Percentages.

The Companies shall provide prompt written notice to IMPA and IMEA of any material claim against any Affiliate of the Companies of which they have knowledge. Invoices disputes or other claims involving amounts less than two hundred fifty thousand dollars ($250,000) shall not constitute "material claims" for purposes of this Article 7.5.6. The Companies, on behalf of the Parties, shall be entitled to settle or resolve claims against their Affiliates, provided, however, the Companies shall not be entitled to settle or resolve a material claim without the prior consent of the Parties, which consent shall not be unreasonably withheld. Other than settling or resolving claims against Affiliates in good faith and in accordance with this Article 7.5.6, the Companies shall neither take any action nor refrain from taking any action that might impair the ability of IMEA or IMPA to prosecute such claims as provided herein.

Any Party, at its own expense, may intervene in any proceeding on a claim pursuant to this Article as an additional party to assert or defend its respective Ownership Interest and rights.

7.5.7 Processing Claims.

During the term of this Agreement, the Companies shall have the obligation, as appropriate, to investigate, adjust, defend and settle claims against the Parties, or any of them, arising out of or attributable to the Work, Incremental Capital Assets, or the past or future performance or nonperformance of the obligations and duties of the Parties under or pursuant to this Agreement, including any claim resulting from death or injury to persons or damage to property, when such claims are not covered by valid and collectible insurance carried by the Parties; and, whenever and to the extent reasonable, present and prosecute claims against any third party, including insurers, for any costs, losses, and damages incurred in connection with such claims. If the amount of any such claim against the Parties by a non-Affiliate of the Companies exceeds one hundred thousand dollars ($100,000) and is not covered by valid and collectible insurance carried by the Parties, the Companies shall notify the Parties of the existence and nature of such claim and shall also notify the Parties if and when any settlement of any such claim is accomplished by the Companies. Settlement of such claims in excess of two million dollars ($2,000,000) shall be reported to and approved in advance by the Coordination Committee.

In the event of (i) a claim by an Affiliate of the Companies or (ii) any other claim that the Companies have not diligently attempted to settle or defend, nothing herein contained shall prohibit IMEA or IMPA from defending such claim to the extent of and as such claim affects its interest. Costs and expenses incurred in connection with any such defense or demand shall be borne by the defending Party or Parties, provided, however, if the resolution of such claim accrues to the benefit of non-defending Parties, such non-defending Parties shall share the defense costs and expenses incurred in accordance with their respective Percentages, but only to the extent of the fair value of the benefits received from such resolution.

The Companies shall provide prompt written notice to IMPA and IMEA of all pending material claims by any Affiliate of the Companies. Invoice disputes or other claims involving amounts less than two hundred fifty thousand dollars ($250,000) shall not constitute "material claims" within the meaning of this Article 7.5.7 (unless and until such claim is the subject of arbitration or litigation), and may be settled by the Companies. Material claims by Affiliates of the Companies may also be settled by the Companies, subject to the consent of IMPA and IMEA, which consent shall not be unreasonably withheld. Other than settling or resolving claims by their Affiliates in good faith and in accordance with this Article 7.5.7, the Companies shall neither take any action nor refrain from taking any action that might impair the ability of IMEA or IMPA to defend such claim.

Any Party, at its own expense, may intervene in any proceeding on a claim pursuant to this Article as an additional party to assert or defend as to its respective Ownership Interest and rights.

7.5.8 Delivery of Operating Data.

As promptly as practicable after the end of each month, the Companies shall render to the Parties a statement setting forth mutually agreed upon operating data as may be needed for reports and records.

7.6 Environmental Laws and Regulations.

Each Party shall be responsible for its share, in proportion to its Percentage, of any obligations, costs, or burdens of any kind, resulting from any federal, state, or local environmental law, regulation, or requirement, as amended from time to time. Similarly, each Party shall be entitled to its share, in proportion to its Percentage, of any rights, credits, entitlements, or allowances associated with such law, regulation, or requirement, as amended from time to time.

Each Party's rights to generation from Trimble County Unit 2 shall be conditioned upon such Party's compliance with such environmental laws, regulations, or requirements and such Party's possession of required environmental rights, credits, entitlements, or allowances needed for such generation.

Any Party, to the extent its rights, credits, entitlements or allowances are insufficient to allow the desired level of generation from that Party's share of Trimble County Unit 2 may acquire such rights, credits, entitlements or allowances from another Party, if available, under terms and at prices agreeable to such Parties.

The Companies shall provide information to the other Parties regarding rights, credits, entitlements or allowances that have been used or consumed by those Parties. Each Party shall keep the Companies informed as to that Party's available rights, credits, entitlements, or allowances for use at the Trimble County Unit 2 Project and shall forecast that Party's need for additions thereto. On not less than ten (10) calendar days' prior written notice to IMPA or IMEA, as appropriate, and provided that IMPA or IMEA, as appropriate, has not obtained such rights, credits, entitlements or allowances and provided written evidence thereof to the Companies within such ten (10) calendar day period, the Companies shall have the right to

obtain such rights, credits, entitlements or allowances for IMPA or IMEA, at IMPA's or IMEA's respective cost, (including reasonable documented transaction costs), if necessary to ensure continued operation of Trimble County Unit 2.

7.7 Environmental Fines and Penalties.

The Companies shall indemnify IMPA and IMEA against administrative fines and civil penalties arising out of the operation of the Trimble County Unit 2 Project imposed for violations of applicable environmental laws and regulations, resulting from acts or omissions inconsistent with the standard of conduct established in Article 20.24 of either of the Companies or any Affiliate of Louisville or Kentucky Utilities when acting in the capacity of plant operators. Exclusions from this special indemnification shall include operation and maintenance costs incurred as a result of environmental Applicable Law, Incremental Capital Assets incurred in environmental compliance, occurrences from acts of IMPA, IMEA or third parties or from equipment failure or malfunction, remedial measures imposed by administrative agencies for environmental purposes, reimbursement of response costs under Comprehensive Environmental Response Compensation and Liability Act ("CERCLA") and K.R.S. Chapter 224 and amendments thereto, or any similar or subsequently enacted legislation covering the same subject matter as CERCLA and K.R.S. Chapter 224, and any claims of personal injury or property damage.

7.8 General Facilities and Constraints.

Subject to Articles 2.2 and 2.3, should a condition or circumstance exist that would constrain the full and simultaneous utilization of Trimble County Unit 2 and other then existing generating units at the Trimble County Site, the Companies shall allocate the available resources between or among such units (including Trimble County Unit 2). If the Parties' interests in the affected units are not uniform (i.e., one or more Parties have substantially different interests in one or more of the affected units than in others) and the allocation of resources made by the Companies does not result in generation from the affected units proportionate to their respective capacities, the Parties, to the extent possible, agree to make such economic adjustments among themselves, together with the owners of such other units, as to accomplish a fair economic result. For the purposes of this Article 7.8, subject to Article 14 and Article 15, and so long as they are Affiliates of each other, the interest of Kentucky Utilities in Trimble County Unit 2 and any affected units shall be deemed to be an interest of Louisville when assessing whether the Parties' interests in the affected units are uniform.

7.9 Rules and Regulations in Industry Practices.

The Coordination Committee may, by unanimous agreement, adopt and amend rules from time to time to amend the operating arrangements set forth in this Article 7. When unanimously adopted or amended, such rules shall supersede the applicable provisions of this Article 7. The Parties agree that they will cause the Coordination Committee to unanimously adopt and amend rules from time to time as necessary to reflect changes in industry standards, Applicable Law, and the rules and regulations of transmission organizations that apply to the Parties so that the following principles are maintained in a manner similar to the way this Article

7 reflects these principles relative to the state of the industry, Applicable Law, and such rules and regulations as of the date of this Agreement:

(i) The Parties recognize that Trimble County Unit 2 is physically located in the control area operated by the Companies. As such, IMPA and IMEA need the Companies' cooperation to Schedule or Dispatch their respective Ownership Interests in Trimble County Unit 2. So long as this remains the case, the rules shall provide for such cooperation.

(ii) The rules will be consistent with the standard of conduct established in Article 20.24.

(iii) At any one moment in time, each Party shall be entitled to the benefit of its Percentage share but not more than its Percentage share of any of the Attributes.

(iv) No Party will deliberately take any action that might result in its taking at any one moment a greater share of the Attributes than that to which it is entitled.

(v) Each Party is responsible for transmission and transmission costs for its Allocated Energy.

(vi) No Party will be entitled to be better situated than it would have been had it operated its own generating unit of a capacity equal to its Electric Capacity Entitlement. Similarly, no Party shall be less favorably situated than it would have been had it operated its own generating unit of a capacity equal to its Electric Capacity Entitlement.

(vii) No Party shall have rights to services or attributes associated with another Party's system of generation and transmission without paying fair compensation for such services or attributes in accordance with then current industry standards.

(viii) None of the Parties will vote against any proposed rule to amend the operating provisions set forth in Article 7 to the extent such rule is proposed by another Party to enable it to form a generation only control area containing that other Party's Electric Capacity Entitlement or to use dynamic scheduling, so long as such rule does not involve (a) providing any Party more than its Percentage share of any of the Attributes at any time, or (b) allocating the costs and burdens of such rule to Parties that do not benefit from it.

ARTICLE 8.
INCREMENTAL CAPITAL ASSETS

8.1 Estimate of Costs.

Prior to beginning work on any Incremental Capital Asset which the Companies expect to cost more than $2,000,000, an estimate of such work shall be furnished by the Companies in reasonable detail to the Coordination Committee for use by it in anticipating its financial requirements. Such estimate shall be subject to revision periodically to reflect more current information on such Incremental Capital Asset.

8.2 Responsibility for Costs.

Subsequent to the Commercial Operation Date, the costs of each Incremental Capital Asset shall be borne by the Parties in proportion to their respective Percentages. The amount incurred for Incremental Capital Assets during each month shall be included in the monthly billings provided for in Article 10.

ARTICLE 9.
EXPENSES

9.1 Payment of Expenses and Charges Prior to the Commercial Operation Date.

The Parties will share all Development Costs and Construction Costs in proportion to their respective Percentages. During the Development Phase (following the Development Closing) and the Construction Phase (or until such later date as payments remain due in respect of such phases), no later than the fifteenth (15th) calendar day of each calendar month, the Companies shall provide to each Party an invoice of Development Costs (including Deferred Development Costs) or Construction Costs (and, in each case, the supervisory fees thereon) that have been incurred and, without duplication, that will be incurred and become payable by the Companies on or prior to the last calendar day of the next succeeding calendar month ("Future Amounts"). In consideration for the undertaking of the Companies to supervise the Development Work and the Construction Work, the Companies shall be entitled to a supervisory fee equal to two percent (2%) of the aggregate amount of Development Costs and Construction Costs to be paid by each of IMPA and IMEA. Each invoice prepared by the Companies for IMPA and IMEA under this Article 9.1 shall include such fee. Payments of invoiced amounts are due on or before the fifteenth (15th) calendar day of the month subsequent to the month in which the invoice is received provided, however, IMPA's and IMEA's respective share of Deferred Development Costs, shall be due and payable to the Companies on April 1, 2004. It is the intent of the Parties that the issuance of invoices for payment by the Companies, and the subsequent payments to the Companies shall be made at such times as may be necessary to allow timely payment to the contractors by the Companies in accordance with the terms of payment of applicable contracts, including the Construction Contracts. In the event the aforementioned payment procedures do not allow for receipt of payment from the Parties or timely payments by the Companies to contractors, including Construction Contractors, for amounts greater than $1,000,000 from time to time, the Companies may issue an additional invoice each month, in accordance with the foregoing terms of this paragraph, with payment due no sooner than fourteen (14) calendar days after receipt of such invoice. To the extent amounts due in respect of an invoice include amounts to be paid under the Construction Contracts, each Party shall be provided with copies of the invoices under such contracts. The Companies shall have the sole authority and obligation to determine the validity of such invoices. Invoices shall be accompanied by reasonable documentation of all other amounts specified therein. In the event that IMPA or IMEA incurs Development Costs or Construction Costs at the request of the Companies during the period subsequent to Development Closing and during the Development Phase or the Construction Phase, the Parties will aggregate such expenses and, at least once per quarter but not more often than monthly, make such inter-Party payments so that each Party pays its proportionate share of such costs.

9.2 Monthly Expenses and Charges After the Commercial Operation Date.

In addition to Development Costs and Construction Costs (and, in each case, the supervisory fee thereon) that are incurred and are invoiced pursuant to Article 9.1, following the Commercial Operation Date, the Parties will share all costs associated with the Trimble County Unit 2 Project in proportion to their respective Percentages. These costs are set forth below in four (4) components for billing and accounting purposes. The Parties intend that these components incorporate all costs that are or could be associated with the Trimble County Unit 2 Project. Should any item or category of cost not fall within the technical definitions of any of the four components, the Parties agree to adjust the billing components so as to include such item or category.

Starting on the Commercial Operation Date, the Parties shall pay, in accordance with Article 10, a monthly amount equal to the sum of the four components delineated in Articles 9.2.1, 9.2.2, 9.2.3, and 9.2.4.

9.2.1 Fuel/Reactant Operation Expenses.

All Fuel/Reactant Operation Expenses of Trimble County Unit 2 will be prorated to the Parties, according to the net electric energy delivered to the Delivery Point for each Party as compared to the total net energy delivered to the Delivery Point by Trimble County Unit 2.

9.2.2 Fixed Operation and Maintenance Expenses.

A Fixed Operation and Maintenance Expenses component shall be shared by the Parties in proportion to their respective Percentages. The Companies shall allocate a reasonable portion of all Fixed Operation and Maintenance Expenses shared among all generating and other assets or enterprises located on the Trimble County Site to Trimble County Unit 2 in its annual Operation and Maintenance Budget, pursuant to Article 17.4.4, and in accordance with procedures established by the Coordination Committee.

9.2.3 Non-Fuel Operating Component.

A non-fuel operating component shall be shared by the Parties in proportion to their respective Percentages, calculated monthly as the sum of the following four (4) items as they relate to the operation and maintenance of Trimble County Unit 2:

(i) Taxes other than federal and state income taxes (Account 408.1), except that those categories of taxes, or payments in lieu thereof, that are directly billed to the Parties by the taxing authority and paid by the Parties, shall not be contained in this item.

(ii) Administrative and general expenses as recorded in Accounts 920 – 930 as recorded under the Uniform System of Accounts.

(iii) Lease payments, which result from a third-party-financed Incremental Capital Asset or lease payments for other items of property pursuant to Article 2.1.

(iv) Penalties (Account 426.3), except for those environmental penalties against which the Companies have agreed to indemnify IMPA and IMEA under Article 7.7.

The Companies shall allocate a reasonable portion of all non-fuel operating costs shared among all generating and other assets or enterprises located on the Trimble County Site to Trimble County Unit 2 in its Annual O&M Budget, pursuant to Article 17.4.4, and in accordance with procedures established by the Coordination Committee.

9.2.4 Working Capital Component.

A working capital component shall be shared by the Parties in proportion to their respective Percentages. Prior to the Commercial Operation Date, at a date determined by the Coordination Committee, the Companies shall calculate the estimated amount of working capital necessary for the operations of the Trimble County Unit 2 Project. IMPA and IMEA shall fund their respective share of working capital to the Companies prior to the Commercial Operation Date. This component is composed of the items listed below, to the extent that each of these items relates to the Trimble County Unit 2 Project:

(i) Fuel stocks (Account 151)

(ii) Fuel stock expenses undistributed (Account 152)

(iii) Plant materials and operating supplies (Account 154)

(iv) Stores expense undistributed (Account 163)

(v) Prepayments (Account 165)

(iv) Miscellaneous deferred debits (Account 186)

After the Commercial Operation Date, the Companies, on a monthly basis, shall compute the additions or reductions in working capital by multiplying the beginning monthly balances of the above items by the respective Percentage of IMPA and IMEA. Resulting changes in working capital shall be paid or credited monthly in accordance with the billing procedures set forth in Article 10.2.

The Companies shall allocate a reasonable portion of all working capital costs shared among all generating and other assets or enterprises located on the Trimble County Site to Trimble County Unit 2 in its Annual O&M Budget, pursuant to Article 17.4.4, and in accordance with procedures established by the Coordination Committee.

ARTICLE 10.
BILLING, PAYMENTS, AND RECORDS

10.1 Payments before Commercial Operation Date.

During the Development Phase and the Construction Phase of the Trimble County Unit 2 Project, all payments will be made by the Parties pursuant to Article 3, Article 6, and Article 9, as each Article applies.

10.2 Billings by the Companies after the Commercial Operation Date.

As promptly as practicable, but in any event not more than twelve (12) working days after the end of each calendar month during the term of this Agreement following the Commercial Operation Date, the Companies shall prepare and send to each Party an invoice, in such detail and with such segregations as may be needed for operating and accounting records, to indicate monthly amounts due under this Agreement.

10.3 Payments after the Commercial Operation Date.

After the Commercial Operation Date, amounts due by a Party as specified in invoices issued by the Companies pursuant to Article 10 shall be due and payable in immediately available funds on the thirtieth (30th) calendar day following the invoice date. Amounts owed by any Party to another Party under this Agreement, other than under Articles 10.1 and 10.2, shall be settled in accordance with the procedures set forth in such provisions as give rise to the obligations. In the absence of specific procedures, amounts shall be due by the thirtieth (30^{th}) calendar day following receipt of a written demand or invoice therefor. Interest on unpaid amounts shall accrue at the Agreed Rate from the date due until the date upon which payment is made. Payments by any Party to another Party based on over-billing shall bear interest at the Agreed Rate beginning on the thirty-first (31^{st}) calendar day after the invoice (or demand) date and running until such amount is repaid or credited. Unless otherwise agreed upon, a calendar month shall be the standard monthly period for the purpose of settlements under this Agreement.

10.4 Records.

The Companies will record their accounting information in accordance with generally accepted accounting principles, as modified by the requirements or permitted practices of applicable regulatory authorities. For the purpose of this Agreement, all account references are to the Uniform System of Accounts. In the event of any changes in FERC's accounting procedures that might result in charges different from those contemplated by the Agreement, the Parties will agree upon the appropriate changes to the Agreement to achieve the original intent of the Parties, unless otherwise mutually agreed by the Parties.

The Parties shall keep and maintain such records as may be necessary or useful in carrying out this Agreement. Each Party shall keep such records as may be needed to afford a clear history of all transactions under this Agreement and make copies of such records available to the other Parties upon request. Each Party shall have the right during normal business hours, but no more than once each calendar year, at its own expense, to audit, or cause independent certified public accountants of its choice to audit, the accounting and other records relating to transactions under this Agreement and shall have the right to make copies of records as necessary, provided that neither IMPA nor IMEA shall be permitted to retain documents (whether hard copy or electronically) that one or both of the Companies has designated as confidential or proprietary where to do so would make such records open records under any "open records" or "public records" Applicable Law. No Party shall make use of records of another Party without the express written consent of such Party, except for disclosure or use that is permitted by this Agreement or where required by Applicable Law, or for purposes of litigation or alternative dispute resolution procedures. All such records shall be considered the

confidential and proprietary business records of the Party that generated the particular record in question. Any such consent shall not be withheld unreasonably.

10.5 Timing of Certain Payments.

If the due date for any payment to be made to any Party pursuant to this Agreement falls on a Saturday, Sunday or other calendar day on which the Federal Reserve wire transfer system is not available, then such due date shall be deemed to be the next calendar day on which such wire transfer system is available.

10.6 Payment to Specified Account.

All payments under this Agreement to a Party or Parties shall be made in immediately available funds to an account or accounts specified by such Party or Parties. Such Party or Parties may change the account or accounts on no less than five (5) calendar days written notice to the other Parties.

ARTICLE 11.
INTERCONNECTION AND TRANSMISSION SERVICES

The Parties shall share proportionately the actual costs of interconnection of Trimble County Unit 2 in accordance with the Interconnection and Operating Agreement. Such costs are estimated, as of the date hereof, in Appendix G. Actual costs of interconnection include necessary transmission upgrades and additions required to reliably and safely connect Trimble County Unit 2 to the regional transmission grid, without facility upgrades or additions related to transmission delivery to particular points of delivery. Ongoing costs of interconnection, as determined in accordance with the Interconnection and Operating Agreement, shall be borne by the Parties in proportion to their respective Percentages. Although, as contemplated by Article 6.3(vi), IMPA and IMEA are expected to be parties to the Interconnection and Operating Agreement they will not be entitled to receive transmission credits from the transmission owners group of the Companies unless the Companies specifically receive transmission revenue from the Applicable Transmission Provider for IMPA's and IMEA's use of the interconnection upgrade.

Each Party covenants to use its respective Best Efforts to secure a Transmission Service Arrangement with the Applicable Transmission Provider in accordance with the schedule established in Article 5.3. Each Party shall pay the costs and expenses associated with its Transmission Service Arrangement with the Applicable Transmission Provider and shall bear its individual system upgrade expenses required to deliver its proportionate share of Trimble County Unit 2 output to its respective points of delivery from the Trimble County Plant switchyard. The Parties agree to cooperate and reasonably assist each other in the efforts of the individual Parties to secure their transmission needs. Actual costs of requested cooperation shall be fairly allocated to and paid or reimbursed by the Party or Parties benefiting therefrom.

ARTICLE 12.
TAXES

12.1 Management of Tax Matters.

Except for any payments of taxes or payments in lieu thereof which are directly billed to IMPA or IMEA by any taxing authority and which IMPA and IMEA shall pay directly, and except for any rulings that IMPA or IMEA might require in connection with the issuance of tax-exempt bonds, the Companies shall have the authority and responsibility for administering, coordinating, filing returns, making property tax declarations, paying, seeking official tax rulings or determinations, and other related functions pertaining to all taxes, payments in lieu of taxes, assessments, impositions, charges, and related costs of every kind and nature, ordinary, or extraordinary, general or special, foreseen or unforeseen, settled or pending settlement, including property, sales, use, and payroll taxes, connected with or arising out of the development, construction, ownership, operation, maintenance, alteration, repair, rebuilding, use or retirement of the Trimble County Unit 2 Project or any part thereof, (collectively "Taxes") which are or may be imposed by any taxing authority, whether federal, state, local, municipal, interregional, or quasi-governmental authority, provided, however, unless specifically authorized in writing by IMPA and/or IMEA, such authority shall not extend to any act or action affecting any exemption or special tax treatment arising out of the Trimble County Unit 2 Project to which IMPA or IMEA may be entitled. IMPA and IMEA do hereby appoint the Companies to be their attorneys-in-fact, which appointment is coupled with an interest, to act in their names, places and steads for the purpose of exercising the tax authority described herein, filing returns, making property tax declarations, payment negotiating, seeking adjustments or revisions, protesting, seeking official tax rulings or determinations, contesting, making application for and claiming any and all exclusions, exemptions, deductions, credits and elections pertaining to all such taxes, payments in lieu of taxes, assessments, impositions, charges, and related costs. Such appointment shall not be revocable during the term of this Agreement. IMPA, IMEA, their agents, or assigns shall promptly join in any action reasonably required which is consistent with the exercise by the Companies of the tax authority described herein and the status of IMPA and IMEA as governmental entities.

12.2 Sharing of Taxes and Related Payments

All Taxes shall be shared and borne by the Parties in proportion to their respective Percentages, provided, however, IMPA and IMEA shall be entitled to the entire benefit to the extent of actual realizations, of their respective exemptions from and reductions of taxes, including property, sales, use, and payroll taxes, connected with or arising out of the ownership, operation, maintenance, alteration, repair, rebuilding, use, or retirement of the Trimble County Unit 2 Project or any part thereof, which may be realized because of the provisions of the Constitutions of the Commonwealth of Kentucky, the State of Indiana, the State of Illinois, or the United States of America, or statutes, ordinances, rules, regulations, or laws applicable to IMPA and/or IMEA but not to the Companies.

The portion of Taxes that are to be borne by IMPA and IMEA, respectively, as set forth in this Article 12.2 shall be billed to and paid by IMPA and IMEA in accordance with Articles 9

and 10, as applicable, except for those which are paid by IMPA and IMEA, respectively, directly to the taxing authority.

12.3 Payment of Title Taxes and Fees.

All Taxes, recording fees and other impositions relating to the transfer of real property, if any, incurred in connection with the conveyances contemplated in this Agreement shall be borne by the transferees of such real property. Except as provided in the first sentence of this Article 12.3 or in Article 12.2, all Taxes arising out of the Development Work or the Construction Work shall be deemed to be Development Costs or Construction Costs, respectively.

12.4 Exclusion of Income Taxes.

Notwithstanding the generality of Article 12.1 above, the Parties agree that the foregoing provisions of this Article 12 shall not apply to any tax on or measured by net income.

12.5 Non-creation of Taxable Entity.

Notwithstanding any other provision of this Agreement, the Parties do not intend to create hereby at law any joint venture, partnership, association taxable as a corporation, or other entity for the conduct of any business for profit. The Parties agree to elect under Section 761(a) of the Internal Revenue Code of 1986, as amended, to exclude the transactions created by this Agreement from the application of Subchapter K, Chapter 1 of the Code, and the Parties agree to revise the terms of this Agreement to the extent and in a manner necessary to permit such election.

ARTICLE 13.
INSURANCE

13.1 Procurement of Insurance.

Except with regard to directors and officers liability insurance, the Companies shall maintain in force, for the benefit of the Parties as their interests in the Trimble County Unit 2 Project shall appear, such insurance and self-insurance as the Coordination Committee shall determine to be appropriate.

13.1.1 Sharing of Insurance Costs.

The costs of insurance policies referenced in Article 13.1 shall be shared by the Parties in proportion to their respective Percentages. IMPA and IMEA shall also pay any additional premium that results from IMPA and IMEA being named as an additional insured party on the Companies' existing policies. The Parties shall also bear proportionate responsibility for costs of and any losses incurred within the limits of any deductibles or self-insured retentions on policies of insurance. The Parties' share of such insurance costs and the costs arising from claims covered by self-insurance shall be shared by the Parties in proportion to their respective Percentages and shall be paid in accordance with Articles 9 and 10, as applicable.

13.1.2 The Parties Named as Insured.

IMPA and IMEA shall be named as either insureds or additional insureds on such insurance policies. The Companies shall cause the insurance underwriters to furnish the Parties with a certificate of insurance of each such insurance policy. In addition, the Companies shall have each of such policies endorsed to provide that IMPA and IMEA shall be given the same advance notice of cancellation or material change as is required to be given to the Companies. Subject to the decisions of the Coordination Committee, a loss or claim, if any, under such insurance policies shall be adjusted and settled by the Companies with the insurance underwriters.

13.1.3 Procurement of Additional Insurance for the Parties.

Any Party may obtain at its cost additional insurance beyond that provided for in this Article 13 to insure its interest in the Trimble County Unit 2 Project. With respect to such additional insurance:

(i) the proceeds from any claim arising through such additional insurance shall be disbursed to the Party providing the insurance; and

(ii) the loss or claim, if any, under such additional insurance shall be adjusted and settled by the Party providing the insurance.

13.1.4 Sharing of Refunds from Insurance Premiums.

Any refunds of insurance premiums shall be allocated among the Parties on the same basis as the premium payment allocation from which such refund was derived.

13.1.5 Sharing of Insurance Proceeds.

In the event of damage to property insured under this Article 13, it is agreed that the proceeds from insurance obtained by the Companies on behalf of the Parties shall be shared by the Parties on a pro rata basis based on their relative payments of insurance premiums covering the damaged property.

13.2 Destruction.

13.2.1 Damage or Destruction Fully Covered By Insurance.

If property insured under this Article 13 or any portion thereof should be damaged or destroyed to the extent that the cost of repairs or reconstruction is estimated to be covered by the aggregate amount of insurance coverage (without regard to any deductible) carried by the Companies for the benefit of the Parties pursuant to Article 13, then the Companies shall cause such repairs or reconstruction to be made so that such property shall be restored to substantially the same general condition, character, or use as existed prior to such damage or destruction, provided, however, if the estimate is wrong, and the insurance proceeds are insufficient to pay the cost of repair or reconstruction, the Parties shall share the cost not reimbursed by such insurance in proportion to their respective Percentages.

13.2.2 Damage or Destruction Not Fully Covered by Insurance.

If Trimble County Unit 2, the Trimble County General Plant Facilities or any portion thereof as they pertain to Trimble County Unit 2, should be damaged or destroyed to the extent that the cost of repairs or reconstruction is estimated to be more than the aggregate amount of insurance coverage (without regard to any deductible) carried by the Companies for the benefit of the Parties or by one or more of the other Parties for the benefit of the Parties pursuant to Article 13 hereof and covering the cost of such repairs or reconstruction, then, if the Companies elect to repair and reconstruct such property and upon agreement of the Companies and the other Parties, the Companies shall cause such repairs or reconstruction to be made and the Companies and the other Parties shall share the costs of such repairs or reconstruction not reimbursed by such insurance, in proportion to their respective Percentages, provided, however:

(i) If IMPA or IMEA elects not to join the Companies in repairing and reconstructing such property, then, at the Companies' election, the Parties shall determine the monetary amount to be paid by the Companies to IMPA or IMEA or by IMPA or IMEA to the Companies, as provided for in paragraph (ii) of this Article 13.2.2. Upon payment of such monetary amount by the Companies to IMPA or IMEA or by IMPA or IMEA to the Companies, as the case may require as set forth in said paragraph (ii), IMPA or IMEA shall transfer its entire Ownership Interest in Trimble County Unit 2 and the Trimble County Unit 2 Site, its license to use the Trimble County General Plant Facilities, and its easement to the Trimble County Site, to the Companies free and clear of all liens, security interests, charges, claims and other encumbrances, and this Agreement shall be (a) appropriately amended if only one Party other than the Companies elects not to join the Companies in repairing and reconstructing such property or (b) deemed to have expired if IMEA and IMPA both elect not to so join the Companies.

(ii) The monetary amount to be paid to or received from IMPA or IMEA pursuant to the provisions of paragraph (i) of this Article 13.2.2 shall be determined in accordance with the following equation:

$$P=W*X$$

Where:

P = the monetary amount to be paid to or received from IMPA or IMEA. If P is positive, the monetary amount shall be paid to IMPA or IMEA; and if P is negative, the monetary amount shall be received from IMPA or IMEA.

W = IMPA's/or IMEA's Percentage before transfer of IMPA's/or IMEA's Ownership Interest.

X = the fair market value (as determined by an independent appraiser selected jointly by the Parties) of (i) Trimble County Unit 2 and (ii) the Trimble County Unit 2 Site and the Trimble County General Plant Facilities as they pertain to IMPA's or IMEA's use of Trimble County Unit 2, at the time IMPA or IMEA elects not to join the

Companies in repairing and reconstructing Trimble County Unit 2 or the Trimble County General Plant Facilities. Fair market value shall be determined after taking into account all applicable costs of dismantling, demolishing, and removal of equipment, facilities, and structures; security; maintenance; disposing of debris; and any site work necessary to remove the effects of such damage or destruction. Fair market value may be a negative figure where appropriate.

ARTICLE 14.
PARTITION OF OR TRANSFERS OF INTEREST

14.1 Special Nature of Trimble County Unit 2 Project - Waiver of Right of Partition.

The Parties recognize that Trimble County Unit 2 is an integral part of the facilities required to provide adequate service in their respective service territories and that the physical partition of the Trimble County Unit 2 Project or any material part thereof would be impossible and impractical and wholly inconsistent with the purposes for which this Agreement is made.

Each of the Parties agrees that it will not take any action at any time by judicial proceedings or otherwise, to partition the Trimble County Unit 2 Project or any part thereof, in any way, whether by partition in kind or by sale and division of the proceeds thereof. Each of the Parties further waives the right of partition and the benefit of all statutory or common law that may now or hereafter authorize such partition of the Trimble County Unit 2 Project or any part thereof. In the event any such right of partition shall hereafter accrue, each Party shall from time-to-time upon the written request of the other Party execute and deliver such further instruments as may be necessary to confirm the foregoing waiver and release of its right to partition. The foregoing provisions of this Article 14.1 shall be binding upon and inure to the benefit of the Parties, their respective successors and assigns, including mortgagees, receivers, trustees, or other representatives and their respective successors and assigns, and shall run with the land. The Parties agree to insert a similar covenant in any contract with another party, which acquires all or any portion of a Percentage, which covenant will be enforceable by any Party.

14.2 Transfer of Ownership Interests.

If any Party ("Transferring Party") shall desire to transfer (whether by sale, conveyance, assignment, lease, or otherwise) all or any portion of its Ownership Interest (the "Offered Interest"), it may only do so in a bona fide arm's length transaction, subject to Articles 14.2.1, 14.2.2, 14.2.3, 14.2.4, and 14.2.5. Prior to making any such transfer, the Transferring Party shall give not less than forty-five (45) calendar days' written notice to the other Parties, of the proposed transaction and the identity of the proposed purchaser(s). Any such transaction or transactions shall not be consummated until each of the other Parties has determined not to exercise its right of first refusal as set forth in this Article 14.2. Such notice shall fully disclose the terms of the proposed transaction or transactions. Upon receipt of such notice, each other Party shall have a right of first refusal to acquire the Offered Interest, upon the same terms and conditions that the Transferring Party and the proposed purchaser(s) have agreed upon. If each

Party agrees to exercise its right of first refusal, each such Party shall acquire the Offered Interest in proportion to its respective Percentage prior to the proposed transfer. If a Party elects not to exercise its right of first refusal, the remaining Parties shall acquire the Offered Interest in proportion to their then existing Percentages. If only one Party elects to exercise its right of first refusal, it must acquire the entire Offered Interest by the Transferring Party. Within forty-five (45) calendar days following receipt of the notice from the Transferring Party, each of the other Parties shall give written notice to the Transferring Party stating whether or not it elects to acquire the Offered Interest (the "Return Notice"). A failure to give the Return Notice shall be deemed to be an election not to acquire such interest. If a Party or Parties elects or elect to exercise its or their rights to acquire such interest, the Transferring Party and such Party or Parties as soon as practicable, shall execute such instruments as may be necessary and appropriate to effectuate such sale, conveyance, transfer, assignment, lease, or other disposition, as the case may be, to such Party or Parties, free and clear of all liens, security interests, charges, claims, and other encumbrances for which the Transferring Party, as between the Parties, is responsible, including the indenture(s) of the Transferring Party.

14.2.1 Conditions of Transfer.

If none of the Parties elects to acquire the Offered Interest in the Trimble County Unit 2 Project as provided in Article 14.2, the Transferring Party may consummate its proposed transaction and dispose of the Offered Interest, provided, however, the other Parties have approved the proposed purchaser(s) as suitable as a joint owner(s) of Trimble County Unit 2, although such approval may not unreasonably be withheld, conditioned or delayed, and provided, further, where one or more of the Companies is a Transferring Party, the other Parties' rights to approve the prospective purchaser as suitable shall be limited to situations in which the proposed transfer reduces the Companies' aggregate Percentage to less than fifty percent (50%) or where such proposed transfer conveys, in whole or in part, the Companies' rights and obligations for the operation of Trimble County Unit 2 and the Trimble County General Plant Facilities under this Agreement to the proposed purchaser(s). Grounds for withholding such approval may include financial condition, experience in the operation and management of coal-fired generation, if applicable, and other factors as may materially adversely affect the other Parties' interests hereunder. The Transferring Party shall require (as a condition of or in connection with the sale, conveyance, transfer, assignment, lease, or other disposition, and for the benefit of the other Party) the proposed purchaser(s) to assume and agree to be bound by the provisions of this Agreement and any amendments thereto, and in furtherance thereof the provisions of this Agreement shall be amended appropriately.

Upon consummation of the transfer, the Transferring Party shall be released from its obligations under this Agreement, and from any claims, liabilities or debts, that arise in respect of the transferred interest on or after the date of such transfer. The consummation of any such transfer shall not release the Transferring Party from any of its debts or liabilities to the other Parties which, at the time of the consummation of the transaction, have accrued under this Agreement, unless the Parties shall agree in writing to the contrary. Any purported or attempted transfer of an interest in violation of this Article 14 shall be void and of no effect.

14.2.2 Further Conditions of Transfer.

The right of the Transferring Party to dispose of the Offered Interest to one or more non-Affiliates of the Transferring Party, as set forth in Article 14.2, is subject to the further condition that the other Parties shall be given written notice thereof and shall have the further right of first refusal, to the same extent and by the same procedure described in Article 14.2 if the Transferring Party:

(i) undertakes to consummate its proposed transaction at a time subsequent to two hundred forty (240) calendar days following the other Parties' receipt of the written notice first referred to in Article 14.2;

(ii) undertakes to, without the consent of the other Parties, which consent will not be unreasonably withheld, dispose of such Offered Interest to Persons other than those whose identity was disclosed in said notice; or

(iii) undertakes to dispose of the Offered Interest upon substantially different terms and conditions than were disclosed in said notice.

14.2.3 Non-applicability of Certain Provisions.

The provisions of the foregoing Articles 14.2, 14.2.1 and 14.2.2 shall continue for the duration of this Agreement and shall be applicable to each and every occasion and whenever a Party desires to dispose of (whether by sale, conveyance, transfer, assignment, lease, or otherwise) all or any portion of its Ownership Interest, provided, however, such provisions (excluding the last paragraph of Article 14.2.1) shall not be applicable to, and each of the Parties hereby consents to, the following:

(i) the transfer, sale, or assignment to a financially responsible Affiliate or successor of a Party;

(ii) the transfer, assignment, pledge, hypothecation, mortgage, or grant (by indenture of mortgage, deed of trust, or otherwise) by any Party of its Ownership Interest, together with all or substantially all of its other electric utility property, for the purpose of securing bonds or other obligations for borrowed money issued or to be issued by it, including the effect of any after-acquired property clause of any such indenture of mortgage, deed of trust, or other instrument now existing or hereafter created by such Party, or the realization on or enforcement of such security or the exercise by the trustee or the mortgagee, or as the case may be, or the beneficiaries of such security of any of the rights, powers, or privileges provided for with respect thereto;

(iii) the transfer by a Party to one or more third parties of its Ownership Interest, together with all or substantially all of its other electric generating assets, whether by sale or pursuant to or as a result of a merger, consolidation, or corporate reorganization; or

(iv) the transfer by the Companies of any interest in Trimble County Unit 2, which transfer would not reduce the Companies' aggregate Percentage to a level below seventy-five percent (75%).

All transfers of interest described in clauses (i) through (iv) of this Article 14.2.3 shall be conditioned upon the transferee, by written agreement or by operation of law, assuming the obligations of this Agreement, and any amendments thereto, of the Transferring Party; except that transferees under (ii) and (iii) above shall not be subject to this condition prior to any exercise of ownership, control, or possession by transferee over the interest transferred. In furtherance of such transfer, the Parties shall amend this Agreement appropriately.

14.2.4 Transfer of Associated Rights and Interests.

No transfer (whether by sale, conveyance, assignment, lease, or otherwise) of any Ownership Interest shall be permitted, or shall become effective, unless the interest transferred includes a corresponding and equivalent transfer of associated rights and interests under this Agreement, including its rights and interests in Trimble County Unit 2, the Trimble County General Plant Facilities, and the Trimble County Unit 2 Site (and the licenses and easements associated therewith), and unless such transfer is made in full compliance with this Article 14.

14.2.5 Louisville and Kentucky Utilities.

In the event that Louisville and Kentucky Utilities cease to be Affiliates of each other, the agency established hereunder shall devolve upon either Louisville or Kentucky Utilities as specified by both of them in a written notice to the other Parties. This Agreement shall thereupon also be amended and restated by the Parties to appropriately reflect such change and the severing of such affiliated relationship.

ARTICLE 15.
ASSIGNMENT

15.1 Limitation of Assignability.

This Agreement shall not be assignable by any Party without the written consent of the other Parties, except that no such consent under this Article 15.1 shall be required for the assignment of this Agreement (i) as an incident to the disposition of Ownership Interests in accordance with Articles 14.2, 14.2.1, 14.2.2 or 14.2.3 hereof or (ii) as an incident to the disposition of its Ownership Interest to the trustee for the revenue bonds issued by IMPA or IMEA to pay the costs of the acquisition of IMPA's or IMEA's Ownership Interest.

15.2 Successors and Assigns.

This Agreement shall inure to the benefit of and be binding upon the Parties and their respective successors and upon the assigns of the Parties when such assignment is made in accordance with the provisions of Article 15.1.

ARTICLE 16.
LIABILITY AND DEFAULT

16.1 Liability to Third Parties.

Subject to any express provision to the contrary in this Agreement, any liability or any payment, cost, expense, or obligation arising from a claim of liability (after application thereto of any insurance coverage or proceeds) to one or more third parties against one or more of the Parties and arising from the planning, engineering, design, licensing, procurement, construction, installation, completion, operation, use, management, control, maintenance, replacement, alteration, modification, renewal, rebuilding or repair, retirement, disposal, or salvaging of the Trimble County Unit 2 Project or any part thereof; or from any other action or failure to act by any Party (or its employees, agents, or contractors) in carrying out any of the provisions of this Agreement in regard to the Trimble County Unit 2 Project or any part thereof, shall be several and not joint and shall be shared by the Parties in proportion to their respective Percentages in all circumstances except where such liability or claim of liability is the result of gross negligence or intentional wrongdoing on the part of less than all of the Parties. If, by reason of any such liability or claim of liability (after application thereto of any insurance coverage or proceeds) to one or more third parties, any Party shall be called upon to make any payment or to incur any cost, expense, or obligation in excess of that for which it is responsible under the provisions of the preceding sentence, then the other Parties shall reimburse the Party making such excess payment or incurring any such excess cost, expense, or obligation to the full extent of the excess.

16.2 Liability Among the Parties; No Consequential Damages.

Except as stated in Articles 6.5.5, 6.5.6, 7.7, 13.2.2, 19.4, 19.5, and 21.1.3 a Party (or its employees, agents or contractors) shall not be liable to the other Parties for any loss, cost, damage, or expense incurred by the Parties as a result of any action or failure to act, under any circumstances, by that Party (or its employees, agents, or contractors) in carrying out any of the provisions of this Agreement, unless such loss, cost, damage, or expense is the result of (i) gross negligence or intentional wrongdoing on the part of that Party, (ii) a Withdrawal Event occurs with respect to that Party after the Construction Closing or (iii) the performance of Companies' obligations during the Development Phase or Construction Phase falling below the standard of conduct established in Article 20.24. For purposes of this paragraph "contractors" shall not be interpreted to mean Persons under contracts entered into by all of the Parties or by the Companies when acting as the agent of the Parties.

Notwithstanding any other provision of this Agreement, the maximum aggregate liability of the Companies to IMEA or IMPA in connection with any loss, cost, damage or expense arising under clause (iii) above shall be limited to the aggregate amount of the supervisory fee paid to the Companies by such Party pursuant to Article 9.1.

Notwithstanding any other provision of this Agreement, in no event shall any Party be liable to another Party with respect to any claim, whether based on contract, tort (including negligence), patent, trademark or service mark, or otherwise, for any indirect, special, incidental, or consequential damages.

In no event shall any Party be excused from liability for its fraudulent acts.

16.3 Indemnification.

Subject to Article 16.2 hereof, each Party ("breaching Party") hereby agrees to indemnify and hold the other Parties ("non-breaching Parties") harmless from, against, and in respect of and shall on demand reimburse the non-breaching Parties for:

(i) any and all loss, liability, or damage resulting from any untrue representation, breach of warranty, or non-fulfillment of any covenant or agreement by the breaching Party contained herein or in any certificate, document, or instrument delivered to the non-breaching Parties hereunder; and

(ii) any and all loss suffered by the non-breaching Parties due to the breaching Party's failure to perform or satisfy any obligation assumed pursuant to this Agreement; or

(iii) any and all loss resulting from actions, suits, proceedings, claims, demands, assessments, judgments, costs, and expenses, including legal fees and expenses, incident to any of the foregoing or incurred in investigating or attempting to avoid the same or to oppose the imposition thereof, or in successfully enforcing this indemnity. The provisions of this paragraph (iii) shall not apply unless it shall be finally adjudicated by a court having jurisdiction of the subject matter and the Parties that a Party has committed a breach identified in paragraph (i) or (ii) of this Article 16.3.

16.4 Nature and Survival of Representations and Warranties.

Each representation, warranty, indemnity, covenant, and agreement made by the Parties in this Agreement or in any document, certificate, or other instrument delivered by or on behalf of the Parties pursuant to this Agreement or in connection herewith, shall survive the Development Closing and the Construction Closing, respectively.

16.5 Default.

16.5.1 Events of Default.

The following shall be an Event of Default under this Agreement:

(i) Failure to Make Payment. Subject to Article 18.4, failure by any Party to make any payment to the other Parties required under this Agreement within sixty (60) calendar days after the date on which such payment becomes due, or failure by any Party to give any credit to the other Parties required under this Agreement for a period of sixty (60) calendar days after the date on which such credit becomes due, or failure by any Party to make payment for a period of sixty (60) calendar days after the date on which such payment becomes due, when failure to do so is likely to result in a lien on any of the property subject to this Agreement or otherwise adversely affects the interests of the other Parties, provided, however, that no Party shall be in default if the amount it owes hereunder can be, and is, offset in whole within sixty (60) calendar days after the date on which such amount became due and payable, by the Party to whom that sum is owed under this Agreement.

(ii) Failure to Perform. Failure by a Party to perform any material obligation, duty, or responsibility in accordance with the provisions of this Agreement.

16.5.2 Curing Event of Default in Regard to Paying Money.

As to any Event of Default resulting from the failure to pay money, the defaulting Party may remedy its Event of Default (when such default is the failure to pay money) by paying to the non-defaulting Parties on or before ninety (90) calendar days from the date the payment becomes due:

(i) the sums due;

(ii) interest on the sums due at the Agreed Rate from the date due until paid; and

(iii) any other costs reasonably incurred by the non-defaulting Parties as a result of such Event of Default.

16.5.3 Curing Event of Default for Other Than Failure to Pay Money.

An Event of Default other than the failure to pay money may be cured by the Party in default by performing such act as is necessary to cure the Event of Default and by paying the non-defaulting Parties on or before ninety (90) calendar days from the date such Event of Default occurred, any sums due under Article 16.3.

16.5.4 Non-Applicability of Cure Provisions.

The cure periods set forth in Articles 16.5.2 and 16.5.3 are intended to allow a Party to have the opportunity to cure a specific Event of Default and, unless otherwise provided, do not otherwise extend the time required for the performance of any other obligation of a Party under this Agreement.

16.5.5 Appointment of a Receiver.

If an Event of Default occurring after the Commercial Operation Date continues for a period of one hundred eighty (180) calendar days, then the non-defaulting Parties may have a receiver appointed by a state or federal court sitting in Louisville, Kentucky, to take control of and operate the defaulting Party's interest in the Trimble County Unit 2 Project and perform in accordance with the terms of this Agreement.

16.5.6 Additional Obligations.

With respect to any Party as to which an Event of Default has occurred, such Party shall use its Best Efforts to take any and all such further actions and shall execute and file where appropriate any and all such further legal documents and papers as may be reasonable under the circumstances in order to facilitate the carrying out of this Agreement or otherwise effectuate its purpose, including action to seek any required governmental or regulatory approval and to obtain any other required consent, release, amendment, or other similar document.

16.5.7 Notice.

To entitle a Party hereto to exercise any remedy conferred upon or reserved by it in this Article 16, notice shall be provided in accordance with Article 20.2 hereof.

16.6 Force Majeure.

In no event shall any Party be liable to the other Parties for failure by such Party to perform any of its obligations under this Agreement because of Force Majeure. Nothing contained herein shall be construed to require a Party to settle any strike, lockout, work stoppage, or other industrial disturbance or dispute in which it may be involved or to take an appeal from any action of a Governmental Authority. Any Party rendered unable to fulfill any of its obligations under this Agreement by reason of Force Majeure shall exercise Best Efforts to remove such inability with all reasonable dispatch. In the event any Party is unable, in whole or in part, to perform any of its obligations by reason of Force Majeure, other than obligations to make payments hereunder, the obligations of the Party relying thereon, insofar as such obligations are affected by such Force Majeure, shall be suspended during the continuance thereof but no longer. The Party invoking Force Majeure shall notify the other Parties of the full particulars of the Force Majeure and the time and date when the Force Majeure occurred. Notices given by telephone under this Article 16.6 shall be confirmed promptly by electronic mail or facsimile transmission. When the Force Majeure ceases, the Party relying thereon shall give immediate notice thereof to the other Parties by electronic mail or facsimile transmission. This Agreement shall not be terminated by reason of Force Majeure but shall remain in full force and effect. Force Majeure does not include financial inability to pay, and shall not, in any event, excuse payment for obligations already incurred hereunder at the time a claim is made.

ARTICLE 17.
MANAGEMENT

17.1 Coordination Committee.

From time to time various administrative, financial, and technical matters may arise in connection with the terms and conditions of this Agreement which will require the cooperation and consultation of the Parties and the exchange of information. As a means of providing for such consultation, interchange, decision making, or ratification, a Coordination Committee is hereby established with functions as described in Article 17.3 below. However, such committee shall not diminish in any manner the authority of the Companies as set forth in this Agreement

17.2 Coordination Committee Formation.

Within thirty (30) calendar days after the Execution Date, each Party shall designate a representative and an alternate that are to serve on the Coordination Committee and shall give written notice to the other Parties of such designations. In the event that any Ownership Interest of a Party, in whole or in part, shall be assigned or otherwise transferred to a replacement or an additional Party in accordance with the provisions of this Agreement, such replacement or additional Party shall designate a representative and an alternate to serve on the Coordination Committee. Any change in the representative or alternate of a Party on the Coordination Committee shall be made by written notice to the other Parties. Each Party shall be responsible for the personal expenses of its representatives.

17.3 Powers of Coordination Committee.

The Coordination Committee shall be responsible for and shall take actions, which it determines are necessary or advisable during the term of this Agreement. The Coordination Committee shall address activities necessary or advisable to plan, license, acquire licenses, permits and approvals for, construct, acquire, complete, maintain, operate, assure the security of, and decommission the Trimble County Unit 2 Project, including:

(i) the making of such agreements and modifications of existing agreements and the taking of such other action as the Coordination Committee deems necessary or that may be required under the regulations or directives of any Governmental Authority having jurisdiction thereof, with respect to the development, construction, acquisition and completion of the Trimble County Unit 2 Project for commercial service; the procurement, replacement, modification, or renewal of all or any part thereof; the making of additions, betterments, or improvements thereto; the operation and maintenance thereof; and the retirement, decommissioning, storage, or salvaging of all or any part thereof;

(ii) the execution and filing with Governmental Authorities having jurisdiction of applications, amendments, reports, and other documents and filings required in connection with the licensing and other regulatory matters, including applications for extension or renewal of the terms of any licenses and permits required by any Governmental Authority;

(iii) the adjustment of losses and settlement of any losses covered by insurance on the Trimble County Unit 2 Project;

(iv) the pursuit and defense of claims and causes of action of any kind relating to the Trimble County Unit 2 Project, including the filing or defense of suits, appeals thereof, and settlement of claims and suits subject to the right of any Party to conduct its own action in any litigation in which it is a party or in which it is entitled to intervene pursuant to this Agreement;

(v) the establishment of such subcommittees as it believes appropriate and provide for membership, meetings, voting procedures and such other rules of procedure as it deems appropriate consistent with the provisions of this Article 17.

(vi) the determination from time to time of the Net Electric Generating Capacity and the Net Seasonal Capacity of Trimble County Unit 2;

(vii) the approval of budgets for development, construction, operation and maintenance, and Incremental Capital Assets, as described in Article 17.4;

(viii) acting upon any matter brought before the Coordination Committee by a Party;

(ix) performing such other duties as set forth in this Agreement; and

(x) prior to and as a condition of the Construction Closing, undertaking due consideration of and issuance of the Authorization to Construct.

17.4 Budget Approval.

17.4.1 Development Budget.

Prior to the Development Closing, the Companies shall provide a budget of the total Development Costs, together with interest thereon in accordance with Article 3.2 and the supervisory fees thereon applicable to IMPA and IMEA in accordance with Article 9.1 (the "Development Budget"), which shall include all applicable charges incurred prior to Development Closing and to be paid in accordance with Article 9.1, and the Companies' best estimates of all applicable charges from Development Closing to the Construction Closing, including a reasonable contingency. The proposed Development Budget will include such level of detail as may be reasonably required by the Parties for their budgets, books and records, as well as estimated expenditures at certain milestones throughout the development of the Trimble County Unit 2 Project. The Parties will share all Development Costs in proportion to their respective Percentages.

The Parties must approve, by unanimous vote, the Development Budget submitted by the Companies, with such changes as the Parties deem necessary or appropriate and such approved Development Budget will be attached hereto as Appendix H. After the initial Development Budget is approved, the Companies are authorized to expend the amounts contained therein.

The Companies may submit a revised Development Budget to the Coordination Committee for approval or disapproval.

After the Development Closing and during the Development Phase, the Companies shall provide status reports on the Development Schedule, Development Work, Development Costs (and the supervisory fees thereon), Development Budget, Construction Schedule, and Construction Budget on a monthly basis and at such other times as the Companies believe elements thereof will change significantly. Such reports shall disclose material developments affecting the Development Work (and the schedule impact thereof), the Development Costs, the Development Budget, the Construction Schedule or the Construction Budget.

17.4.2 Construction Budget.

Not less than ninety (90) calendar days prior to the Construction Closing, the Companies will submit a proposed budget for Construction Costs (including the supervisory fees thereon in accordance with Article 9.1) (the "Construction Budget") to the Coordination Committee. The proposed Construction Budget will include all Construction Costs (including the supervisory fees thereon in accordance with Article 9.1) and a reasonable contingency established by the Companies. The proposed Construction Budget will include such level of detail as may be reasonably required by the Parties for their budgets, books and records, as well as estimated expenditures at certain milestones throughout the construction of the Trimble County Unit 2 Project. The proposed Construction Budget shall include an estimated cash flow of payments expected to be made by the Parties during the Construction Phase in accordance with Article 9.1. The Coordination Committee shall approve the Construction Budget submitted by the Companies, with such changes as the Coordination Committee deems necessary or appropriate. After the Construction Closing has occurred, the Companies will be authorized to expend the amounts authorized in the Construction Budget in effect as of the date of the Construction

Closing (the "Initial Construction Budget") contained therein. IMPA and IMEA shall pay the Companies directly for their respective proportionate share of all approved Construction Costs (and the supervisory fees thereon in accordance with Article 9.1) on a monthly basis, in accordance with Articles 9 and 10.

After the Construction Closing has occurred, the Companies shall provide status reports thereon not less than monthly and such other times as they believe the costs of the Initial Capital Assets of the Trimble County Unit 2 Project will change significantly. The Companies shall have the authority to approve change orders to the Construction Contracts whether initiated by the Companies or by a Construction Contractor, provided that Companies shall not direct discretionary changes that would be in excess of the then existing Construction Budget (including budgeted contingency) without the unanimous consent of the Coordination Committee. If any individual change to the Initial Construction Budget (after utilizing all budgeted contingency) exceeds one percent (1%) of the Initial Construction Budget or any combination of change orders and changes to the Construction Budget results in a cumulative increase in the initial Construction Budget (after utilizing all budgeted contingency) by more than five percent (5%) of the Initial Construction Budget a ("Major Change"), the Companies will consult with the Coordination Committee and seek an amendment to the Construction Budget. Any change orders to the engineering, equipment or other Construction Contracts that change the guaranteed performance, including the Net Electric Generating Capacity, major equipment, or the guaranteed completion dates of the Trimble County Unit 2 Project shall not be authorized by the Companies without prior consultation with and approval of the Coordination Committee.

The Companies will be authorized to expend the amounts in the Construction Budget as revised from time-to-time in accordance with this Article 17.4.2. At any time, regardless of actual construction expenditures, the Companies may submit a revised Construction Budget for the Trimble County Unit 2 Project to the Coordination Committee for approval or disapproval.

After the Construction Closing and during the Construction Phase, the Companies shall provide status reports on the Construction Schedule, Construction Work, Construction Costs (together with the supervisory fees thereon in accordance with Article 9.1), and Construction Budget on a monthly basis. Such reports shall disclose material developments affecting the Construction Schedule, the Construction Work, the Construction Costs or the Construction Budget.

17.4.3 Annual Capital Budget.

For Incremental Capital Assets after completion of the original construction of the Trimble County Unit 2 Project, the Companies shall prepare and submit to the Coordination Committee an annual Trimble County Unit 2 Project capital budget (the "Annual Capital Budget") no later than August 1 of each year for the subsequent year. The Coordination Committee must approve the Annual Capital Budget submitted by the Companies with such changes as the Coordination Committee deems necessary or appropriate, after which the Companies will be authorized to expend the amounts contained therein. After approval of the Annual Capital Budget, no further review by the Coordination Committee is required unless the actual, total capital expenditures are anticipated to exceed the approved Annual Capital Budget by fifteen percent (15%) or more. In this event, the Companies will submit a revised Annual

Capital Budget to the Coordination Committee for its approval or disapproval on a quarterly basis. The Companies are not authorized to expend construction funds in excess of one hundred fifteen percent (115%) of the total amount approved by the Coordination Committee in the Annual Capital Budget (as revised) except in the event of an Emergency. In the event an Emergency requires expenditure of funds in excess of the approved Annual Capital Budget, the Companies shall advise the Coordination Committee immediately and request timely approval or disapproval. Such approval or disapproval may be obtained via a telephone or electronic meeting to be confirmed later in writing. In the absence of timely approval, the Companies shall take whatever actions they deem necessary to support the continued safe and efficient operation of Trimble County Unit 2.

17.4.4 Operation and Maintenance Budget.

For operation and maintenance ("O&M") expenses, the Companies shall prepare and submit to the Coordination Committee an annual Trimble County Unit 2 Project O&M budget (the "Annual O&M Budget") no later than August 1 of each year. Such Annual O&M Budget shall include goals as to unit efficiency and availability for the ensuing year. The Coordination Committee must approve the Annual O&M Budget submitted by the Companies with such changes as the Coordination Committee deems necessary or appropriate. After the Annual O&M Budget is approved, the Companies will be authorized to expend the amounts contained therein. Further, after approval of the Annual O&M Budget, no further review by the Coordination Committee is required unless the actual, total O&M expenditures are anticipated to exceed the budgeted amounts by fifteen percent (15%) or more. In this event, the Companies will submit on a quarterly basis a revised Annual O&M Budget to the Coordination Committee for its approval or disapproval. The Companies are not authorized to expend O&M funds in excess of one hundred fifteen percent (115%) of the total amount approved by the Coordination Committee in the Annual O&M Budget (as revised) except in the event of an Emergency. In the event an Emergency requires the expenditure of funds in excess of the approved Annual O&M Budget, the Companies shall advise the Coordination Committee promptly and request timely approval or disapproval. Such approval may be obtained via a telephone or electronic meeting to be confirmed later in writing. In the absence of timely approval the Companies shall take whatever actions they deem necessary to support the continued safe and efficient operation of Trimble County Unit 2.

17.5 Vote by Coordination Committee.

Except as provided otherwise in this Agreement or by agreement of all Parties, all actions taken by the Coordination Committee shall be by majority vote, with each Party entitled to vote in shares equal to its Percentage.

17.6 Meetings.

The Chairman of the Coordination Committee shall rotate annually among the Parties on each anniversary of the Execution Date. The Chairman shall be responsible for calling meetings, except as hereinbelow provided, and establishing the agenda. Each Party, however, shall have the right to have items included on the agenda. The Coordination Committee may also act without a meeting by telephone or electronic conference or voting by correspondence or electronic mail. The Coordination Committee shall meet regularly, but not less often than once

in each calendar quarter during development and construction of the Trimble County Unit 2 Project and not less than annually after the Commercial Operation Date, and at such other times as requested by any Coordination Committee member upon thirty (30) calendar days' prior written notice. Meetings may be attended by other representatives of the Parties in addition to the members of the Coordination Committee.

17.7 Records.

The Coordination Committee shall keep written records of all meetings.

17.8 Amendments.

The Coordination Committee shall have no authority to modify or amend the terms of this Agreement.

17.9 Information.

The Companies shall use their Best Efforts to keep all members of the Coordination Committee informed of all significant matters with respect to the development, construction, operation and maintenance of the Trimble County Unit 2 Project including, plans, specifications, engineering studies, environmental reports, budgets, estimates and schedules. Upon the request of any Coordination Committee member, the Companies shall furnish or make available any and all other information relating to the development, construction and operation and maintenance of the Trimble County Unit 2 Project.

ARTICLE 18.
DISAGREEMENT

18.1 Consultation.

In accordance with the provisions of Article 18, the members of the Coordination Committee will consult in connection with any major matter arising under this Agreement.

18.2 Disagreement.

If any disagreement arises on major development, construction or operation and maintenance matters pertaining to the Trimble County Unit 2 Project, major capital matters pertaining to the Trimble Unit 2 Project, or major retirement matters, or other matters arising under this Agreement, pertaining to the Trimble County Unit 2 Project ("Plant Subjects"), such matters shall be discussed by the Coordination Committee and timely mutual agreement sought in regard thereto. If each of the members of the Coordination Committee agrees to the resolution of any Plant Subject, such agreement shall be reported in writing to and shall be binding upon the Parties within the authority of the Coordination Committee as provided in Article 17. In the unlikely event that each of the members of the Coordination Committee is unable to reach agreement within a reasonable time (giving due cognizance to the operating and maintenance schedules of Trimble County Unit 2 and all other pertinent circumstances) with respect to any Plant Subject under consideration, a Vice President of Louisville, a Vice President of Kentucky

Utilities, the President of IMPA or the General Manager and CEO of IMEA can, by written notice to the other members of the Coordination Committee, withdraw the matter from consideration by the Coordination Committee and submit the same for resolution to a Vice President of Louisville, a Vice President of Kentucky Utilities, the President of IMPA and the General Manager and CEO of IMEA. If these senior representatives of the Parties agree to a resolution of the matter, such agreement shall be reported in writing to and shall be binding upon the Parties; but if said senior representatives fail to resolve the matter within seven (7) calendar days after its submission to them, then the matter may proceed to resolution as provided in Article 18.3.

18.3 Arbitration.

If a disagreement should arise with respect to any Plant Subject which is not resolved by the Coordination Committee or the senior representatives of the Parties as provided in Article 18.2 or any other disagreement concerning this Agreement, then such disagreement may be settled by arbitration by a single arbitrator as hereinafter provided, in accordance with the provisions of this Article 18.3. If, after the procedure for resolving such disagreement by the Coordination Committee or the senior representatives of the Parties as provided in Article 18.2 has been exhausted, a Party desires that such disagreement shall be settled by arbitration, it shall serve written notice upon the other Parties setting forth in detail such disagreement with respect to which arbitration is desired. Such disagreement shall be settled by arbitration if, after receipt of such written notice, all of the Parties shall agree in writing that such disagreement shall be settled by arbitration. Within a period of thirty (30) calendar days from the date of such agreement in writing to settle such disagreement by arbitration, the Parties shall mutually agree upon an arbitrator. If the arbitrator is not so selected within the specified thirty (30)-calendar day period, either Party may, upon written notice to the other Parties, apply to the American Arbitration Association for the appointment of the arbitrator or arbitrators who have not been so selected and such association shall thereupon be empowered to select such arbitrator.

The arbitration proceedings shall be conducted in Louisville, Kentucky, unless otherwise mutually agreed. The Arbitrator shall afford adequate opportunity to both of the Parties to present information with respect to the disagreement submitted to arbitration and may request further information from any Party. Except as provided in the preceding sentence, the Parties may, by mutual agreement, specify the rules that are to govern any proceeding before the arbitrator and limit the matters to be considered by the arbitrator, in which event the arbitrator shall be governed by the terms and conditions of such agreement. In the absence of any such agreement respecting the rules that are to govern any proceeding, the then current rules of the American Arbitration Association for the conduct of commercial arbitration shall govern the proceedings, except that if such rules shall conflict with the then current provisions of the laws of Kentucky relating to arbitration, such conflict shall be governed by the then current provisions of the laws of Kentucky relating to arbitration.

Procedural matters pertaining to the conduct of the arbitration and the award shall be made by the arbitrator. The Parties shall, however, be entitled to all discovery provided for by the Kentucky Rules of Civil Procedure. The findings and award of the arbitrator shall be final and conclusive with respect to the disagreement submitted for arbitration and shall be binding upon the Parties, except as otherwise provided by Applicable Law. Each Party shall equally

share the fee and expenses of the arbitrator and shall also be responsible for the costs and expenses incurred by it in the preparation of its case to the arbitrators. Judgment upon the award may be entered in any court having jurisdiction. In the event all of the Parties do not agree to arbitrate, each shall have the right to take appropriate judicial action.

18.4 Obligations To Make Payments.

If a disagreement should arise out of the Development Work, the Construction Work, the Operating Work, the construction or acquisition of any Incremental Capital Asset or from any Plant Subject which is not resolved by the Coordination Committee or the senior representatives of the Parties as provided in Article 18.2, then, pending the resolution of the disagreement by arbitration (if applicable) and/or litigation, the Companies shall continue to pursue the Development Work, the Construction Work, operate Trimble County Unit 2, or construct or procure necessary Incremental Capital Assets, as the case may be, in a manner consistent with this Agreement, and the Parties shall continue to make all payments required in accordance with the applicable provisions of this Agreement. Notwithstanding the foregoing, a Party may, in good faith, withhold payment of amounts that it disputes are properly due and payable under this Agreement (a "Withholding Party"), provided, however, any such right to withhold payment is subject to the following conditions: (i) the aggregate amount withheld will not, in the aggregate at any time, exceed $1,000,000, (ii) prior to the date on which the payment(s) to be withheld would otherwise be due, the Withholding Party shall (a) give a detailed written notice to the Party or Parties otherwise entitled to payment of the amount to be withheld and the basis on which the Withholding Party asserts that the amount withheld is not due and owing, (b) deposit the full amount of the withheld payment(s) in an interest-bearing escrow account (the "Escrow Account") and (c) commence the dispute resolution process set forth in Article 18.2 by requesting a meeting of the Coordination Committee to resolve the dispute. The Escrow Account shall be established by all Parties to the dispute (the "Disputing Parties") in a reputable financial institution conducting fiduciary business in the United States, as agreed upon by the Parties. The agreement establishing the Escrow Account shall provide that the escrowed sums are not to be released except upon the signature of all Disputing Parties, and shall contain such other provisions as the Disputing Parties and the escrow agent shall agree upon. At such time that the dispute is decided in accordance with Article 18 or otherwise resolved, the Disputing Parties shall direct the escrow agent to release the escrowed sums, including interest earned thereon, in accordance with the decision or other resolution. If the amount received by the receiving Party is less than the amount required in accordance with Article 18.5, the Withholding Party shall reimburse the difference to the Party or Parties entitled to payment. The cost of establishing and maintaining the Escrow Account shall be initially borne by the Withholding Party, but shall be ultimately borne by the Disputing Parties in inverse proportion to their entitlement to the escrowed proceeds and interest thereon. By way of example, if a Disputing Party is ultimately entitled to all of the proceeds of the Escrow Account, the other Disputing Parties shall bear the cost of establishing and maintaining the Escrow Account.

18.5 Interest.

In the event that a Party withholds payment pursuant to Article 18.4 or otherwise fails to make a payment when due and it is determined in accordance with Article 18 or otherwise agreed that all or any portion of such funds should have been paid when invoiced or otherwise

due, the Party that withheld such payment or otherwise failed to make full payment shall pay to the appropriate Parties the full amount overdue, together with interest thereon at the Agreed Rate from the date such sums were originally due to the date paid. In the event that it is determined in accordance with Article 18 or otherwise agreed that a Party has received an overpayment under this Agreement, the Party that received such overpayment shall reimburse the overpaying Party the amount of such overpayment together with interest thereon at the Agreed Rate from the date such sum was overpaid to the date of such reimbursement.

ARTICLE 19.
REMEDIES

19.1 All Remedies - Setoff.

In the event any Party (the "Defaulting Party") fails to pay when due any amount owing by it to the other Parties (the "Non-Defaulting Parties") under this Agreement or fails to perform or observe any covenant, condition, or agreement to be performed or observed under this Agreement or the Interconnection and Operating Agreement, each Non-Defaulting Party shall have available to it all remedies, legal and equitable, including those available in order to enforce payment of any such amount or performance or observance of any such covenant, condition, or agreement, subject to the defaulting Party's rights to cure default under Article 16.5. All overdue payments shall bear interest at the Agreed Rate. Further, the Non-Defaulting Parties shall have the right to setoff against any amount owed to them by the Defaulting Party the amount of any payment which such Party has failed to pay when due under this Agreement or the Interconnection and Operating Agreement. In addition, the Non-Defaulting Parties shall have the other rights and remedies available to them under this Article 19.

19.2 Injunctive Relief and Specific Performance.

The Parties hereto agree and acknowledge that the failure to perform any of their respective obligations (except with respect to Article 6.5.4 hereof) under this Agreement, including the execution of documents which may be reasonably requested pursuant to this Agreement, would cause irreparable injury to the other Parties and that the remedy at law for any violation or threatened violation thereof would be inadequate, and further agree that the other Parties shall be entitled to a temporary or permanent injunction, specific performance or other equitable relief specifically to enforce such obligation without the necessity of proving the inadequacy of its legal remedies.

19.3 No Remedy Exclusive.

Except as otherwise provided in this Agreement, no remedy conferred upon or reserved to the Parties hereto in this Agreement is intended to be exclusive of any other remedy or remedies available hereunder or now or hereafter existing at law, in equity, or by statute or otherwise, but each and every such remedy shall be cumulative and shall be in addition to every other such remedy. The pursuit by any Party of any specific remedy shall not be deemed to be an election of that remedy to the exclusion of any other or others, whether provided hereunder or by law, equity, or statute.

19.4 Failure to Participate in Incremental Capital Assets.

If IMPA or IMEA fails to make any payment of its share of the cost of Incremental Capital Assets, the Companies shall have the right, at their election, to give written notice of such failure to the Party that has failed to make such payment. In addition to the right to receive interest on such overdue payment, if such payment (with interest due thereon at the Agreed Rate) remains unpaid ninety (90) calendar days after the giving of the written notice first referred to in this paragraph, then (i) the non-paying Party's rights to make any further payments of its share of the cost of the Incremental Capital Asset shall thereupon terminate, and (ii) the respective Ownership Interest shall be adjusted in accordance with the following formula:

ADD = ALGE*IPCT/(INP+ALGE)

where:

ADD	=	Additional Ownership Interest accruing to the Party or Parties as a result of making the additional investment to complete construction of Incremental Capital Assets (there shall be a corresponding reduction in the Ownership Interest of the non-paying Party.
INP	=	Investment made by the non-paying Party or Parties for its or their respective Ownership Interest to the time of the written notice first referred to in this Article 19.4.
ALGE	=	Additional investment made by the paying Party or Parties to complete construction of Incremental Capital Assets as aforesaid.
IPCT	=	The non-paying Party's Percentage at the time of the written notice first referred to in this Article 19.4.

If either IMPA or IMEA fails to make a payment of its share of the cost of an Incremental Capital Asset, but not both, then the Companies will notify the other paying Party and such other paying Party shall fund its proportionate share (based on its relative Percentage) of the additional investment of the non-paying Party. The Companies will then calculate the portion of the ADD to which they and the other Paying Party are entitled based on their respective additional investments.

19.5 Failure to Participate in Construction Costs.

In the event that a Party votes in the Coordination Committee against an amendment to the Construction Budget that constitutes a Major Change, such Party shall give written notice to the other Parties, within five (5) calendar days of such vote, specifying whether it will or will not make payment of its share of the additional Construction Costs (and the supervisory fee thereon in accordance with Article 9.1) arising from such amendment to the Construction Budget. If such Party gives notice that it will not make such payment or if such Party fails to make such payment, its rights to make such payment shall thereupon terminate and the Ownership Interests in the Trimble County Unit 2 Project shall be adjusted in accordance with the following formula:

ADD = IINV/(NC*$1100/kW)

where:

ADD = Additional percentage of the Trimble County Unit 2 to be transferred from the nonfunding Party to the funding Parties in proportion to their respective Percentages.

IINV = Incremental investment made by the funding Party resulting from the nonfunding Party's failure to pay.

NC = Nominal capacity of the unit at 59° F in kilowatts.

ARTICLE 20.
MISCELLANEOUS

20.1 Governing Law.

The validity, interpretation, and performance of this Agreement and each of its provisions shall be governed by the laws of the Commonwealth of Kentucky, except that the power and authority of IMPA to enter into this Agreement shall be governed by the laws of the State of Indiana and the power and authority of IMEA to enter into this Agreement shall be governed by the laws of the State of Illinois.

20.2 Notice to Parties.

Unless otherwise specifically provided in this Agreement, any notice, consent, or other communication required to be made under this Agreement shall be addressed to or made by such officer, agent, representative, or employee of a Party as such Party may, from time-to-time, designate in writing, provided, however, any written notices hereunder shall be delivered in person, by certified mail, or by recognized next working day carrier, to the named officer of the Party at the address listed below, provided, further that any Party may, from time-to-time, change such designated officer or the address thereof by giving written notice of such change to the other Parties. Notice shall be deemed given when received. Any requirement for notice in writing may be met by telecopy or other electronic means of communicating written or printed material, if promptly confirmed in writing in a manner permitted by the previous sentence.

To Louisville:

Vice President of Generation
LOUISVILLE GAS AND ELECTRIC COMPANY
220 West Main Street
Post Office Box 32010 (40232)
Louisville, Kentucky 40202

To Kentucky Utilities:

Vice President of Generation
KENTUCKY UTILITIES COMPANY
220 West Main Street
Post Office Box 32010 (40232)
Louisville, Kentucky 40202

To IMPA:

President
INDIANA MUNICIPAL POWER AGENCY
11610 North College Avenue
Carmel, Indiana 46032

To IMEA:

General Manager & CEO
ILLINOIS MUNICIPAL ELECTRIC AGENCY
919 South Spring Street
Springfield Illinois 62704

20.3 Article Headings Not to Affect Meaning.

The descriptive headings of the various articles of this Agreement have been inserted for convenience of reference only and shall in no way modify or restrict any of the terms or provisions hereof.

20.4 Counterparts.

This Agreement (and any amendments hereto) may be executed simultaneously in four or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

20.5 Emergency.

Notwithstanding any other provision of this Agreement to the contrary, in the event of an Emergency, the Companies shall be entitled to take such action without consultation with the Coordination Committee as to best protect and promote the development, construction, completion operation, safety or security of the Trimble County Unit 2 Project.

20.6 Severability.

In the event that any provision of this Agreement, or the application of any such provision to any Person or circumstance, shall be held invalid or unenforceable, the remainder of this Agreement, or the application of such provision to Persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby.

20.7 Integration.

The terms and provisions contained in this Agreement and the Interconnection and Operating Agreement constitute the entire agreement between the Parties in regard to the respective matters of said Agreement, and shall supersede all previous communications, representations, or agreements, either oral or written, between the Parties with respect to the respective subject matters of said agreements.

20.8 Computation of Time.

In computing any period of time prescribed or allowed by this Agreement, the calendar day of the act, event, or default from which the designated period of time begins to run shall not be counted. The last calendar day of the period so computed shall be counted, unless it is a Saturday, Sunday, or legal holiday recognized by the Companies, in which event the period shall run until the end of the next calendar day which is neither a Saturday, Sunday, nor legal holiday.

20.9 Waiver.

Any waiver at any time, by any Party, of its rights with respect to another Party, or with respect to any other matter arising in connection with this Agreement, shall not be considered a waiver with respect to any subsequent default or matter.

20.10 Equal Opportunity Clause.

During the performance of those parts of this Agreement relating to the construction by a Party of any Initial or Incremental Capital Assets, such Party agrees as follows:

(i) Such Party will not discriminate against any employee or applicant for employment because of any protected class status, such as race, color, religion, sex, age or national origin. Such Party will take affirmative action to insure that applicants are employed, and that employees are treated, during employment, without regard to their protected class status. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Such Party agrees to post, in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause;

(ii) Such Party will, in all solicitations or advertisements for employees place by or on behalf of such Party, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;

(iii) Such Party will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided, advising the said labor union or workers' representative of such Party's commitments under this Article 20.10, and shall post copies of the notice in conspicuous places, available to employees and applicants for employment;

(iv) Such Party will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor;

(v) Such Party will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the administering agency and the Secretary of Labor, for purposes of investigation, to ascertain compliance with such rules, regulations, and orders;

(vi) In the event of such Party's non-compliance with the non-discrimination clauses of this Agreement, or with any of the said rules, regulations, or orders, this Agreement may be canceled, terminated, or suspended, in whole or in part, and such Party may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in said Executive Order or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law;

(vii) Such Party will includes the words "During the performance of this contract, the contractor agrees as follows:" followed by the provisions of sections (i) through (vi) of this Article 20.10 in every subcontract or purchase order, unless exempted by rules, regulations, or orders or the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. Such Party will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance; provided, however, that in the event such Party becomes involved in, or is threatened with, litigation by a subcontractor or vendor as a result of such direction by the administering agency, such Party may request the United States to enter into such litigation to protect the interests of the United States;

(viii) For purposes of this Agreement, the term "this Agreement," as used in this Article 20.10 shall mean those parts of this Agreement relating to the construction by such Party of any additions, betterments, or improvements to the property. Nothing in this Article 20 shall be construed to prevent such Party from resisting, challenging, contesting, or appealing any law, statute, regulation, or decision of any federal, state, or local government or agency which such Party claims to be in invalid, unlawful, arbitrary, or capricious.

20.11 Inflation.

Monetary thresholds as expressed in this Agreement in Articles 7.5.6, 7.5.7, and 8.1, each shall be adjusted on each anniversary of the Execution Date hereof by the percentage change in the Producer Price Index Turbines and Turbine Generator Sets (PPI PCU 3511#(N), June 1982 = 100) during the immediately succeeding year. Adjustments shall be made on final revised data. If such index ceases to be published, a similar index shall be selected by the Parties in substitution thereof. If such index is rebased, appropriate adjustments to this formula will be made by the Parties to carry out the original intention of the Parties.

20.12 Condemnation.

In the event any portion of the Trimble County Unit 2 Project shall be condemned and taken by exercise of any right of eminent domain or for public or quasi-public use, and the Parties hereto are able to continue their use and operation of the remaining portion thereof, this Agreement shall not terminate. The proceeds of any payment of any award or compensation arising from such condemnation (net of any unrecovered expenses of any nature incurred by the Parties with respect thereto, which expenses shall be fully reimbursed to the Party or Parties incurring such expenses) shall be apportioned between the Parties on the basis of their respective Percentages. In the event that all or substantially all of the Trimble County Unit 2 Project shall be condemned and taken by exercise of any right of eminent domain or for public or quasi-public use, this Agreement shall terminate as of the date of said taking and the proceeds of any award or compensation arising from such condemnation (net of any unrecovered expenses of any nature incurred by the Parties with respect thereto, which expenses shall be fully reimbursed to the Party or Parties incurring such expenses) shall be apportioned between the Parties on the basis of their respective Percentages.

20.13 Americans with Disabilities Act.

In constructing, maintaining and operating the Trimble County Unit 2 Project, the Companies shall comply with the Americans with Disabilities Act.

20.14 Amendments.

This Agreement may be amended only by a written instrument duly executed by the Parties. When so amended, the Parties shall execute a conformed copy of the Agreement, which conformed copy shall contain all amendments to the Agreement and shall thereafter govern the Parties.

20.15 No Agency or Third Party Beneficiary.

Except as expressly provided herein, nothing in this Agreement is intended to or shall create an agency whereby a Party becomes an agent for another Party in any relationship with any Person. This Agreement is solely among the Companies, IMPA and IMEA and shall not be construed to create any third-party beneficiary relationship with any other Person.

20.16 Obligations Are Several.

The duties, obligations and liabilities of the Parties are intended to be several and not joint or collective, and no Party shall be jointly and severally liable for the acts, omissions, or obligations of any other Party.

20.17 Cooperation.

The Parties shall cooperate with each other and provide information as may be necessary to facilitate, among other things, the filing of applications for authorizations, permits, licenses, or financing and the execution of such other documents as may be reasonably necessary to carry out

the provisions of this Agreement, subject to reasonable protections necessary to preserve each Party's confidential or proprietary information.

20.18 Intent.

The Parties agree that all discussions and negotiations related to this Agreement relate expressly to the Trimble County Unit 2 Project and do not amend and may not be used by any Party to interpret any provision or course of conduct arising out of the Unit 1 Participation Agreements. Similarly, any similarity to or difference between the provisions of this Agreement and the provisions of the Unit 1 Participation Agreements shall not be used in any way, directly or indirectly, to interpret the meaning or intent of the parties to the Unit 1 Participation Agreements.

20.19 Approvals.

The Parties shall use their respective Best Efforts to obtain as quickly as possible all requisite governmental, regulatory, and judicial approvals, including Commission Approvals, where applicable, of the consummation of the transactions contemplated herein.

20.20 Access.

Official representatives of the Parties and their designees, including any Party's bond trustee, shall have the right, upon sufficient advance notice to the Companies, to enter upon the Trimble County Unit 2 Project facilities subject to all safety, insurance, and industrial security requirements and the need for efficient operation of the Trimble County Unit 2 Project.

20.21 Further Assurances.

The Parties shall execute such other instruments, if any, as may be necessary or appropriate to confirm the respective rights and interests of the Parties hereunder and to maintain their respective Ownership Interests.

20.22 Joint Effect.

Preparation of this Agreement and its appendices has been a joint effort of the Parties and the resulting document (or any portion thereof) is not to be construed more severely against one of the Parties than against the others.

20.23 Certain Costs.

In the course of undertaking the Development Work, the Construction Work, the Operating Work or the construction or procurement of Incremental Capital Assets, the Companies are entitled to take actions, that in their reasonable judgment are in the best interests of the Trimble County Unit 2 Project. If such actions cause Louisville, Kentucky Utilities, or both of them to experience a cost or expense outside the Trimble County Unit 2 Project, a fair share of such cost or expense shall be allocated to the Trimble County Unit 2 Project to be shared by the Parties in proportion to their respective Percentages, provided that such actions have been

presented to and approved unanimously by the Coordination Committee, which approval shall not be unreasonably withheld.

20.24 Good Utility Practice.

Each Party hereby agrees to perform the Work and other obligations to be performed by it under this Agreement in accordance with Good Utility Practice.

20.25 Affiliate Transactions.

The Companies shall be entitled to engage, contract with or otherwise arrange for the use of any of their employees, the employees of Affiliates, Affiliates or non-Affiliates in connection with the performance of the Companies' obligations under this Agreement. The cost of engaging, contracting with or otherwise arranging for the use of any employee, the employees of Affiliates, Affiliates or non-Affiliates shall be charged and allocated to the Parties on the same basis as such cost would be charged and allocated to any other generating station owned by either of the Companies when so engaging, contracting with or otherwise arranging for the use of its employees, employees of Affiliates, Affiliates or non-Affiliates. If the Companies desire to enter into a contract or other arrangement with an Affiliate (each such contract or other arrangement an "Affiliate Contract"), such contract or arrangement shall be negotiated and administered in good faith, on a basis no less favorable than an arms' length basis, have terms, when taken as a whole, at least as favorable to the Parties as those available in the market from non-Affiliates. If any Affiliate Contract, amendment thereof, or any aspect of the work or obligations required thereunder is approved unanimously by the Coordination Committee, IMPA and IMEA shall be deemed to have waived any right to object to the terms and conditions of such Affiliate Contract, amendment or aspect to the extent so approved, including on grounds of the absence of good faith, lack of arms' length negotiations or the presence of terms not at least as favorable to the Parties as those available in the market from non-Affiliates.

ARTICLE 21.
TERM AND TERMINATION

21.1 Termination.

21.1.1 Retirement.

This Agreement shall terminate at such time as those activities that are necessary to retire Trimble County Unit 2 from service have been completed. Retirement from service shall include: dismantling, demolishing, and removal of equipment, facilities, and structures; security; maintenance; disposing of debris; and any site work necessary to lawfully and responsibly effect such retirement. Termination of this Agreement, however, shall not terminate or affect, as between the Parties, the continued liability, if any, of the Parties for environmental considerations or other obligations imposed by Applicable Law, nor shall it terminate or affect, as between the Parties, the receipt and pro rata sharing of benefits, if any, accruing to the Parties for environmental allowances or other entitlements provided by Applicable Law.

21.1.2 Construction Closing Does Not Occur.

Except as set forth in this Article 21.1.2 or Article 2.1.3, if the Construction Closing has not occurred on or before December 31, 2005 (as such date may be extended by the Coordination Committee or as provided in this Article 21.1.2), (i) this Agreement shall terminate and no Party shall have any further liability, each to the other, on account of such termination, (ii) each Party shall remain liable for all of its obligations incurred prior to the date of such termination and shall not be entitled to a refund or return of any amounts paid or expended under this Agreement, and (iii) the respective rights of IMPA or IMEA pursuant to Article 15 of the Unit 1 Participation Agreements shall not be reinstated. Notwithstanding the foregoing, if the conditions to the participation of each of IMPA and IMEA in the Construction Closing as set forth in Article 6 have been satisfied or waived by IMPA and IMEA respectively and, IMPA and IMEA, in good faith, tender the payments required pursuant to Article 6.2.1, and are otherwise willing to close the transactions contemplated herein at the Construction Closing on or before December 31, 2005 (as such date may be extended by the Coordinating Committee), and the Companies are not able to close, but, in good faith, continue to pursue the development of the Trimble County Unit 2 Project or a substantially similar project based on the Development Work, then the last day for the Construction Closing to occur shall be extended from December 31, 2005, to and until the earlier of the date upon which the Companies withdraw pursuant to Article 6.5.1 or the Companies schedule a Construction Closing on no less than seven (7) days' notice if such closing is scheduled to occur on or prior to January 31, 2006, or forty-five (45) days' notice if such closing is scheduled to occur after January 31, 2006. Should the Companies fail to pursue the development of the Trimble County Unit 2 Project or a substantially similar project based on the Development Work, the Companies shall be deemed to have withdrawn under Article 6.5.1 and the rights of each of IMPA and IMEA pursuant to Article 15 of the Unit 1 Participation Agreement to which it is a party shall be reinstated.

21.1.3 Withdrawal of the Companies.

If the Companies withdraw from this Agreement pursuant to Article 6.5.1 after the period specified in clause (i) or (ii) of Article 6.5.6, and IMPA and IMEA do not withdraw and are then prepared to proceed in accordance with this Agreement to the Construction Closing, this Agreement shall terminate on the date of such withdrawal and no Party shall have further liability, each to the other, on account of such termination, except as provided below. If such withdrawal by the Companies is primarily for Development Reasons, this Agreement shall terminate and each Party shall remain liable for its obligations incurred hereunder prior to the date of withdrawal and no Party shall be entitled to a refund or return for any amounts paid or expended under this Agreement. If such withdrawal by the Companies is primarily for reasons other than Development Reasons, each Party shall be liable for its obligations incurred hereunder prior to the date of such withdrawal, provided, however, the Companies shall refund the Refund Amount to IMPA and IMEA. Upon any withdrawal by the Companies under this Article 21.1.3, the rights of each of IMPA and IMEA pursuant to Article 15 the Unit 1 Participation Agreement to which it is a party shall be reinstated.

21.1.4 Withdrawal of IMPA and IMEA.

If IMPA and IMEA shall both withdraw from this Agreement pursuant to Article 6.5 and the Companies then intend to proceed to develop the Trimble County Unit 2 Project, this

Agreement shall terminate on the date of such withdrawal and no Party shall have further liability, each to the other, on account of such termination, provided, however, each Party shall remain liable for all of its obligations incurred prior to the date of such termination and shall not be entitled to a refund or return of any amounts paid or expended under this Agreement and, provided, further, the rights of each of IMPA and IMEA pursuant to Article 15 of the Unit 1 Participation Agreement to which it is a party shall not be reinstated.

21.2 Retirement of Property.

The Coordination Committee shall have authority in decisions regarding the retirement from service of any and all property constituting a portion of Trimble County Unit 2 or the Trimble County General Plant Facilities which, in the Coordination Committee's judgment, is damaged, worn out, uneconomic, unreliable, obsolescent, or otherwise unfit for use. However, Trimble County Unit 2 shall not be retired from service as a generating unit without the written consent of the Parties prior to the earlier of:

(i) the expiration of thirty-five (35) years following the Commercial Operation Date of Trimble County Unit 2; or

(ii) the final maturity date of the project revenue bonds originally issued by IMPA or IMEA to finance their respective initial Ownership Interests or to pay the cost of any improvements or repairs issued thereafter, or the final maturity date of any bonds issued by IMPA or IMEA to refund such originally issued bonds.

21.3 Retirement Costs.

All costs (less salvage credits, if any) associated with retirement of the Trimble County Unit 2 Project or portions thereof including: dismantling, demolishing, and removal of equipment, facilities, and structures (including the cost of transportation and handling incidental thereto); security; maintenance; disposing of debris; and any site work necessary to lawfully and responsibly effect such retirement, shall be shared by the Parties in proportion to their respective Percentages. Payments for these costs (less salvage credits, if any) as they are incurred, shall be made in accordance with the provisions of Article 10. If such salvage credits exceed such costs, the difference shall be shared by the Parties in proportion to their respective Percentages.

21.4 Effect of Withdrawal or Transfer on Agent.

Except as provided below, at such time as IMPA or IMEA withdraws from this Agreement or transfers all of its Ownership Interest in accordance with this Agreement, the agency granted to the Companies by IMPA and IMEA hereunder, as appropriate, shall be revoked prospectively and all prior acts shall remain valid and binding, subject to the conditions and limitations set forth in this Agreement. Notwithstanding the foregoing, the appointment of the Companies as agent for the Parties hereunder shall continue (i) with respect to the agency granted pursuant to Article 12.1, for as long as necessary after such withdrawal or transfer for the Companies to fulfill their responsibilities under Article 12.1 in respect of periods during which IMPA or IMEA was a Party to this Agreement and (ii) as necessary to manage and administer executory contracts, real estate and permits and approvals of the agent or the Parties. IMPA and IMEA each further agree that upon withdrawal or transfer of its Ownership Interest it will

cooperate with the Companies and take any and all further actions and shall execute and file where appropriate any and all such further legal documents and papers as may be reasonable under the circumstances in order to facilitate such withdrawal or transfer and the continued development, construction or operation of the Trimble County Unit 2 Project, including action to seek any required governmental or regulatory approval and to obtain any other required consent, release, amendment, or other similar document.

IN WITNESS WHEREOF, each of the Parties has caused this Agreement to be duly executed.

LOUISVILLE GAS AND ELECTRIC COMPANY

Attest: _____
~~Secretary~~ Vice President Regulated Generation

By: _____
Name: Paul W. Thompson
Title: SVP Energy Services

KENTUCKY UTILITIES COMPANY

Attest: _____
~~Secretary~~ Vice President Regulated Generation

By: _____
Name: Paul W. Thompson
Title: SVP Energy Services

INDIANA MUNICIPAL POWER AGENCY

Attest: _____
~~Asst.~~ Secretary

By: _____
Name: RAJ S. RAO
Title: PRESIDENT

ILLINOIS MUNICIPAL ELECTRIC AGENCY

Attest: _____
~~Secretary~~ Director of Finance & Business

By: _____
Name: Ronald D. Earl
Title: GM & CEO

APPENDIX A

LG&E ENERGY®

Trimble County Unit 2

Project Approach

Volume I of II

Project Execution Plan

Burns & McDonnell

SINCE 1898

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1.0 EXECUTIVE SUMMARY

LG&E Energy (LG&E) is striving to provide the lowest cost power generation option to serve the growing power needs of their customers. As part of an Integrated Resource Plan (IRP), LG&E is investigating the feasibility of constructing a second coal fired generation unit at the Trimble County site. In support of the IRP, a project team consisting of LG&E and Burns & McDonnell developed this Project Approach that conceptually defines an optimal coal fired generation project at the Trimble County site.

This Project Approach consists of two documents, a Project Execution Plan and a Project Design Manual. The Project Execution Plan outlines the key elements of a successful project including conceptual evaluation of unit technology and size, an evaluation of risk with regards to contracting strategy, a project schedule, a project cost estimate and key design alternatives. The Project Design Manual outlines the conceptual design of the new facility including recommended design parameters for each discipline of work.

The technology and size of Trimble County Unit 2 was determined during the initial phase of this study. A technology and size assessment analyzed the different options and the economics of each option. Details of these analyses are contained in Appendices A & B. The results indicate that a 750 MW (net) pulverized coal boiler with a supercritical thermal cycle is the economic choice for Unit 2. Appendix C addresses the timing with a Level 1 milestone schedule.

Contracting Strategy

A component part of the planning for a major project is to evaluate the contracting alternatives for project execution and to select a strategy that meets the project and client needs. Several alternatives may be used to successfully execute a project, however many variables work to influence the apparent right selection for a given project, owner and market. Each contracting alternative has a different risk profile that may be used to mitigate these risks.

Another consideration is how the alternate contracting approaches compare in regard to the timing of the price certainty. The Project Schedule includes a milestone for Board Sanction 2. This will be a project checkpoint to compare the cost estimate to the market prices for the major engineer, procure and construct (EPC) proposals.

Section 4 discusses the key project risks considered and addressed by the contracting alternatives, which are as follows.

- Price
- Design & Equipment
- Construction
- Schedule
- Performance

Contractor bids are generally higher as the level of risk increases. As Owner risk increases, a higher level of contingency should be carried to deal with the risk. Contracting alternatives vary in the level of external coordination required between the parties. A single turnkey contract requires its own internal planning and coordination but has limited external interfaces to other parties. Conversely, multiple prime contracts must be planned and coordinated in a logical sequence to allow an efficient progression of the work. Coordination between contracts then is another source of risk as each contract has some degree of on-site interaction with other contracts.

We believe that in the near future adequate competition will be available to garner attractive pricing from qualified suppliers for both a Boiler/Air Pollution Control (APC) Island EPC and a Turbine Island EPC. However, several of the boiler suppliers are exhibiting some uncertainty regarding corporate financial stability and prudent investigation of corporate financial condition and available project surety instruments should be part of Phase 2 activity. Section 4 identifies the potential bidders.

The initial Project Cost Estimate was prepared using a multiple prime contract approach as the baseline approach. The expected price premiums for risks due to the various contracting strategies are added as a line item to each of the appropriate components. These predictions for risk premiums are sensitive to the market and may vary significantly depending on how much risk the bidders are willing to absorb. The current market appears poised to yield competitive results for procurement, which may reduce the risk premium.

Another consideration is how the alternate contracting approaches compare in regard to the timing of the price certainty. The Project Schedule includes a milestone for a Limited Notice to Proceed (LNTP). This

will be a project checkpoint to compare the cost estimate to the market prices for the major engineer, procure and construct (EPC) proposals.

Burns & McDonnell recommends LG&E use the Alternate 4 Contracting Strategy. This approach plans 3 contracts, is planned to achieve early price certainty and allocates much of the risk to the contractors. It plans an EPC Boiler/APC Island and an EPC Turbine Island scope of work for design engineering, procurement and construction. The Turbine-Generator and Boiler Feed Pump Turbines would be procured directly by the Owner to save the expected EPC markup on equipment.

The Alternate 4 Contracting Strategy plans the following requests for proposal to contract the project.

1. Steam Turbine-Generator and Boiler Feed Pump Turbines purchased as equipment supply only.
2. Boiler/APC Island EPC to include the facilities from the existing coal bunkers to the chimney inlet including ash handling and interface to existing facilities. The underground interface would be at the top of foundations provided by others.
3. Turbine Island EPC to include all facilities not provided above. Facilities include STG erection, thermal heat cycle interfaced to the steam generator including critical steam piping, heat rejection systems including a new supplemental cooling tower, plant electrical system, plant control system, chimney, turbine building and interface to existing facilities including the interface to the existing substation.

All facilities or services not provided directly by the Owner will be in one of these three packages. The market continues to change regarding supplier competition, especially as related to steam-generator supply. The EPC Boiler Island bid documents should define the interfaces and interim progress milestones that would be needed in the event a steam-generator were to be awarded separately from the APC equipment. The preference however is to retain the benefits of a single Boiler/APC Island EPC package to mitigate coordination risk.

Project Schedule

The proposed Project Schedule achieves commercial operation on coal by May 1, 2008 in advance of the summer season. Key decision points and milestone dates are planned as follows to achieve the project schedule.

October 1, 2002 Decision 1 – LG&E authorization to prepare project bid documents

October 3, 2003	Decision 2 –Limited Notice to Proceed (LNTP) with design engineering based on EPC bids and Certificate of Public Convenience and Necessity (CCN) approval.
April 1, 2004	Decision 3 –Full Notice to Proceed (FNTP) with purchase/fabrication of materials and based on Prevention of Significant Deterioration (PSD) permit approval
March 1, 2005	Start Site Construction
November 1, 2007	Synchronization
May 1, 2008	Commercial Operation

This schedule indicates there is little contingency to allow for schedule uncertainty. Additional detail is provided in Section 5.0 Project Schedule.

Project Cost Estimate

The estimated capital cost for Unit 2 is $900,000,000 ($1200/kW) and is summarized in Table 1-1. This estimate is based on the contracting approach of three major work packages and separate Owner indirect costs.

1) Steam Turbine Generator (Equipment Only)
2) Boiler/APC Island EPC
3) Turbine Island EPC.

Table 1-1 Project Cost Estimate

Description	Estimated Cost
Steam Turbine-Generator Equipment	$52,500,000
Boiler Island/APC Island EPC	$455,000,000
Boiler Island ($277,900,000)	
APC Island ($177,100,000)	
Turbine Island EPC	$337,900,000
Owner Project Indirects	$54,600,000
See Note 1 **Total**	**$900,000,000**

Note 1: Project Cost Estimate is composed of overnight construction costs in 2002$ with escalation added to the cash expenditure centroid. Interest During Construction is not included.

The project cost estimate was developed by using a bottom-up method integrated with a comparison method. The bottom-up method involves the creation of plant details and design criteria for specified

equipment and material to be used for budgetary estimating. These budgetary estimates are obtained from vendors for major plant equipment packages and from internal estimates for construction commodities. The comparison method involves comparing the project/equipment to be estimated with actual costs from recent projects. This method involves normalization of the estimate based on unit size, plant configuration, labor rates, risk, etc.

The scope of the Project Cost Estimate includes the work within the boundary of the power station site. It includes a modification to the high voltage switchyard, but excludes any transmission system related modifications.

The unit net plant heat rate is estimated to be 8711 Btu/kWh on a 59°F day and 8935 Btu/kWh on a 90°F day. This is based on the unit burning Typical Coal #3, which is a 3.5 % sulfur fuel with an average heating value of 10,800 Btu/lb (See Typical Coal Analysis included in the Plant Design Manual Section 4.1.8). The net plant heat rate may increase to 8860 Btu/kWh on a 59°F day with the Performance Coal due to a decrease in boiler efficiency. However, the conceptual design includes a system that can achieve full load capacity with all six coals reviewed.

The conceptual design as described in the Plant Design Manual and heat rate as described above is typical for utility grade facilities constructed within the United States, which have relatively inexpensive fuel. In comparison, similar units in other parts of the world appear to include higher efficiency alternatives designed into the systems. These alternatives include but are not limited to higher reheat temperatures, lower pressure drops, variable speed drives, etc. These alternatives can increase the efficiency of a plant but also increase the capital cost of the facility. The plant configuration estimated includes those options that are expected to be economical given the predicted delivered fuel cost. The design phase of this project can evaluate additional life cycle evaluations for efficiency improvement alternatives. Some of these evaluations will be left to the EPC contractors when proposing their best alternatives for price to efficiency evaluation as outlined in bid documents.

A conceptual review was performed regarding fuel flexibility of the new unit. The possibility of firing 100% PRB coal or 100% Petroleum Coke was considered. The results indicate that there are several components that would need to be sized larger to accommodate the fuel range, including the boiler itself. Therefore, fuel flexibility over the range specified (Bituminous coal, PRB coal, or Petroleum Coke) would add capital cost to the project and increase the net plant heat rate while burning the design coal. Burning blends of these fuels with the design fuel may be possible without significant impact, however it

is not possible to ascertain how much PRB or petroleum coke will be tolerated since the boiler is not yet designed. See Sections 7.1.6.4 and 7.2.4.3 for an additional discussion on the effects of firing blended fuels.

Burns & McDonnell also evaluated design alternatives in regards to the heat rejection system for Trimble County Units 1 and 2. The base design for the heat rejection system is to add a mechanical draft tower to supplement the remaining capacity of the existing hyperbolic tower. Options were reviewed to add a new tower for Unit 1 and use the existing tower for Unit 2, to increase the condenser size, and to increase circulating water flow. All the alternatives were evaluated and determined not to be economically advantageous. Therefore, we recommend the base design as depicted in the Plant Design Manual. See Section 7.3 for additional details.

Included in the heat rejection system was an evaluation to potentially modify the existing hyperbolic cooling tower and use it as a stack. Both Ceramic Cooling Towers and Hamon were contacted to provide information regarding their similar past projects. Neither vendor was willing to provide a modification estimate for the existing cooling tower. However, they did indicate that the modification would require several months of outage to install the extensive interior scaffolding required for application of a protective coating. They also indicated that units in Europe plan to reapply the coating in the tower every 5 to 10 years. This would require another long outage. Based on the fact that the cooling tower experts are apprehensive about the modification to the tower and the maintenance of the tower interior would require extended outages; we do not consider this a feasible alternative.

* * * * *

2.0 INTRODUCTION

LG&E Energy is striving to provide the lowest cost power generation option to serve the growing power needs of their customers. As part of their Integrated Resource Plan, LG&E is investigating the feasibility of constructing a second coal fired generation unit at the Trimble County site.

The purpose of this report is to define the project approach for a second unit at the Trimble County facility. Report requirements are outlined in LG&E Purchase Order PJE/BMD/001 dated April 12, 2002. Excerpts from the PO are as follows.

> Concept for Unit Sizing and Technology
>
> It is intended to utilize, as far as is economically practicable, the existing unit 2 infrastructure. To that extent it is expected to utilize the existing cooling tower as well as the coal and limestone handling facilities. It is also desired that the land areas set aside for the future development of units 3 & 4 are not compromised by the design of unit 2.
>
> Finalization of the maximum unit size, technology and cycle is an economic decision based on a detailed assessment of the capital and operating & maintenance costs of the plant.
>
> Whilst the plant is to be designed around a fuel box based on Kentucky coals (bituminous high sulfur), the plant design will be such that it can burn as wide a range of fuels including pet coke and PRB without significantly impacting on the overall project capital and operating costs through life. (The plant design is to be reviewed for the potential impacts of burning the wide range of fuels)
>
> The plant will also be designed to minimize the disposal of coal combustion by-products in special waste landfills and/or ash treatment basins.
>
> As with the existing Trimble County generating facility it is anticipated that the new unit will also operate as a Zero Discharge Facility under the NPDES permit program.

This Project Approach is comprised of a Project Execution Plan and a Project Design Manual. The Project Execution Plan includes an evaluation of multiple coal fired generation alternatives to determine the optimal size and technology based on the economic and environmental impacts of the potential

facilities. It also includes an evaluation of the existing infrastructure, a discussion of contracting alternatives with associated risks, a detailed project schedule, a project cost estimate and potential design alternatives to consider. The Project Design Manual details the conceptual design of the project. It includes general design criteria, system descriptions, scopes of work packages, site arrangement drawings, preliminary P&IDs, an electrical one-line, heat balances, water balances and a mass balance.

The result of this process is a Project Approach that conceptually defines an optimal work plan for a coal fired generation project at the Trimble County site. It provides LG&E with the information required to evaluate new coal fired electrical generation options in comparison to other options available on the market and provides a basis to move forward if this option is determined to be feasible.

The estimates and projections included in this report are based on our experience, qualifications and judgment as a professional consultant and on current market conditions. Since Burns & McDonnell has no control over factors affecting these estimates and projections, Burns & McDonnell does not guarantee that actual results will not vary from these estimates and projections.

* * * * *

3.0 GENERAL DESCRIPTION

3.1 TRIMBLE COUNTY GENERATING STATION

The Trimble County Generating Station is located 5.6 miles west of Bedford, Kentucky bordering the Ohio River, between miles 570 and 572. Elevation of the site ranges from 420 feet to 527 feet with the main support structures at elevation 475 feet. The facility is designed to accommodate 2 pairs of coal fired generating units separated by a common service/administration area. Unit 1 is currently installed and was originally rated for 495 MW (net) generating capacity. The facility also includes 2 simple cycle combustion turbines and is designed to accommodate 4 additional simple cycle units.

Access to the facility is limited. Highway access to the site is by State Highway 754, which is narrow with many sharp curves and steep grades. Therefore, it is unsuitable for delivery of heavy equipment. Rail access to the site does not exist and would be too costly to add to the site due to the limitations with respect to the surrounding area. Therefore, all major equipment is delivered to the site by barge where it is off loaded by the existing 750-ton barge unloading crane. The existing crane will require refurbishment and testing.

The Unit 1 generating unit consists of a General Electric tandem compound, reheat, four flow 26" last stage bucket (LSB) turbine generator designed for steam conditions of 2400 psig, 1000°F with reheat steam of 1000°F. Superheated steam is supplied by a Combustion Engineering balanced draft, controlled circulation, radiant reheat steam generator designed for a maximum capacity of 3.8 million lbs/hr.

The emission controls on Unit 1 consist of a dry electrostatic precipitator (ESP) and a wet flue gas desulfurization (FGD) system. Unit 1 has also been retrofitted with low NO_x burners and a selective catalytic reduction (SCR) system.

The cooling system is a closed loop system utilizing a natural draft cooling tower. The cooling tower is designed to accommodate the heat load of two 495 MW (net) generating units. Makeup water for the cooling tower is supplied from the Ohio River by the service water system. Blowdown from the cooling tower is discharge back into the Ohio River.

The coal and limestone are delivered to the site by barge. The coal unloading facility is designed for 3000 tons/hr with a reclaim system designed for 2640 tons/hr. The limestone unloading facility is designed for 1500 tons/hr with a reclaim system designed for 260 tons/hr. Both systems are designed for the future expansion of the generating facility.

An outside company currently operates a processing facility on site that utilizes the wet FGD byproduct. The fly ash from Unit 1 is either sold for off-site use or sluiced to the ash pond. Bottom ash is sluiced to the existing ash pond for storage.

The service water supply for the facility is from a water intake structure located on the Ohio River. The intake is designed for 100,000 gpm. At normal river elevation of 419 feet, the water velocity across the intake screen is 0.5 feet per second, which should comply with proposed USEPA standards to be finalized 1st quarter of 2003.

3.2 NEW UNIT TECHNOLOGY AND SIZE

A project team consisting of LG&E and Burns & McDonnell evaluated various technologies and sizes of a new coal fired electrical generating facility to determine the optimal configuration. The technologies reviewed are detailed in Appendix A and include variations of a pulverized coal (PC) subcritical unit, a supercritical unit and a circulating fluidized bed unit. Analyses indicated that two technologies, PC subcritical and PC supercritical, should be evaluated further with regards to unit sizing.

The unit sizing analysis is included in Appendix B. It includes an analysis of various 500 MW steam turbine designs and performance for the subcritical and supercritical cases. It also includes an analysis of 750 MW size units to determine the possible advantages of the economy of scale associated with a larger unit. The results of the analysis indicate a 750 MW supercritical power plant is the optimal choice for Unit 2 at Trimble County Generating Station.

3.3 FACILITY DESCRIPTION

The proposed new generation facility for Trimble County Unit 2 is a 750 MW (net) supercritical PC unit, consisting of a new PC steam generator, a steam turbine-generator set, and emission controls including a SCR, a dry ESP and a wet FGD with forced oxidation. A wet ESP after the wet FGD system has been included in the cost estimate in the event the permitting process determines one is required.

3.3.1 Steam Generator

The steam generator is designed to provide 5,300,000 lbs/hr of superheated steam at 3675 psig and 1050°F to the HP steam turbine. Reheat steam is designed to provide steam to the IP turbine at 1050°F. The steam generator will operate under variable pressure control to provide varying steam pressure to the turbine throttle to control the turbine generator load. It is anticipated that the superheater outlet pressure will be varied over the load range from 30% to 100%.

The steam generator will be designed to achieve 100% load while burning coals typically purchased for Trimble County #1. These coals can be reviewed in Section 4.1.8 in the Plant Design Manual. It should be noted that the boiler would be designed to meet margin and spare requirements with one specified fuel. Variance from this fuel may require design margins and spare equipment to be utilized to meet 100% load. The igniter fuel system will utilize natural gas and will be sized to achieve approximately 30% load.

The coal supply system will utilize the six existing 800-ton bunkers installed for Unit 2 during Unit 1 construction. Each bunker will feed a single pulverizer and each pulverizer will fire a separate level of burners. The steam generator is designed to meet capacity utilizing the performance coal with five of the six pulverizers in operation, leaving one for a spare.

The unit will be supplied with a Ljungstrom regenerative type air heater. The minimum flue gas temperature leaving the air heater shall not be less than 280°F measured at the boiler-precipitator interface flange. Maximum temperature shall not exceed 300°F.

3.3.2 Selective Catalytic Reduction (SCR)

The SCR system will include four levels for catalyst installation. Initially, two levels will be filled with catalyst for NO_x reduction. One level will be a spare (part of catayst management) and one level will be incorporated for potential future emission reduction. The catalyst life will be designed for 24,000 hours of operation.

The reactor will be sized to hold plate type catalyst modules. The reactor structure will include access doors, monorails, and hoists so that catalyst modules can be quickly moved within the reactor and changed out as the catalyst life degrades.

3.3.3 Dry Electrostatic Precipitator (ESP)

The dry ESP is designed to have a minimum of two electrostatic precipitators, each with four fields. The maximum flue gas velocity will be 4 feet per second, with minimum gas retention time of 9 seconds.

The dry ESP is designed for a flue gas mass flow rate of 7,750,000 lbs/hr, and a volumetric flow rate of 2,650,000 ACFM at a temperature of 300°F. The particulate loading of the unit is anticipated to be approximately 120,000 lbs/hr assuming an 80% fly ash carryover. The particulate PM_{10} emission limit at the exit of the dry ESP is anticipated to be 0.02 lb/MMBtu, which corresponds to a 99.9% collecting efficiency.

The dry ESP will incorporate a rigid discharge electrode system, a collecting electrode system of one-piece welded design and complete independent rapping systems for discharge electrodes and collecting plates. The hoppers will be constructed of mild steel plate not less than 1/4-inch thick with external structural steel stiffeners. Hopper heaters are included to maintain 300°F on the internal skin. Minimum slope of the hopper valley, measured from the horizontal shall be 60°.

3.3.4 Wet Flue Gas Desulfurization (FGD)

The wet FGD system consists of one absorber module sized for 100 percent of the total gas flow from the unit operating at full load. The FGD system is designed to incorporate a forced oxidation system to allow production of commercial grade gypsum. It is also designed to achieve 95% sulfur removal with a wide range of fuels.

The wet FGD system also includes a single absorber, recycle tank, spray headers and nozzles, mist eliminators including a wash system, agitators, various pumps, and oxidation air blowers. The absorber will be a dual flow tray type with a diameter of approximately 60 feet, designed for approximately 13 feet per second gas velocity. There will be five levels of spray headers with no spares. An organic acid feed system will be included in case a spray header level is out of service. The mist eliminators will be zigzag

or Chevron-type constructed of fiberglass reinforced plastic blades assembled into panels. Each oxidation air blower will be sized for 100% capacity.

The system is designed to pump the wet FGD byproduct to a gypsum processing facility owned and operated by a third party, or to the ash pond in the event the third party system is out of service. This facility will dewater the byproduct, produce gypsum for off-site use and return the water to the ash pond for use in the plant processes. The conceptual design and costs of this processing facility are not part of this project scope.

3.3.5 Wet Electrostatic Precipitator (ESP)

The wet ESP option would be used to control emissions of particulate, sulfuric acid mist, and water droplets leaving the sulfur dioxide absorber. It would be sized to accommodate the saturated gas flow corresponding to operation of the absorber at the range of design conditions.

The wet ESP shall be located at the top of the absorber tower for vertical up flow configuration or shall be located for a horizontal flow configuration. If the wet ESP is integral to the absorber tower, drainage of collected liquid and wash water from the wet ESP shall be directed into the absorber tower by gravity without the use of drain piping external to the tower.

The wet ESP shall have a minimum of two collecting fields in the flow direction. Each collecting field will be divided into a minimum of four electrical sections. The collecting electrodes shall be tubular or plate type and the discharge electrodes shall be rigid mast type or frame types, supported from the top. A wash system shall be provided to systematically remove material, which is deposited on the surfaces of the collecting electrodes and the discharge electrodes during routine operation of the wet ESP. The wet ESP wash system shall be designed to be fully automatic and controlled by the Owner's DCS.

3.3.6 Ash Handling System

The ash handling system consists of the bottom ash system and the fly ash system. The bottom ash handling system will be used to collect, remove, and dewater bottom ash and economizer ash from the boiler. It will include a complete submerged drag chain conveyor system for conveying bottom ash and economizer ash. The submerged drag chain conveyor will discharge to a concrete pit. Pyrites will be

conveyed to the existing ash pond by the existing sluice system. This will maintain the salability of the bottom ash. Economizer ash shall be conveyed to the drag chain conveyor by a dry flight conveyor.

The fly ash handling system will be used to convey and store fly ash from the ESP system. A complete pressure pneumatic conveying system, a fly ash storage silo and unloading equipment will be included. The conveying system will be designed for approximately 60 tons per hour. The ash unloading system will include a wet and dry unloading system and be designed for 150 tons per hour. The fly ash silo is design for 3 days of fly ash storage and sized for Units 1 and 2. (Unit 1 fly ash system currently utilizes one of the Unit 2 coal bunkers for fly ash storage. Therefore, the addition of Unit 2 will require new fly ash storage for Unit 1.)

3.3.7 Cooling Tower

As mentioned in the existing site discussion, the existing natural draft tower is designed for two 495 MW (net) units. Unit 1 utilizes approximately ½ of the tower capacity. Unit 2 is designed for 750 MW (net). Therefore, additional cooling tower capacity is required for the additional unit. The design concept of the circulating water system is to add a helper cooling tower. This cooling tower is a mechanical draft cooling tower designed for approximately 250 MW (net). The helper tower will operate in parallel with the natural draft tower. The helper cooling tower basin will be elevated to allow drainage by gravity to the existing natural draft tower basin. It is anticipated that during the winter months, the helper tower will not be required and the full circulating water flow will be routed to the existing tower.

The new helper cooling tower will be a mechanical draft, multicell, counterflow type tower constructed of fiberglass reinforced plastic. It will be designed to cool 65,000 gpm of circulating water from 116°F to 90°F at a 78°F inlet wet bulb temperature. The cooling tower fill will be heavy duty low fouling PVC fill consistent with the existing tower fill. The tower will consist of 4 cells, each sized at approximately 50 feet by 50 feet.

3.3.8 Steam Turbine/Generator

The steam turbine is a four casing machine with a single flow high pressure (HP) casing, a double flow intermediate pressure (IP) casing and two double flow low pressure (LP) casings. The steam turbine is rated for steam conditions of 3690 psia and 1050°F HP steam and 1050°F reheat steam. It shall be rated

at approximately 811 MW at 2.25 inches HgA condenser pressure. The steam turbine shall also be provided with its own supervisory control system.

The steam turbine will be designed to accommodate a feedwater heating cycle with eight feedwater heaters. The eighth feedwater heater is operating above the reheat pressure, which is commonly known as a Heater Above Reheat Pressure (HARP) cycle.

The generator shall be a hydrogen- and water-cooled 3-phase synchronous generator, complete with static excitation system. The generator shall be rated at 18 or 25 kV, 60 Hz with a minimum net continuous rating at 90% power factor and rated hydrogen pressure. The generator shall be totally enclosed with class F insulation and shall be sized to operate under Class B temperature rises. The generator shall be protected by a weatherproof acoustic enclosure, which significantly reduces average noise levels.

3.3.9 Condenser

The condenser for the steam turbine shall be a horizontal deaerating surface type consisting of two separate shells. It will include divided water boxes designed to permit operation with one-half of the tubes (in each shell) out of service. The condenser will operate in series with the outlet of first shell flowing to the inlet of second shell. It will also be designed to accommodate four low pressure feedwater heaters in the condenser neck.

The condenser shall be designed with 1" diameter stainless steel tubes and an effective surface area of approximately 380,000 square feet. The main steam turbine flow to the condenser will be just over 3,000,000 lbs/hr. The design condenser pressure on a 59°F day is approximately 2.25" of HgA.

3.3.10 Material Handling

The coal handling system was originally installed for 2 units, from the coal reclaim area to the Unit 1 and 2 coal silo outlets. There were six coal silos installed for Unit 2, each with a capacity of 800 tons. The coal unloading and transfer system from the unloading dock to the coal yard was designed for 3,000 tons per hour. The stacker/reclaimer reclaiming capacity is 2,640 tons/hr. The emergency reclaim capacity is 1,320 tons/hr. The silo filling system consists of twin 1,320 ton per hour conveyors.

The estimated coal usage for Unit 1 plus a 750 MW unit will be approximately 650 tons/hr. Therefore, the existing equipment has sufficient capacity to serve both units and no new coal handling equipment will be required.

The limestone unloading and stackout system design rate is 1,500 tons per hour. The reclaim system has a design rate of 260 tons per hour.

The limestone slurry preparation system includes two trains of equipment. The combined capacity of both trains is 260 tons per hour of limestone.

The estimated limestone usage for Unit 1 plus a 750 MW unit will be approximately 100 tons/hr. The existing equipment has sufficient capacity to serve both units and no new equipment will be required.

3.3.11 Auxiliary Power System

The Auxiliary Power System will be comprised of two parts. One part is the existing 6.9 kV Reserve Auxiliary Power System. This system will be shared between existing Unit 1 and new Unit 2. The second part is a new 6.9 kV Auxiliary Power System peculiar to Unit 2.

The purpose of the Reserve Auxiliary Power System is to provide startup power until the turbine generator set is up and operating at which time the Auxiliary Power System can take over. The main components of the existing Reserve Auxiliary Power System are the two existing Reserve Auxiliary transformers. These are, and will continue to be, fed from the 138kV Switchyard. Both Reserve Auxiliary Transformer A and Reserve Auxiliary Transformer B have one primary and three secondary windings. Each of these secondary windings feeds bussing that serves Unit 1. This bussing will be extended into Unit 2 also for the purpose of start up.

The Auxiliary Power System is specific to each Unit. Unit 1 has its own Auxiliary Transformer tapped off the Isolated Phase Bus just before the Main Generator Step-up Transformer. Unit 2 will have its own Auxiliary Transformer configured in the same manner. Unit 2 will transfer over to Auxiliary Power once the Turbine-Generator Set is producing enough power to support the auxiliary systems. Both the Reserve Auxiliary Power System and Auxiliary Power System will be tied into approximately six sections of 6.9 kV Switchgear that will facilitate transfer across the various busses for redundancy and reliability.

3.3.12 I&C System

The Distributed Control System subsystem will encompass the Distributed Control System (DCS) controls and auxiliary controls (PLC). All controls will be integrated into the control room operator console, which will be located adjacent to the Unit 1 control room. System operations controlled by PLC will be monitored by the DCS with minimal inputs from the control room operator.

3.3.13 Administration Buildings

The administrative facilities originally installed for Unit 1 were designed for the expansion of Unit 2, 3, and 4. Therefore, no new facilities will be required for Unit 2 with regards to administration, service, maintenance or warehouse.

* * * * *

4.0 CONTRACTING STRATEGY

4.1 INTRODUCTION

The purpose of this evaluation is to discuss the expected differences between alternate contracting approaches and to develop the basis for a recommendation for this project. Alternate approaches range from a multiple prime contract approach, which would require about 30 contracts, to negotiation of a single turnkey contract. The project scope of work includes the engineering, procurement and construction of a 750 MW net coal fired plant.

The construction site is a 'brownfield' or existing site adjacent to Trimble County Unit 1, which is a nominal 500 MW net unit. The initial unit construction included several features to plan for the addition of a second identical unit and two future larger units. Some existing facilities are capable of expansion to support the ultimate planned site capacity. A preliminary cost estimate was prepared and used to make comparative analyses between contracting strategies. Certain additional facilities are not included in the project cost estimate scope such as transmission lines and their interconnections. The estimate was refined as major suppliers provide budgetary quotations, Owner indirect costs were added and scope refinement occurred.

A component part of the planning for a major project is to evaluate the contracting alternatives for project execution and to select a strategy that meets the project and client needs. Several alternatives may be used to successfully execute a project, however many variables work to influence the apparent right selection for a given project, owner and market.

Each Contracting Alternative has a different risk profile and different strategies may be used to mitigate these risks. The right contracting approach will be a combination of risk and reward that falls in the comfort zone of the Owner. Each major project requires significant capital expenditures planned over a long period of time, so small percentage variations from expectations represent large values. Capital expenditures will approach 1 billion dollars for a 750 MW generating station. The development and execution time for a large generating plant is about 5 years.

Contractor bids are generally higher as the level of risk increases. As Owner risk increases, a higher level of contingency should be carried to deal with the risk, however risk money saved stays with the contracting party. If the EPC contractor takes the risk, has included adequate risk contingency and avoids

risk, then substantial profits can occur – the savings are the EPC contractor's. Conversely, Owner savings may accrue at project completion if contingency remains unused with a multiple prime contract approach.

Project feasibility is derived from engineering estimates of capital costs, annual operation and maintenance costs, development and construction schedules and performance. These estimates are used to run pro forma models of alternatives to assess feasibility to generate adequate revenues to cover the costs and earnings requirements. Many assumptions are used in the pro-forma to predict future results, some of which are outside the control of the estimators.

Risks are inherent in the assumptions used in the estimates. Examples of these assumptions include escalation of equipment, materials and construction costs. Each project is subject to the market influence on shop availability and manufacturing lead times for equipment and raw materials. The industry experienced rapid inflation of contract prices and extended lead times as natural gas plant activity exploded; now we see a contraction in this market. Procurement of coal plant equipment and skilled labor is subject to the same influences. Concurrent construction of other large projects in the general vicinity may negatively impact the availability and price of construction labor or qualified contractors. In addition, delays due to permitting, unexpected site conditions, weather extremes, late equipment deliveries, equipment operational failures during startup, or sundry other events can influence the ability to achieve planned schedule targets and expose the project to additional costs for schedule recovery or the consequences of missed schedules.

Contracting alternatives vary in the level of external coordination required between the parties. Obviously, a single turnkey contract requires its own internal planning and coordination but has limited external interfaces to other parties. Conversely, multiple prime contracts must be planned and coordinated in a logical sequence to allow an efficient progression of the work. Coordination between contracts then is another source of risk as each contract has some degree of on-site interaction with other contracts.

It is important to determine how the alternate contracting approaches compare in regard to their price certainty when the decision to proceed must be made. The decision-making process is expected to include three key decision points.

The first decision point will be an assessment of the feasibility of the project and whether or not to move forward with a coal plant as the least cost alternative. Next will be whether to award major procurement contracts for the purpose of a Limited Notice to Proceed (LNTP) for engineering and/or refined scope

definition. The third decision will be whether or not to provide a Full Notice to Proceed (FNTP) to the major suppliers of Boiler/APC Island and Turbine-Generator equipment. Such a release would authorize procurement of materials and release of fabrication, which would incur substantial commitments should the project be canceled. This FNTP will require a high confidence that the project plan is reasonable and will manage risk regarding the planned outcomes of the project budget, schedule and work plan to achieve a reliable and economical facility.

The contracting strategy must be selected early in the planning sequence to allow the contracting framework to be properly developed to achieve clarity and competition. This will establish both the flexibility and limitations contractors must respect regarding quality, price, schedule and site coordination. Many methods if well planned may succeed. The difficulties surface when unexpected events demand mid-course modification of the project work plan. The ability to manage change becomes a key factor that determines project success.

4.2 PROJECT RISKS

Project objectives for the new unit include low capital cost, high efficiency, high reliability and a prudent schedule to manage the time cost of money. A high degree of certainty is desired for these estimated values including the operations and maintenance costs going forward.

The recent marketplace has employed Engineer-Procure-Construct (EPC) contracts to convey sole responsibility for generation project execution with varying degrees of success. Many of these projects have been either single or multiple 500 MW combined cycle projects, which are significantly less complex and shorter in duration than a coal project. Each contract defines its requirements and the risks and rewards are within that framework, however when costs go awry no party to the project is fully protected from claims and potential litigation, regardless of the contracting approach.

Today's EPC contractors avoid accepting full responsibility for construction labor for a variety of legitimate reasons. Construction labor requires skilled planning and supervision, which becomes even more demanding on a project that requires 5 – 6 million hours of skilled and unskilled labor spread over about 3 years. Bids for an EPC contract on a large coal-fired project must be tendered 12-18 months in advance of the start of construction so the bids must reflect the contractor's perception of the future labor market. Labor cost sharing is a way to mitigate this risk and has become commonplace as a way to share the risk between the buyer and seller.

The marketplace continues to change and is likely to be different a year from now as projects do or do not get into the pipeline for execution. The current market and contractor's confidence in it will temper each contractor's appetite for risk. The right contracting approach will be one that begins early, is well planned but is flexible enough to capture the economies of a fluid market.

When more stringent emissions control legislation is enacted, construction activity must increase to both comply and keep pace with the country's energy needs. This will place additional pressure on the few qualified construction contractors, design engineers and major equipment suppliers. Consortia of boiler suppliers, construction contractors and design engineers bid most EPC contracts. Bidders are becoming more selective regarding the makeup of the EPC scope included for the purchaser's convenience in lieu of the scope that is their core competency. If included, such scope of 'convenience' demands a premium or risk mitigation as part of the contract terms, e.g. electrical design and installation as part of a Boiler/APC Island scope.

4.2.1 Key Risks

The key project risks considered and addressed by the contracting alternatives are as follows.

- Price
- Design & Equipment
- Construction
- Schedule
- Performance

4.2.1.1 Price Risk

The final project price is generally a function of the other project risks. The first risk however is the initial contract price for the defined scope of work. This could be characterized as market price risk. There are buyer's markets and seller's markets as demonstrated by the cycle of combustion turbine prices in the last few years. The contracting strategy selected must develop adequate competition to achieve aggressive bid prices. The objective is to minimize the risks of the buyer at a nominal premium in price and to find the proper balance between risk premium and risk allocation between the parties.

Any deviation or errors in the planned plant design, equipment performance or reliability, construction quantities or construction schedule is likely to impact the project costs. An EPC contractor assumes the

price risk for those issues within its control, as does an Owner for those contracts it administers, such as multiple prime contracts.

A key element in the initial price risk is the level of competition. Potential boiler suppliers include Alstom Power, Babcock Borsig Power, Babcock and Wilcox, Foster Wheeler, Hitachi, Mitsubishi and Mitsui Babcock. Air pollution control equipment suppliers include Alstom Power, Babcock Borsig Power, Babcock and Wilcox, Chiyoda, Hamon Research-Cottrell, Lurgi, Hitachi, Mitsubishi and Wheelabrator. Additional suppliers may contribute to specific equipment components such as electrostatic precipitators, however these listed companies are the major bidders. Note that the only boiler supplier that does not provide its own APC equipment is Foster Wheeler. It is typical however for Foster Wheeler to provide a competitive package by selecting a qualified APC equipment supplier.

Potential bidders for a Turbine Island EPC contract will either be consortia members formed from a core group of companies or individual companies that have full capability. These companies include but are not limited to Alstom Power, Bechtel, Black & Veatch, Duke Fluor Daniel, JA Jones, J.S. Alberici, Parsons, Peter Kiewitt, Sargent & Lundy, Siemens-Westinghouse, The Shaw Group, The Washington Group, United Engineers and Constructors and Zachary.

While considerable financial uncertainty is part of the boiler market at the present time, we believe adequate competition will be available from qualified suppliers. We suggest use of a single EPC solicitation for a comprehensive Boiler/APC Island EPC contract.

Potential bidders for the Turbine-Generator equipment include Alstom, General Electric, Mitsubishi, Siemens-Westinghouse and Toshiba.

Adequate competition is expected for large EPC packages and Turbine-Generator equipment. An approach that uses smaller contracts would broaden the list of bidders for construction and again offer adequate competition. A single turnkey package could however severely limit the competition to one or two bidders, potentially Bechtel and project consortia.

Considerable uncertainty is part of the boiler and APC equipment markets at the present time due to a variety of reasons. It is uncertain how aggressively the Japanese suppliers would market erection services as part of an EPC package, but initial indications are that there is interest.

We believe adequate competition will be available to garner attractive pricing from qualified suppliers. We suggest use of a single EPC solicitation for a comprehensive EPC Boiler/APC Island.

4.2.1.2 Design & Equipment Risk

Design engineering is held to a standard of care appropriate for professional services but a standard that seldom is error free. Most engineering services are offered to warrant correction of deficient design but not the direct cost of the affected facilities. Design engineering for multiple prime contracts specifies the requirements necessary to match the heat balance or process. The contract documents include the terms and conditions to encourage technical and commercial performance by the supplier. Failure to deliver on time or to meet performance requirements typically is addressed by a remedy or LD provision.

An EPC contractor, as purchaser or designer, takes the risk of the direct costs associated with the corrected design or failures of the suppliers. While there may be some recovery from the vendors for performance failures, it may not be adequate to fully cover the impacts of the failure. For example, vendor equipment information must be delivered timely to allow interface design to be performed by the Design Engineer whether working for the Owner or as part of an EPC consortium. When information is late, the work plan will likely be affected with certain activities rescheduled as required and potentially to a less efficient time or at the expense of compression to make up lost time. Conversely, the Owner as purchaser or through its Design Engineer may take the same risks if not covered by insurance.

4.2.1.3 Construction Risk

Labor results are subject to many factors, not the least of which is skillful planning and supervision. Each cost estimate includes a composite characterization of labor factors including expected premium time, per diem costs, availability and productivity in addition to the estimate for the base hours required. Contractors can influence some of the factors but find it difficult to influence all the factors.

The cost variances due to deviations in construction labor are significant with regards to price and quantity. For example, the Boiler /APC Island will likely require more than 2.5 million hours of labor and each 1 cent deviation from the estimated labor price would be $25,000. EPC contractors are expected to guarantee the number of labor hours and propose cost sharing with regards to labor prices. Multiple prime contractors with smaller scope of work over a shorter duration would be expected to bid firm prices due to more price certainty at the time of bidding.

4.2.1.4 Schedule Risk

Any contract approach must plan a schedule with appropriate sequences to stage equipment, materials and skilled contractors or subcontractors into and out of the project site to perform their work. The risk of schedule performance is borne by the contracting party with the responsibility for coordination of the contractors or subcontractors for its scope of work. If the Owner elects to use an EPC contracting methodology, the planning and coordination of interfaces and sequencing is the EPC contractor's responsibility and risk. Conversely a multiple contract approach that procures specialty contractors must be planned and coordinated by the Owner or its Design Engineer and/or Construction Manager with the correlating responsibility and risk.

Shortages in labor availability and adequate experience may or may not be a problem in the Trimble County area largely depending on the projects that might be competing with Trimble Unit 2. If shortages occur, this introduces additional schedule and cost risk which may be compounded by the number of contractors competing for scare labor resources. Fewer on site contractors should result in more effective labor management.

EPC remedies are limited to the agreements of the contract. Scheduled completion may also be hedged by planning a completion with some contingency in it to avoid missed contract commitments with partners or other entities relying on the availability of the new capacity.

The time cost of money is a factor in any schedule and it is important that interest during construction costs be budgeted appropriately and somewhat conservatively. Costs are influenced both by the expected interest rates and expected cash flow of expenditures.Interest During Construction (IDC) estimates are not included in the Cost Estimate, however expenditure cash flows are included to allow Owner calculation of IDC.

4.2.1.5 Performance Risk

Plant performance is a key component in any pro forma analysis of plant revenue requirements and thus is a key criterion for project financing. The plant performance estimates reflect the values EPC contractors are expected to offer and guarantee.

EPC contractors that guarantee performance include a margin between expected and guaranteed values to hedge their risk. Boiler performance is fairly predictable and is largely a function of the characteristics of the coal burned however auxiliary power consumption is a risk factor. Turbine performance is set early and again the seller includes a certain margin to hedge its risk in a correlation between margin and potential LD payments.

The variable portion of the heat rate is the estimate of the auxiliary power requirements, which is more difficult to calculate. Some variation may be accomplished here during the design process to evaluate the best mix of efficiency and capital costs. In some instances, additional capacity is a benefit to the buyer and can be a determinant in the least-cost proposal. However, if potential additional capacity exceeds transmission limitations, additional capacity is less valuable and efficiency is more important.

Typically, coal plant actual performance is better than the guaranteed performance regardless of the contracting methodology. Pro forma analyses typically recognize the predicted guaranteed performance rather than the expected actual performance.

An issue that needs to be consistent in pro forma analyses is usage of a design coal as a basis for evaluation. If a wide range of fuels is planned to maintain fuel flexibility, then the evaluation needs to recognize the correlation between fuel costs and fuel quality in the analyses. For example, a furnace may be sized to accommodate poorer fuels without significantly compromising the operation of the design fuel.

If fuel blends are included as options, then blended fuel cost should be the basis for the pro forma. We recommend the design fuel be established as an actual fuel available in the region and used as the base case for pro forma evaluation. Future cheaper fuels will likely have an impact on heat rate and O&M costs and should be justified on the basis of the evaluated cost of operation. A prudent plant configuration should have some embedded fuel flexibility costs in the equipment sizing but the pro forma should not be penalized on the incremental capital costs required, degraded heat rate and higher O&M cost.

4.2.2 Other Risks

Many other risks exist and one such risk is plant O&M costs which are ongoing for the life of the plant. Bid documents for EPC contracts will make an attempt to specify a utility level of quality to achieve high reliability and low operation and maintenance costs. EPC contractors will place their highest priority on meeting performance guarantees, meeting schedules and minimizing the expenditures. This translates to a balance between acceptable quality and lowest cost. The Owner delegates this decision-making process to the EPC designer via the contracting methodology.

Guarantees are generally defined for a point in time for the required capacity, the required efficiency and of short duration for reliability guarantees, if any. Operation and maintenance costs are not typically guaranteed and this is a risk factor the Owner accepts with the EPC approach. The results may or may not be any different if the Owner selects the equipment and participates in the design decision-making. However, the opportunity to influence the results are generally limited to the specification requirements and any functional review processes established at the outset. A Design Engineer working directly for the Owner allows an ongoing evaluation of capital versus O&M costs for increased efficiency as bids are evaluated for the various plant components. A mitigation technique is to establish an incentive provision to encourage life cycle cost analyses.

4.3 CONTRACTING STRATEGY ALTERNATIVES

Several Contracting Alternatives have been identified for evaluation. The underlying strategy for all alternatives is to segregate the scope of work into geographically separate areas to the extent possible. If physical separation is not practical, then specialty contractors or subcontractors will be used to achieve the best productivity. A single Boiler Island, which includes Air Pollution Control (APC) equipment, has been used for each of the multi-contract alternatives.

The Boiler/APC Island includes all the aboveground facilities between the outlet of the coal bunkers and the inlet to the stack. The below grade piling and foundations would be excluded from the Boiler/APC Island scope of work. Since much of the infrastructure is already in place for a second unit, reference to a 'Turbine Island' is the scope of everything outside the Boiler Island. This would include a new chimney, a 'helper' cooling tower and design engineering for the remainder of the project requirements including the Boiler/APC Island foundations.

The initial Contracting Alternatives considered were as follows.

4.3.1 Alternate 1 - Boiler/APC Island EPC & Turbine Island Multiple Contract

4.3.1.1 Contracts - 32

Boiler/APC Island EPC

Turbine Island Equipment Only Contracts – 18

Turbine Island Construction Contracts – 12

Turbine Island Design Engineering and Site Coordination

4.3.1.2 Description

This approach uses a Boiler/APC Island EPC that represents over half of the project scope and is geographically isolated to the area between the bunker outlets and the chimney. The approach designs and awards specialty contract packages in accordance with the requirements of the construction sequence and requires schedule and technical interface definition between contracts. Contracts are awarded the closest to the time of execution when the unit costs for labor are the most predictable.

4.3.1.3 Characteristics

- Contracting Strategy
  - Boiler/APC Island EPC >50% of project budget
  - Balance of work separated into about 30 equipment and construction procurements
  - Design Engineer performs plant design for multiple contracts
- Pricing
  - Boiler/APC Island – predict firm equipment price and shared risk for labor price. Includes risk premium for EPC.
  - Balance of contracts – predict firm prices at time of award
- Schedule - firm schedules with liquidated damages (LD) for each contract expected at time of award
- Plant Performance Guarantees are distributed
  - Turbine-Generator – LD for capacity and heat rate
  - Boiler/APC Island - significant liquidated damages forboiler efficiency and auxiliary power. Remedy is required for emissions guarantees.
  - Distributed to each of the equipment contracts. Owner represented design required for balance of plant design and procurement
- Design Input - Owner may influence plant design development. This approach has high opportunity for input.

- Competition
  - Boiler/APC Island – adequate competition for boilers and APC equipment. Competition is increased if Boiler and APC equipment broken into 2 packages but adds Owner coordination risk.
  - Balance of Scope – adequate competition in all areas.
- Risk Profile
  - Boiler/APC Island – high risk to Contractor, low risk to Owner
  - Balance of scope –medium risk to Owner, medium risk to Contractors

4.3.2 Alternate 2 – TI Engineer-Procure with Multiple Prime Construction

4.3.2.1 Contracts - 15

T-G by Owner

Boiler/APC Island EPC

Turbine Island Engineer-Procure (EP)

Multiple Specialty Construction Contracts

4.3.2.2 Description

This Alternate 2 approach varies from Alternate 1 by combining the Turbine Island engineering and procurement into a single Engineer-Procure contract. Design and award of specialty construction contract packages is still in accordance with the requirements of the construction sequence and requires schedule and technical interface definition between contracts.

4.3.2.3 Characteristics

- Contracting Strategy
  - Boiler/APC EPC Island >50% of project budget
  - Balance of work separated into 14 contracting packages
    - Turbine-Generator equipment
    - Single EP contract for Turbine Island design and procurement
    - Multiple Specialty Construction Contracts – 12
- Pricing
  - Boiler/APC Island – predict firm equipment price and shared risk for labor price. Includes risk premium for EPC.
  - Balance of contracts – predict firm prices at time of award. Contracts are awarded the closest to the time of execution when the unit costs for labor are the most predictable.
- Schedule - firm schedule with LD for each contract expected at time of award.
- Performance guarantees
  - Boiler/APC Island - significant liquidated damages for boiler efficiency and auxiliary power. Remedy is required for emissions guarantees.
  - Distributed to each of the contracts with primary guarantee risk with Turbine-Generator.
  - Owner represented design expected for balance of plant design and procurement.
- Design Input - Owner may influence plant design development. This approach has a similar opportunity for input as Alternate 1.
- Competition
  - Boiler/APC Island – adequate competition for boilers and APC equipment. Competition is increased if Boiler and APC equipment broken into 2 packages but adds Owner coordination risk.
  - Balance of Scope – adequate competition in all areas.
- Risk Profile
  - Boiler/APC Island – high risk to Contractor, low risk to Owner.
  - Balance of scope –medium risk to Owner, medium risk to Contractors.

4.3.3 Alternate 3 –Turbine Island Engineer-Procure with General Constructor

4.3.3.1 Contracts - 4

Turbine-Generator

Boiler/APC Island EPC

Turbine Island Engineer-Procure (EP)

General Constructor

4.3.3.2 Description

This approach uses a single General Constructor (GC) rather than multiple specialty construction contractors. Specialty construction contract packages still must be coordinated for the sequence of procurement performed by the Turbine Island EP. The GC contract would be awarded in advance of the time of execution when the unit costs for labor are less predictable. A bid package would need to be based on a reference plant design to establish a bid basis with variances to the final design resolved through change orders.

4.3.3.3 Characteristics

- Contracting Strategy
  - Boiler/APC Island EPC.
  - Balance of scope of work separated into 3 contracting packages.
    - Turbine-Generator equipment.
    - Single EP contract for Turbine Island design and procurement.
    - Single General Construction Contract.
- Pricing
  - Boiler/APC Island – predict firm equipment price and shared risk for labor price.
  - Turbine-Generator – predict firm prices at time of award.
  - Turbine Island EP – predict firm prices at time of award.
  - GC Contract – predict shared risk for labor price adjustments and change orders for scope changes to both materials and labor.
- Schedule - firm schedule with LD for each contract expected at time of award, however expected scope changes to GC contract cannot be excessive or schedule claims are likely to occur.
- Performance guarantees
  - Turbine-Generator capacity and efficiency.

- Boiler/APC Island - significant liquidated damages for boiler efficiency and auxiliary power. Remedy is required for emissions guarantees.
- Turbine-Island EP contractfor balance of plant design and procurement and auxiliary power guarantees.
- GC contract generally excluded from plant efficiency and capacity guarantees. GC obligation is quality of construction and schedule.

- Design Input - Owner may influence plant design development - good opportunity for input.
- Competition
  - Turbine-Generator – adequate competition from all major suppliers.
  - Boiler/APC Island – adequate competition for boiler and APC equipment. Competition increases if Boiler/APC Island may be broken into 2 packages – adds Owner coordination risk.
  - Turbine-Island EP - adequate competition
  - General Construction – adequate competition expected.
- Risk Profile
  - Turbine-Generator equipment – low risk to Contractor, medium risk to Owner.
  - Boiler/APC Island – high risk to Contractor, low risk to Owner.
  - Turbine-Island EP –medium risk to Owner, medium risk to Contractors.
  - GC Construction – medium-high risk to Owner from undefined scope, medium risk to Contractor.
  -

4.3.4 Alternate 4 - Two EPC Islands with T-G by Owner

4.3.4.1 Contracts - 3

Turbine-Generator

Boiler/APC Island EPC

Turbine Island EPC

4.3.4.2 Description

Alternate 4 varies from Alternate 3 by combining the Turbine Island scope of work into a single contract much like the Boiler/APC Island scope of work. The same risks inherent in the Boiler/APC Island contract would be operative in the Turbine Island contract. Contracts are awarded early to allow adequate design and procurement time and are in advance of construction so unit costs for labor are the least predictable. The T-G equipment is procured by the Owner to avoid the expected EPC markup on equipment.

4.3.4.3 Characteristics

- Contracting Strategy
  - Turbine-Generator equipment
  - Boiler/APC Island EPC
  - Turbine Island EPC
- Pricing
  - Turbine-Generator equipment – predict firm price.
  - Boiler/APC Island – predict firm equipment price and shared risk for labor price.
  - Turbine Island - predict firm equipment price and shared risk for labor price.
- Schedule - firm schedule for each contract expected at time of award with significant liquidated damages for "island" contracts.
- Performance guarantees
  - Turbine-Generator capacity and efficiency.
  - Boiler/APC Island - significant liquidated damages for boiler efficiency and auxiliary power. Remedy is required for emissions guarantees.
  - Turbine Island - liquidated damages for auxiliary power consumption.
- Design Input - Owner influence on plant design development limited after contract award - little opportunity for input.
- Competition
  - Turbine-Generator – adequate competition from all major suppliers.
  - Boiler/APC Island EPC– adequate competition for boilers and APC equipment. Competition increases if Boiler/APC Island may be broken into 2 packages – adds Owner coordination risk.
  - Turbine Island EPC – adequate competition from contractors and consortia.
- Risk Profile
  - Turbine-Generator equipment – low risk to Contractor, medium risk to Owner.
  - Boiler/APC Island – high risk to Contractor, low risk to Owner.
  - Turbine Island – high risk to Contractor, low risk to Owner.

4.3.5 Alternate 5 - Two EPC Islands

4.3.5.1 Contracts - 2

Boiler/APC Island EPC

Turbine Island EPC

4.3.5.2 Description

Alternate 5 is similar to Alternate 4 but adds the Turbine-Generator equipment into the scope of the Turbine Island EPC. The equipment markup savings are exchanged for reduced Owner risks. Contracts are again awarded early to allow adequate design and procurement time and are in advance of construction so unit costs for labor are the least predictable. The Turbine Island would need to be awarded ahead of the Boiler/APC Island with the prerequisite turbine heat balance to establish the design conditions for the boiler.

4.3.5.3 Characteristics

- Contracting Strategy
  - Boiler/APC Island EPC
  - Turbine Island EPC
- Pricing
  - Boiler/APC Island – predict firm equipment price and shared risk for labor price.
  - Turbine Island - predict firm equipment price and shared risk for labor price.
- Schedule - firm schedule for each contract expected at time of award and significant liquidated damages for each contract.
- Performance guarantees
  - Boiler/APC Island - significant liquidated damages for boiler efficiency and auxiliary power. Remedy is required for emissions guarantees.
  - Turbine Island - significant liquidated damages for pro-rata portion of the heat cycle efficiency and capacity.
- Design Input - Owner influence on plant design development limited after contract award - little opportunity for input.
- Competition
  - Boiler/APC Island EPC– adequate competition for boilers and APC equipment. Competition increases if Boiler/APC Island may be broken into 2 packages – adds Owner coordination risk.

- Turbine Island EPC – adequate competition from contractors and consortia.

- Risk Profile
  - Boiler/APC Island – high risk to Contractor, low risk to Owner.
  - Turbine Island – high risk to Contractor, low risk to Owner.

4.3.6 Alternate 6 - Lump Sum Turnkey (single contract)

4.3.6.1 Description

This approach combines all required scope of work under a single turn-key package for a lump sum firm price.

4.3.6.2 Characteristics

- Contracting Strategy – 1 Contract
- Pricing - Predict reference plant proposals with post-award development of a target price for finalization of contract price. Some bidders may initially offer a firm equipment price and shared risk for labor price.
- Schedule – expect firm schedule at time of award with significant liquidated damages, however LD likely a value that is lower than combined value of Alternate 5.
- Performance guarantees – full performance wrap for plant capability, efficiency, schedule and potentially a limited reliability period.
- Design Input - Owner influence on plant design development negligible after contract award.
- Competition – potential for very limited competition due to the size of the project, cash flow demands, bonding capacity and organizational capabilities of many contractors. There is a risk that there will not be three bidders for adequate competition.
- Risk Profile – theoretically the lowest risk to Owner and highest risk to Contractor, however limited recourse for problem mitigation by Owner – full control by Contractor. We believe this approach commands a significant premium, which may not be the best value.

4.4 STRATEGY PRICE COMPARISON

The initial Project Cost Estimate was prepared using a multiple prime contract approach or Alternate 1 as the baseline approach. The expected price premiums for risks due to the contracting strategy are added as a line item to each of the appropriate components. These predictions for risk premiums are sensitive to the market and may vary significantly depending on how much risk the bidders are willing to absorb. The current market appears poised to yield competitive results for procurement, which may reduce the risk premium.

Table 4-1 provides a summary of the price comparison developed in Table 4-2. Table 4-2 indicates the detailed derivation of the expected price for each strategy based on an initial estimate of $763.5 million. This Section 4.0 cost estimate does not match that presented in Section 6.0 of this report. The revised values in Section 6.0 reflect refinements from vendor feedback and the addition of significant project indirect costs. The comparison of contracting strategies is not significantly impacted however, as all alternatives would be adjusted up or down approximately the same amount.

Table 4-1 Price Variance Summary

Alternate		Variance %
1	Multiple Prime	Baseline
2	Turbine Island EP	0.4%
3	Turbine Island GC	5.0%
4	2 EPC + T-G	4.5%
5	2 EPC	5.8%
6	Turnkey	7.1%

	Alternate 1		Alternate 2					Alternate 3			
	BLEPC w/ TI Multiple Cont		Turbine Island EP with Multiple Prime Construction			TI Multiple Prime Construction		Turbine Island EP with General Constructor			
	Base Estimate	Owner Indirects	Boiler/APC Island EPC	Turbine Generator	Turbine Island Engr-Procure		Owner Indirects	Boiler/APC Island EPC	Turbine Generator	Turbine Island Engr-Procure	Turbine Island Gen. Constructor
Percentage of Project		3%	58%	7%	13%	19%	4%	55%	6%	13%	22%
Owner Indirect Costs	$ 24,300,000	$ 24,300,000					$ 24,300,000				
Boiler Island - EPC	$ 433,600,000		$ 433,600,000					$ 433,600,000			
Turbine-Generator/BFPT	$ 50,800,000			$ 50,800,000					$ 50,800,000		
Equipment	$ 46,600,000				$ 46,600,000					$ 46,600,000	
Engineering Services	$ 51,000,000				$ 51,000,000					$ 51,000,000	
Construction	$ 147,200,000					$ 147,200,000					$ 147,200,000
Markup on Subcontracts	$ -					$ -					$ 6,624,000
Subtotal	$ 753,500,000	$ 24,300,000	$ 433,600,000	$ 50,800,000	$ 97,600,000	$ 147,200,000	$ 24,300,000	$ 433,600,000	$ 50,800,000	$ 97,600,000	$ 153,824,000
EPC Fee	$ -				$ 2,928,000	$ -	$ 8,674,200			$ 2,928,000	12,300,000
Labor Risk Share @5% x labor price	$ 10,000,000	$ -	$ 10,000,000	$ -	$ -	$ -	$ -	$ 10,000,000	$ -	$ -	$ 7,360,000
Estimated Price	$ 763,500,000	$ 24,300,000	$ 443,600,000	$ 50,800,000	$ 100,528,000	$ 147,200,000	$ 32,974,200	$ 443,600,000	$ 50,800,000	$ 100,528,000	$ 173,484,000
Grand Total	$ 763,500,000					$ 766,428,000					$ 801,386,200
Base v Option Premium	$ -					$ 2,928,000					$ 37,886,200
Premium over Base	Base					0.4%					5.0%
Bid Prices by LNTP			$ 443,600,000	$ 36,800,000	$ 100,528,000			$ 443,600,000	$ 36,800,000	$ 100,528,000	
Price Certainty at LNTP	68%					76%					72%
% Markup on Subcontracts	0%				0%	0%				0%	15%
Construction Subcontract %	0%				0%	0%				0%	30%
Added Risk Fee %	0%				3%	0%	5%			3%	8%
Labor Risk Sharing											
Hours	Owner		Contractor		None	None		Contractor			
Price	Contractor		Owner		None	None		Owner			
Contingency Opportunity/Risk	All Contracts	Owner	Contractor	Owner	Contractor	Owner	Owner	Contractor	Owner	Contractor	Contractor
Notes:											
1. Indirect risk adds contingency for scope uncertainty of GC bid documents - higher change orders expected..							See Note 1				
2. Probable Subs Evaluated to determine Subcontract percentage											See Note 2
3. Boiler Island EPC includes markups for subcontracted equipment and engineering											
4. Construction Management and design fees assumed constant for all options											

	Alternate 4 Two EPC Islands with T-G by Owner				Alternate 5 Two EPC Islands			Alternate 6 Lump Sum Turnkey		
	Owner Indirects	Boiler/APC Island EPC	Owner Turbine Generator	Turbine Island EPC	Owner Indirects	Boiler/APC Island EPC	Turbine Island EPC	Owner Indirects	Boiler/APC Island Areas	Turbine Island Areas
Percentage of Project	3%	56%	6%	35%	3%	55%	42%	5%	54%	41%
Owner Indirect Costs	$ 24,300,000				$ 24,300,000			$ 24,300,000		
Boiler Island - EPC		$ 433,600,000				$ 433,600,000			$ 433,600,000	
Turbine-Generator/BFPT			$ 50,800,000				$ 50,800,000			$ 50,800,000
Equipment				$ 46,600,000			$ 46,600,000			$ 46,600,000
Engineering Services				$ 51,000,000			$ 51,000,000			$ 51,000,000
Construction				$ 147,200,000			$ 147,200,000			$ 147,200,000
Markup on Subcontracts				$ 6,624,000			$ 6,624,000			$ 6,624,000
Subtotal	$ 24,300,000	$ 433,600,000	$ 50,800,000	$ 251,424,000	$ 24,300,000	$ 433,600,000	$ 302,224,000	$ 24,300,000	$ 433,600,000	$ 302,224,000
EPC Fee				$ 20,114,000			$ 30,222,000	$ 14,716,480	$ (4,336,000)	$ 30,222,000
Labor Risk Share @5% x labor price	$ -	$ 10,000,000	$ -	$ 7,360,000	$ -	$ 10,000,000	$ 7,360,000	$ -	$ 10,000,000	$ 7,360,000
Estimated Price	$ 24,300,000	$ 443,600,000	$ 50,800,000	$ 278,898,000	$ 24,300,000	$ 443,600,000	$ 339,806,000	$ 39,016,480	$ 439,264,000	$ 339,806,000
Grand Total				$ 797,598,000			$ 807,706,000			$ 818,086,480
Base v Option Premium				$ 34,098,000			$ 44,206,000			$ 54,586,480
Premium over Base				4.5%			5.8%			7.1%
Bid Prices by LNTP		$ 443,600,000	$ 50,800,000	$ 278,898,000		$ 443,600,000	$ 339,806,000		$ 439,264,000	$ 339,806,000
Price Certainty at LNTP				97%			97%			95%
% Markup on Subcontracts				15%			15%			15%
Construction Subcontract %				30%			30%			30%
Added Risk Fee %				8%			10%	2%	-1%	10%
Labor Risk Sharing										
Hours										
Price										
Contingency Opportunity/Risk	Owner	Contractor	Owner	Contractor	Owner	Contractor	Contractor	Owner	Contractor	Contractor
Notes:										
1. Indirect risk adds contingency for scope								2% Non-compete Risk Added	1% discount for all labor mgmt	
2. Probable Subs Evaluated to determine S				See Note 2			See Note 2			See Note 2
3. Boiler Island EPC includes markups for										
4. Construction Management and design fe										

4.5 LABOR ASSESSMENT

This labor assessment is based on construction mobilization in June of 2005 for the Trimble County site. Labor issues were evaluated for labor drawn from the Cincinnati, Ohio and Louisville, Kentucky areas. While no one can accurately predict the availability of sufficient quality craft three years from now some assumptions and estimates can be ascertained.

There was a time in the recent past that the Evansville, Louisville and Cincinnati area had a very strong union influence and control. This does not seem to be the case at this time. Although the state of Kentucky is not a "right to work" state, there appears to be a large percentage of the work in the area being done on an open shop basis. Fluor-Daniel and Zachry Construction seem to be performing a large portion of this work with minimal problems attracting open shop craft or fighting union interference. One of the major reasons there are few problems is that both union and non-union craft are very busy. There aren't many union skilled craft waiting for work.

When trying to assess labor availability three years from now we must take into account the recent past for union craft development. Because of the strong influx of non-union labor in the area during the past few years, there has not been as much emphasis on apprenticeship development as might be needed to support the union labor force. This seems to have been recognized by the unions and there is a big push in the recruiting area. There is still a long way to go in this area however.

Another area of concern that is related to working on a union basis is labor cooperation with construction management. This appears to be under control and the local building trades recognize the need to support the project with both quantity and quality of workers.

Attached is a wage rate comparison for the Louisville area. It compares estimated open shop wages with Union and Davis-Bacon wages. The Davis-Bacon wage rates, which are the rates required to be paid on projects involving Federal money, follow closely with the union wages. This is especially true when comparing wages of crafts that are considered in the industry to be the more skilled craft (boilermakers, welders, pipefitters, electricians, etc.).

The chart also estimates the number of union and non-union craft in the area. Where we are comparing the craft trades that are not more strongly related to power work (Carpenters, Laborers, operators, electricians, etc.) this number has to be tempered with the knowledge that the majority of these people are not necessarily knowledgeable with powerhouse work. The craft numbers shown for union labor varies

depending on the local union jurisdiction areas. Some unions such as the electricians and millwrights cover a large geographical area. The central location of the project within the Ohio Valley area should be considered a plus for available union labor.

In almost all the cases the Davis-Bacon rate exceeded the union and non-union labor rates. One of the conclusions that could be drawn from this is that the area contractors are paying above scale to attract quality labor. Also supporting this is the fact that the labor halls do not have many craft on the bench.

In conclusion, it is Burns & McDonnell's opinion that the project should be approached on a "merit shop" basis. It can be assumed that the site preparation, foundation work, first phase underground electrical, painting, insulation and the site completion work can be sufficiently manned with non-union labor. Where it would seem mandatory that union labor be involved would be the above-ground electrical, equipment erection, welding, piping, etc. These would be the areas that require more specialty type crafts. Any furnish & erect subcontracts could be assigned either union or non-union. Approaching the project in this manner would provide the greatest flexibility. This process also seems to be an acceptable working condition within the state of Kentucky. . Cost Estimate values are based on a merit-shop approach.

Table 4-3 Louisville, Kentucky Area Wage Rate Comparison

Craft	Union Nonunion	Potential Craft	Hourly Wage	Fringes	Safety Bonus	Completion Bonus	Overtime	Per Diem	Misc.	Est. Total Wage Rate	Year
Carpenter	Nonunion	2880	$ 15.33	$ -	$ 0.50	$ 0.50	$ 1.63	$ -		$ 17.96	2001
	Union	900	$ 18.65	$ 5.39						$ 24.04	2002
	Davis-Bacon		$ 20.70	$ 5.68						$ 26.38	2002
Iron Workers	Nonunion	230	$ 21.46	$ -	$ 0.50	$ 0.50	$ 2.25	$ 3.00		$ 27.71	2001
	Union	918	$ 22.26	$ 10.71						$ 32.97	2002
	Davis-Bacon		$ 23.25	$ 10.87						$ 34.12	2002
Pipefitters	Nonunion	2620	$ 18.09		$ 0.50	$ 0.50	$ 1.81	$ 3.00		$ 23.90	2001
	Union	840	$ 25.40	$ 6.68					$ 0.25	$ 32.33	2002
	Davis-Bacon		$ 25.40	$ 8.23					$ 0.25	$ 33.88	2002
Pipefitter	Nonunion		$ 18.09		$ 0.50	$ 0.50	$ 1.81	$ 3.00	$ 6.00	$ 29.90	2001
Welders	Union	560	$ 25.90	$ 6.36					$ 0.25	$ 32.51	2002
	Davis-Bacon		$ 25.40	$ 8.23					$ 0.25	$ 33.88	2002
Electricians	Nonunion	4480	$ 18.18		$ 0.50	$ 0.50	$ 1.82	$ 3.00		$ 24.00	2001
	Union	3000	$ 23.50	$ 8.08						$ 31.58	2002
	Davis-Bacon		$ 23.50	$ 7.73						$ 31.23	2002
Painters	Nonunion	1430	$ 14.40		$ 0.50	$ 0.50	$ 1.44	$ 3.00	$ 0.25	$ 20.09	2001
	Union		$ 16.27	$ 4.85					$ 0.25	$ 21.37	2002
	Davis-Bacon		$ 17.02	$ 5.92						$ 22.94	2002
Boilermakers	Nonunion	50	$ 22.84		$ 0.50	$ 0.50	$ 2.28	$ 3.00		$ 29.12	2001
	Union	180	$ 22.85	$ 12.06					$ 0.25	$ 35.16	2002
	Davis-Bacon		$ 23.95	$ 11.70						$ 35.65	2002
Boilermakers	Nonunion		$ 22.84		$ 0.50	$ 0.50	$ 2.28	$ 3.00	$ 4.00	$ 33.12	2001
Welders	Union	420	$ 22.85	$ 12.06					$ 0.25	$ 35.16	2002
	Davis-Bacon		$ 23.95	$ 11.70						$ 35.65	2002
Cement Masons	Nonunion	750	$ 16.54		$ 0.50	$ 0.50	$ 1.66	$ 3.00		$ 22.20	2001
	Union		$ 17.45	$ 6.70						$ 24.15	2002
	Davis-Bacon		$ 18.15	$ 7.00						$ 25.15	2002
Operators	Nonunion	2550	$ 17.66		$ 0.50	$ 0.50	$ 1.77	$ 3.00		$ 23.43	2001
	Union	3000	$ 19.85	$ 6.90						$ 26.75	2002
	Davis-Bacon		$ 20.25	$ 8.40						$ 28.65	2002
Laborers	Nonunion	4050	$ 14.78		$ 0.50	$ 0.50	$ 1.48	$ -		$ 17.26	2001
	Union	1300	$ 17.24	$ 7.48						$ 24.72	2002
	Davis-Bacon		$ 15.82	$ 5.08						$ 20.90	2002
Millwrights	Nonunion		$ 17.50	$ -	$ 0.50	$ 0.50	$ 1.75	$ 3.00		$ 23.25	2001
	Union	1238	$ 20.41	$ 8.76					$ 0.25	$ 29.42	2002
	Davis-Bacon		$ 22.25	$ 10.30						$ 32.55	2002

Notes:

1. For the year 2005 assume $0.75 to $1.25 for wage increase across the board
2. Overtime column is based on a fifty hour work week to attract craft
3. Miscellaneous column represents small tool additional costs and percentage of rig welders
4. The union craft numbers represent Louisville and/or Cincinnati locals.

4.6 STRATEGY SELECTION AND RECOMMENDATION

4.6.1 Strategy Selection

Burns & McDonnell and LG&E staff have discussed the advantages and disadvantages of contracting alternatives, the current market conditions and the interest of various bidders in the project. Management experience is most recent with the use of single turnkey contracts for project execution. These experiences were in a marketplace that was judged to charge a nominal premium for the additional risk of a performance wrap, schedule guarantees and a firm lump sum price. Projects outside of the United States typically benefited from lower labor costs and thus lower labor risk as opposed to the magnitude of risk in the USA.

Risk mitigation continues to be important however higher premiums are expected in today's marketplace for US projects. Coal plant schedules are longer than gas plant schedules and thus the risk is higher. Turnkey solicitations are not expected to attract adequate competition nor is the risk premium expected to be nominal as in the past for smaller projects.

Multiple prime contracting methods could expose LG&E to future risk as contracts are awarded over a period of time rather than up-front. While the risk premium is driven out of the project and initial award prices are expected to be lower, project risk remains for the Owner to deal with.

Somewhere between these two extremes is a strategy that shares the risks at an acceptable cost. Burns & McDonnell has a sense of the relative priority that LG&E places on the various risk components and has tried to capture these priorities in a numerical decision analysis. It is also apparent that most of the risks result in an unplanned cost impact.

Table 4-1 indicates the relative price expected for each of the alternatives. As risk is shifted from the Owner to the Contractor, the premium increases. Each of the alternatives could be configured to work however and there are successful projects for each of the contracting alternatives.

A numerical decision analysis process was used in order to rank the alternatives. This analysis allows us to assign a relative importance or weighted value to each of the significant risks. This allows an evaluation, for example, to place a higher importance on Performance Risk rather than Price Risk. This

priority would favor substantial contractual guarantees for performance at the expense of risk premium, which might be required to obtain project financing.

In addition, for a given risk element, each alternative is assigned a subjective score between 1 –5 according to its comparison to the other alternatives. For example, a low price is considered more favorable than a high price. A score of 1 is used for the least favorable and a score of five is the most favorable. The product of the weighted value and the score is tallied for each risk factor to determine an overall comparative score for the alternative.

The risk elements are described as follows:

Price Risk - Each contracting alternative has been estimated to have different risk premiums and expected final prices. Lower expected prices are more favorable.

Early Plan Certainty – Contracting alternatives provide different timing when contractor proposals offer a comparison of proposed versus projected pricing, schedules and risk allocation. Early responses allow plan validation before significant cancellation commitments begin to accrue. Earlier certainty is more favorable.

Post Award Schedule – Contracting alternatives have different characteristics regarding how far in advance of construction each approach must start planning, engineering and procurement. A shorter overall duration from EPC release to commercial operation is considered favorable. This allows the Owner to defer expenditures for shorter schedules.

Performance Risk – Performance estimates are included as key assumptions used as part of the feasibility evaluations. During design engineering choices must be made to optimize the capital costs, value of resultant efficiency improvements and expected operations and maintenance impacts. EPC packages with broad responsibilities have a vested interest in balancing capital costs and plant efficiency and may offer an improved heat rate due to the broad responsibility. In addition, an EPC arrangement will include performance guarantees backed by liquidated damages. A multiple prime contract approach would evaluate component efficiency as opposed to system efficiency. Either approach can yield an efficient plant depending on the value ascribed during design engineering and procurement. This risk element refers to which contracting alternative is likely to offer both the most efficient plant and the greatest certainty. Less performance risk is more favorable.

Design Risk – EPC packages bear the risk of engineering errors and omissions within the bounds of their contract requirements, which are broad and functional. The Owner bears the direct cost risk of its engineer's errors and omissions. Less design risk is considered favorable.

Competition Risk – Proposals from at least three bidders is good procurement practice to achieve competitive responses from the marketplace. This risk element assesses whether the contracting alternative will generate adequate bidder response from qualified bidders. More competition is favorable.

Liquidated Damages (LD) Coverage – This risk element assesses the comparative extent of liquidated damages that each alternative is likely to accrue in order to cover the risk of performance shortfalls in performance and schedule guarantees. More coverage is favorable.

Savings Opportunity – This element addresses the opportunity for the Owner to retain contingency allocations if the project results are favorable. This factor is the inverse of the risk premium and recognizes the potential for cost savings as the potential benefit for taking higher risks. More savings opportunity is favorable.

Schedule Risk – This risk element assesses the risk of schedule delay to the commercial operation date. The factors that are likely to cause a delay are the same for alternatives. The difference is the experience and expertise of the entity responsible for coordination. On site coordination of interfaces between contractors and suppliers introduces a higher risk to an Owner under the multiple prime contract approach as delays in one contract can cascade to several others with increasing costs for mitigation. EPC contractors accept this risk as part of the approach and back their performance with substantial liquidated damage guarantees. Less risk is more favorable.

Default Recovery Risk – This risk element recognizes that the Owner could take action to recover more easily if a smaller scope of work is at risk in the event of a contract default. Large EPC packages would be complicated and time consuming to remedy. Better recovery opportunity is considered favorable.

Refer to Table 4-4 for the evaluation of alternatives. It indicates Alternate 4 as the best with Alternative 5 as a close second choice. Alternate 4 Owner procurement of the Turbine-Generator equipment followed

by an EPC Boiler/APC Island and EPC Turbine Island. Alternate 5 would include the Turbine-Generator in the Turbine Island to yield two contracts instead of three.

Table 4 – 4

Contracting Alternative Ranking

Issue	Pct	Favorable	Alternates 1	2	3	4	5	6
Price Risk	15	Low	5	5	4	3	2	1
Early Plan Certainty	10	Earlier	1	2	3	5	5	5
Post Award Schedule	15	Shorter	2	2	3	5	5	5
Performance Risk	10	Less	3	3	3	4	5	4
Design Risk	5	Less	2	2	2	3	4	5
Competition	15	More	5	5	3	3	2	1
LD Coverage	10	More	1	2	2	4	5	5
Savings Opportunity	5	More	5	4	3	1	1	1
Schedule Risk	10	Less	1	1	2	4	4	4
Default Recovery	5	Better	5	5	3	3	2	1
Raw Total	100		30	31	28	35	35	32
Weighted Total			300	315	290	370	360	320
Ranking			E	D	F	A	B	C

1 or E = Least Favorable
5 or A = Most Favorable

Notes:
1. Score is product of Weighted Percentage x Ranking (1 - 5)

Legend of Contracting Approaches:

Alternate 1: Boiler/APC Island EPC & Turbine Island Multiple Contract ..... 32 Contracts
Alternate 2: Turbine Island EP with Multiple Prime Construction ..... 15 Contracts
Alternate 3: Turbine Island EP with General Constructor ..... 4 Contracts
Alternate 4: Two EPC Islands with T-G by Owner ..... 3 Contracts
Alternate 5: Two EPC Islands ..... 2 Contracts
Alternate 6: Lump Sum Turnkey ..... 1 Contract

4.6.2 Strategy Recommendation

The basic sequence of procurement should use a strategy to buy the Turbine-Generator first to optimize equipment sizing and thus pricing. The Turbine-Generator procurement establishes the heat balance since it sets the design conditions of the boiler and the process design requirements for the Turbine Island equipment. Without the turbine purchase, basic system design may not proceed by the respective EPC design engineers.

Early purchase of the Turbine-Generator equipment would communicate to the marketplace that LG&E is serious about Trimble County Unit 2 and is on a path toward project execution. We believe this single procurement, at a down payment of 1 – 2% ($500,000 – $1,000,000) could significantly bolster bidder interest and competition for the balance of the plant components. The balance of the Turbine Island engineering, equipment procurement and construction could be procured at the same time or deferred until after the boiler is awarded. One advantage to early procurement of the Turbine Island would be to identify the Turbine Island construction contractor. This might develop some synergies with the subsequent Boiler/APC Island bidders and potentially minimize further the contractors on site and competition for skilled labor.

The primary purchases however are two large EPC contracts. One purchase is for the Boiler/APC Island and the other is for everything else as the Turbine Island. These two solicitations are expected to produce a combination of firm pricing, target pricing and some scope exclusions. The qualified construction firms and design firms for coal plants are relatively few in number and will likely be bidding certain portions of both packages in consorta with each other. The Boiler and APC equipment manufacturers will also likely team with the same constructors and designers as the Turbine Island (except for OEM equipment design). The true willingness of the bidders to offer risk mitigation at a reasonable price will only be known at bid time.

In order to respond to variances between the scope of work solicited and the scope of work offered, it will be important to start early enough to respond to bidders with alternate solutions. Adequate time must be budgeted for negotiation and scope modifications to achieve effective contracts that generally conform to the work plan. This may be viewed as a market-based strategy to craft a set of contracts that strike a balance between price and risk while maintaining budget, performance and schedule targets. For example, how best to incorporate the chimney construction may become an issue. If a bidder places too high a premium on inclusion of a furnish-erect chimney contract, then a separate Owner contract may be integrated into the contracting sequence with the appropriate interfaces identified for related contracts. Other issues that may be dealt with in a similar way are cooling tower procurement, foundations design and construction or civil work, electrical design in the Boiler or APC Island or plant control system configuration and design.

The underlying strategy is that a qualified Project Team, such as LG&E and Burns & McDonnell, is capable of preparing and negotiating bid documents that range from turnkey procurement to individual

equipment and construction contracts – or any mix in-between. The number of packages could be tailored to meet the market appetite for risk to achieve the best value for project execution. When bidders respond the Project Team will identify the best scope combinations to achieve price certainty, risk mitigation, guaranteed performance, and guaranteed schedules. The original planned configuration of the packages may change slightly with the gaps filled by the Project Team when appropriate.

We recommend LG&E adopt Alternate 4 as the preferred strategy to procure Turbine-Generator equipment, an EPC contract for a Boiler/APC Island and an EPC contract for a Turbine Island.

* * * * *

5.0 PROJECT SCHEDULE

5.1 GENERAL

Appendix C, Exhibit C-1 depicts a Level 1 Project Schedule for a large coal-fired unit, such as proposed Trimble County Unit 2. The designation of Level 1 defines the schedule level of detail as conceptual for the purpose of initial project planning.

Exhibit 5-1 Level 2 Schedule depicts a more detailed plan for execution of Trimble County Unit 2. Not only is there additional detail but it reflects the recommended strategy as Contracting Alternate 4. The recommended strategy segregates the scope of work into two large EPC contracts and one separate Owner purchase of the Turbine-Generator and Boiler Feed Pump Turbine equipment for a total of three bid packages.

Three key decision points are included in the schedule and are as described in Appendix C as follows:

- Decision 1 - release of engineering services to prepare bid specifications for major contracts for bid, negotiation and ready for award
- Decision 2 – Limited Notice to Proceed (LNTP) to release vendor & contractor design engineering. Prerequisites include CCN approval and major bids ready for award.
- Decision 3 – Full Notice to Proceed (FNTP) to release vendor/contractor fabrication. Prerequisite is approval of the PSD permit.

Exhibit 5-2 is a simplified schedule that indicates the schedule interaction of the primary planning, procurement and construction milestone activities during the course of the project. It depicts the requirements for Contracting Alternate 4. Exhibit 5-2 highlights the activities required for each successive major Decision Point to proceed with the next phase of the project. Each successive decision commits LG&E to additional expenditures and commitments.

Exhibit 5-2 Simplified Schedule, Contracting Alternate 4 indicates PSD permitting starting October 1, 2002 in advance of the CCN permitting process which begins 5 months later by March 1, 2003. Decision Point 2 is a release for engineering that coincides with approval of the CCN application. Decision Point 3 is triggered by agency approval of the PSD permit.

The Project Schedule is based on LNTP award of the Turbine-Generator several months in advance of the LNTP for the EPC contracts. This allows a release for engineering to "buy" the STG engineering

drawings in advance of the release of the Turbine Island EPC contract to perform engineering. A lead-time of 12 months prior to the start of construction for the Turbine Island EPC contractor is included.. This time is necessary to perform design engineering and procurement activities to support preparation of construction documents. We believe the Turbine Island EPC contractor is on the critical path of the project. The Turbine Island EPC Contractor could certainly benefit from 18 months of design and procurement lead-time, however the current schedule does not allow this and defer release for engineering until after approval of the CCN application.. It is likely that only those bidders with a reference plant design or pre-selected engineered equipment suppliers will be able to meet a design and procurement window that is 12 months (or less) ahead of the start of construction. Ultimately, the marketplace will answer the query of how much design time is really needed. We believe 12 – 18 months of lead-time will be necessary.

5.2 KEY ASSUMPTIONS

Commercial Operation of the unit is scheduled for May 1, 2008 in time for the summer peak. Milestone dates are indicated based on planning experience with similar plants and today's market. In comparison to historical schedules, an additional 3 months is allotted for emissions control equipment startup and tuning to achieve emissions compliance. This adjustment is on the basis of our recent coal-fired plant startup experience on Hawthorn Unit 5 owned and operated by Kansas City Power & Light..

The CCN application is scheduled by March 1, 2003. Regulated utilities under the jurisdiction of the Kentucky Public Service Commission must obtain a Certificate of Public Convenience and Necessity (CCN) to construct new electric power generating facilities. Approval is determined by the need for the proposed facility and review and approval is expected to take about 6 months, however since the regulation is new there is no history to better predict the time required for review and approval. Approval authorizes reimbursement of certain planning and development costs.

PSD application review and approval is planned as within 15 months, which is reasonable for planning purposes.

The sequence of bid document preparation and procurement indicates the first contract, Turbine-Generator/Boiler Feed Pump Turbines (STG), as awarded prior to the EPC packages being issued to bidders. This purchase establishes the heat balance, which is used as the key document for plant process design. Certain flexibility is anticipated for the STG specifications to allow the bidders to propose their

best combination of efficiency and price to be awarded on an evaluated basis as will be explained in the bid document instructions to bidders.

The Boiler/APC Island bid documents must reflect the requirements of the heat balance, primarily for reheat conditions. Many of the plant components provided under the Turbine Island EPC package are as required by the heat balance established by the STG selection.

Both the Boiler/APC Island and Turbine Island have some interfaces with each other. These interfaces may be outlined in the original document with the basis for adjustment defined as necessary. The primary issue to deal with is expected to be the installation of boiler island foundations. These may be dealt with through unit pricing and bid quantities at bid time.

The proposed Project Schedule is a plan to achieve synchronization by November 1, 2007, full load operation on coal by December 31, 2007, and Commercial Operation by May 1, 2008 in advance of the ozone season. Start of construction is planned for the spring to take advantage of the summer construction season and to allow a fall start of steel erection. The construction schedule from Start Site Construction to Synchronization is 32 months with an additional tuning and testing period of 6 months for a total of 38 months to Commercial Operation.

* * * * *

Table 5-1 Key Schedule Assumptions Table

Activity	Duration Mo.	Plan Date
Development and Engineering Period		
Decision 1 - Project Feasibility Preliminary Release Begin EPC Bid Documents	1	10/1/2002
Submit CCN application	-	2/28/2003
CCN Application review and approval as prerequisite for LNTP	6	9/3/2003
Decision 2 – LNTP; CCN Approval and EPC Bids received. Award EPC contracts and begin releases for engineering	**1 day**	**10/4/2003**
Submit PSD application	-	10/1/2002
PSD application agency review and approval	15	1/5/2004
Decision 3 – Full Notice To Proceed; EPC Contractor Release for Fabrication	**1**	**11/1/2003**
Turbine-Generator lead time before erection start	24	
Boiler steel lead time before steel erection start	10	
Turbine Island engineering and procurement lead before construction	12	
Construction Period		
Start Construction	0	3/1/2005
Start Boiler Steel Erection (i.e.7 mo. after Start Construction)	6	9/1/2005
STG Building Ready for Mechanical/Electrical	8	5/1/2006
Energize Startup Power	7	12/1/2006
Ready for Boilout/First Fire	8	8/1/2007
Synchronization	3	11/1/2007
Provisional Acceptance – Full Capacity Operation	2	12/31/2007
Commercial Operation	4	5/1/2008
Total	38	

* * * *

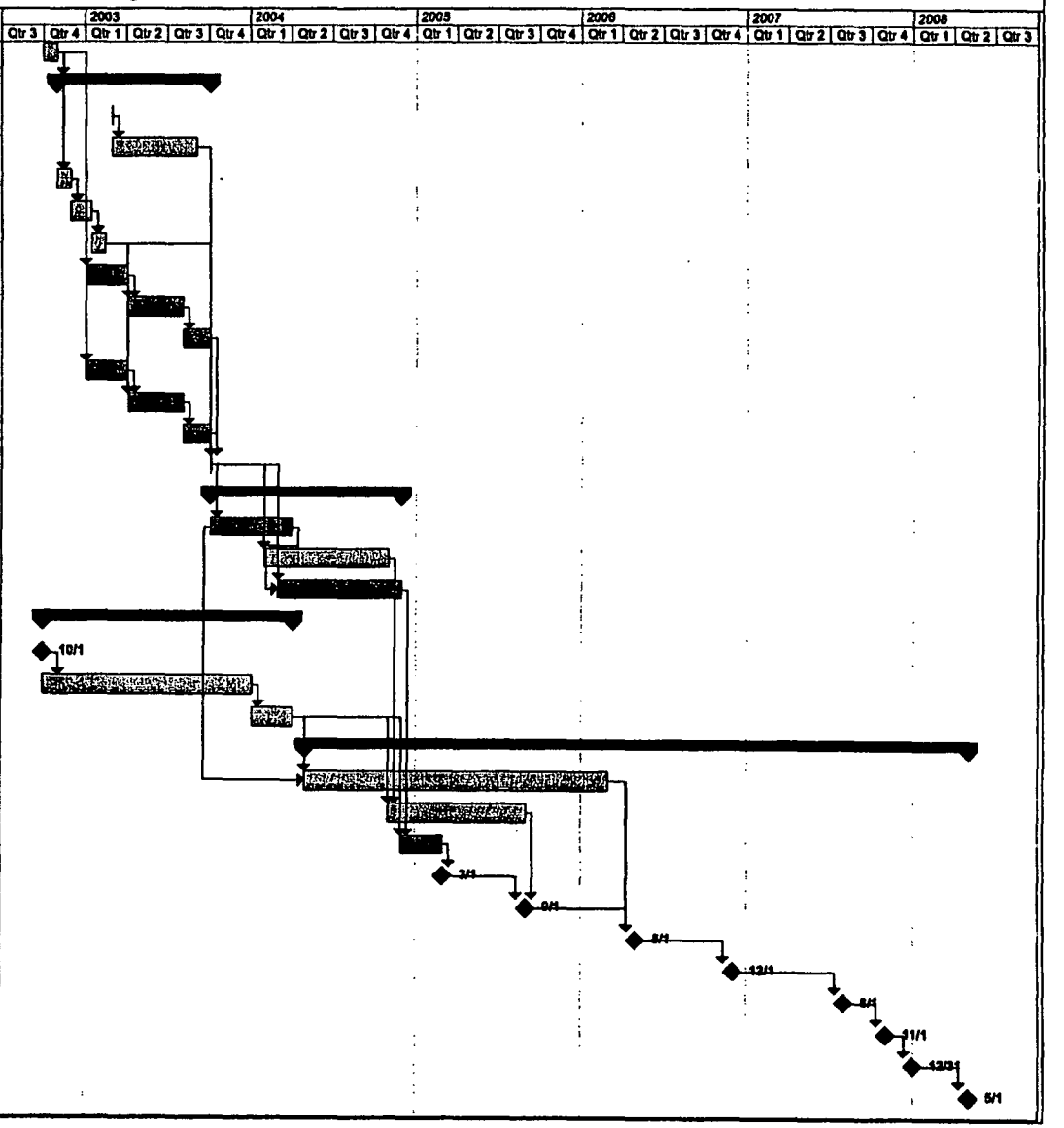
Exhibit 5-1

Later

Exhibit 5-2 R3.mpp

Exhibit 5-2 Simplified Schedule
Contracting Alternate 4

ID	Task Name	Duration	Start	Finish
1	Board Sanction 1	30 days	Tue 10/1/02	Wed 10/30/02
2	Decision 2 Summary - LNTP	339 days	Thu 10/31/02	Sat 10/4/03
3	CCN Application	1 day	Fri 2/28/03	Fri 2/28/03
4	CCN Review & Approval	187 days	Sat 3/1/03	Wed 9/3/03
5	Turbine-Generator/BFPT - Bid Documents	30 days	Thu 10/31/02	Fri 11/29/02
6	Turbine-Generator/BFPT - Bid Period	45 days	Sat 11/30/02	Mon 1/13/03
7	Turbine-Generator/BFPT - Negotiate Ready for Award	30 days	Tue 1/14/03	Wed 2/12/03
8	Boiler/APC Island EPC - Bid Documents	92 days	Thu 1/2/03	Thu 4/3/03
9	Boiler/APC Island EPC - Bid Period	122 days	Fri 4/4/03	Sun 8/3/03
10	Boiler/APC Island EPC - Negotiate Ready for Award	61 days	Mon 8/4/03	Fri 10/3/03
11	Turbine Island EPC - Bid Documents	92 days	Thu 1/2/03	Thu 4/3/03
12	Turbine Island EPC - Bid Period	122 days	Fri 4/4/03	Sun 8/3/03
13	Turbine Island EPC - Negotiate Ready for Award	61 days	Mon 8/4/03	Fri 10/3/03
14	Limited Notice to Proceed (LNTP)	1 day	Sat 10/4/03	Sat 10/4/03
15	EPC Contractor Engineering	423 days	Sun 10/5/03	Tue 11/30/04
16	Turbine-Generator/BFPT - LNTP Engineering	182 days	Sun 10/5/03	Sat 4/3/04
17	Boiler/APC Island EPC - LNTP Engineering	275 days	Sun 2/1/04	Mon 11/1/04
18	Turbine Island EPC - LNTP Engineering	274 days	Tue 3/2/04	Tue 11/30/04
19	Decision 3 Summary - FNTP	553 days	Tue 10/1/02	Mon 4/5/04
20	PSD Application	0 days	Tue 10/1/02	Tue 10/1/02
21	PSD Review & Approval	462 days	Tue 10/1/02	Mon 1/5/04
22	Full Notice to Proceed (FNTP) Owner Review	91 days	Tue 1/6/04	Mon 4/5/04
23	FNTP - Construction & Procurement Milestones	1461 days	Sun 5/2/04	Thu 5/1/08
24	Turbine-Generator/BFPT - FNTP Procurement/Fab Lead Time	669 days	Sun 5/2/04	Wed 3/1/06
25	Boiler/APC Island EPC - FNTP Procure/Fab Lead Time	304 days	Tue 11/2/04	Thu 9/1/05
26	Turbine Island EPC - FNTP Procure/Fab -Time to Start Constr	91 days	Wed 12/1/04	Tue 3/1/05
27	Start Site Construction	0 days	Tue 3/1/05	Tue 3/1/05
28	Start Boiler Steel Erection	0 days	Thu 9/1/05	Thu 9/1/05
29	STG Building Ready for Mech/Elect	0 days	Mon 5/1/06	Mon 5/1/06
30	Startup Power	0 days	Fri 12/1/06	Fri 12/1/06
31	Ready for Bollout	0 days	Wed 8/1/07	Wed 8/1/07
32	Synchronization	0 days	Thu 11/1/07	Thu 11/1/07
33	Provisional Acceptance	0 days	Mon 12/31/07	Mon 12/31/07
34	Commercial Operation	0 days	Thu 5/1/08	Thu 5/1/08



6.0 PROJECT COST ESTIMATE

6.1 GENERAL

The capital cost estimate of Unit 2 at Trimble County is approximately$900,000,000, which is$1200/kW. This estimate is based on the project configuration as described in the Project Design Manual and the assumptions listed herein. The contracting approach assumes that there will be four major contracts: 1) Steam Turbine Generator (Equipment Only) 2)Boiler Island EPC 3) Air Pollution Control (APC) Island EPC (Possible combination with Boiler Island) 4) Turbine Island.

The capital cost estimate was developed by using a bottom-up method integrated with a comparison method. The bottom-up method involves the creation of plant details and design criteria for specified equipment and material to be used for budgetary estimating. These budgetary estimates are obtained from vendors for major plant equipment packages and from internal estimates for construction commodities. The comparison method involves comparing the project/equipment to be estimated with actual costs from recent projects. This method involves normalization of the estimate based on unit size, plant configuration, labor rates, risk, etc.

The capital cost estimate detailed in Table 6-1 includes the Contracts described and the project indirects. The EPC Contracts include equipment, material and labor for erection. Project indirects include Owner's costs during the project that are not directly allocated to a contract. Such items include fuel, engineering, construction management, initial spare parts, training, start up, sales tax, financing, insurance and other indirect costs that are not directly attributable to the individual Contracts. Interest during construction is a Project Indirect cost that is not included. Table 6-1 details which items are included in this estimate.

The estimates included in this report are based on our experience, qualifications and judgment as a professional consultant and on current market conditions. Since Burns & McDonnell has no control over factors affecting these estimates, Burns & McDonnell does not guarantee that the actual costs will not vary from these estimates.

Table 6-1 Project Estimate

CONTRACTS		Total	Remarks
1	Turbine Generator & Boiler Feed Pump Turbines		
	Equipment, Materials & Labor	$ 50,000,000	
	Escalation	$ 1,500,000	
	Contingency for Cost Estimate Uncertainty	$ 1,000,000	
	Total	**$ 52,500,000**	
2	Boiler Island		
	Equipment, Materials & Labor	$ 233,100,000	
	Escalation	$ 20,900,000	
	Contingency for Cost Estimate Uncertainty	$ 23,900,000	
	Total	**$ 277,900,000**	
3	APC Island		
	Equipment, Materials & Labor	$ 149,000,000	
	Escalation	$ 13,100,000	
	Contingency for Cost Estimate Uncertainty	$ 15,000,000	
	Total	**$ 177,100,000**	
4	Balance of Plant Island		
	Equipment, Materials & Labor	$ 280,200,000	
	Escalation	$ 29,300,000	
	Contingency for Cost Estimate Uncertainty	$ 28,400,000	
	Total	**$ 337,900,000**	
Contract Subtotal		$ 845,400,000	

PROJECT INDIRECTS		Total	
Construction Power / Water			
	Construction Power Interconnect	$ 800,000	2 x 10MVA feeds
	Construction Power	$ 1,200,000	Consumption
	Construction Water Interconnect	$ 50,000	
	Construction Water	$ -	Incl in Plant Overhead
Performance Testing		$ -	Incl in other startup costs
	Unit Performance Testing	$ 40,000	Special Equipment & Lab
	CEMS / Stack Emissions Testing	$ -	Incl in Equipment
Preoperational Testing, Start-up & Calibration		$ -	
	Initial Fills	$ 400,000	
	Fuel - Coal	$ 10,600,000	
	Fuel - Natural Gas	$ 2,400,000	
	Variable O&M - Water, chemicals, etc	$ 2,100,000	Based on $2.50/MWhr
	Startup Power	$ 450,000	Consumption
	Test Power Sales	$ (17,000,000)	Net Revenue
Startup Management		$ 2,020,000	
Construction / Startup Tech Service		$ -	Incl in Equipment
Site Surveys/Studies		$ -	
	Topographical Survey	$ -	
	Site Survey	$ -	
	Geotechnical Survey	$ -	
	Test Piling	$ -	
	Bathymetric Survey	$ -	Not Applicable
	Currents Study	$ -	Not Applicable
	Nautical Study	$ -	Not Applicable
	Thermal Plume Study	$ -	Not Included
	Seismic Investigation	$ -	Not Applicable
	CW Intake Hydraulic Model Study	$ -	Included in CW Pumps

Table 6-1 Project Estimate (Continued)

Engineering	$	-	
Permits/Licensing	$	-	By Owner
Project Management & Engineering	$	4,900,000	
Construction Management	$	-	
Construction Staff	$	5,900,000	
Field Office Expenses	$	-	
Project Insurance	$	-	
Workers' Compensation (OCIP)	$	-	Included in Labor Costs
General Liability and Umbrella	$	-	
Builder's Risk Insurance	$	5,400,000	
Delay in Operating Insurance	$	-	Not Included
Inland Transit Insurance	$	-	Not Included
Project Bonds	$	-	
Retention Bond	$	-	Not Applicable
Performance Bond	$	-	Not Applicable
Owner Costs	$	-	
Project Development (Phases 1 & 2)	$	6,400,000	
Owner Operations Personnel	$	3,500,000	
Owner Construction Engineering	$	-	
Owner Startup Engineering	$	-	
Permitting & License Fees	$	-	
PSD Permit incl Ambient Air Monitoring	$	-	
Environmental Analysis	$	-	
Environmental Impact Statement	$	-	
Wetland Mitigation	$	-	
Ash Landfill	$	-	
NPDES Permit - Construction & Operating	$	-	
Land Disturbance Permit	$	-	
Stormwater Control Permit	$	-	
Land	$	-	
Initial Fuel Inventory	$	-	
Financing Fees	$	-	
Site Security	$	-	
Construction Testing	$	-	
Other Construction Testing	$	-	
Transmission Upgrades	$	-	
Sales Tax & Duties	$	1,600,000	
Legal Costs	$	-	
Spare Parts	$	-	
Operating Spare Parts	$	5,000,000	
Permanent Plant Equipment & Furnishings	$	-	
Freight	$	-	Included in Equipment
Escalation	$	-	
Escalation - Project Indirects	$	3,650,000	3%/yr to 2005 (3 yrs)
Owner Project Contingency	$	15,200,000	
Project Incentives	$	-	Not Included
Interest During Construction	$	-	
SUBTOTAL PROJECT INDIRECTS	$	54,600,000	
TOTAL PROJECT COST (2008 COD)	$	900,000,000	
TOTAL PROJECT COST (2002$)	$	831,550,000	

6.2 KEY ASSUMPTIONS

The representative capital cost estimate provided is based on the capital cost assumptions listed in Table 6-2.

Table 6-2 Project Key Assumptions

General Project	
Project Description:	Development of Project Approach for New Coal Fired Facility
Project Location:	Trimble County Power Plant near Bedford, Kentucky
Project Size	750 MW Net
Thermodynamic Cycle	Supercritical Heat Cycle, 3690 psia/1050°F/1050°F
Heat Rejection:	Existing hyperbolic cooling tower supplemented by a new mechanical draft cooling tower.
Air Quality Control	Dry electrostatic precipitator and a wet forced oxidation FGD system. Option included for a wet electrostatic precipitator.
Site Description:	Level, clear brownfield site.
Contracting Method:	1) Steam Turbine Supply (Equipment Only) 2)Boiler Island EPC 3)APC Island EPC 4) Turbine Island EPC
Labor Type:	Merit Shop-Louisville, Kentucky
Project COD date:	Mid 2008
System Concepts	
Water Supply:	
Service Water:	Service water will be obtained from the Owner's existing intake in the Ohio River. The existing service water pumps will be modified for the new service requirements. It is anticipated that the existing intake will not require modification. The water will be clarified in the existing clarifier.
Cycle Make-up:	Water for cycle make-up will be obtained from the Owner's existing intake in the Ohio River. The water will be treated to high quality demineralized water standards with the existing demineralizer. It will be stored in the existing condensate storage tank.
Cooling Tower Make-up:	Water for cooling tower make-up will be obtained from the Owner's existing intake in the Ohio River. The water is not clarified before it is used in the cooling tower. The cooling tower makeup water system is existing.
Potable Water:	Potable water will be supplied by the existing connection to the rural potable water supply.
Wastewater Disposal:	
Process Wastewater:	Process wastewater will be directed to the existing ash pond to be recycled into the process. A waste water treatment facility is provided to control the build up of chlorides in the ash pond.
Contaminated Wastewater:	Drains from the area around equipment that could be contaminated with oil will be directed through oil/water separators and discharged into the process waste line for discharge into the existing ash pond.
Sanitary Wastewater:	No new sanitary lines will be added.
Start-up Fuel:	Start-up fuel for the project will be natural gas. The natural gas tie-in is at the southeast corner of the site.
Solid Fuel:	

Types:	The coal facilities will be designed for bituminous coal.
Delivery:	Solid fuel is delivered to the plant by barge.
Unloading:	An existing barge unloading system will be utilized. It is adequate for the new unit.
Storage:	Solid fuel is stored in uncovered outdoor piles.
Delivery to Boilers:	Solid fuel is delivered to the boilers via two existing redundant fuel transport systems. Reclaim from the coal piles will normally be via the reclaimers.
Preparation:	Solid fuel is prepared to the proper size in existing crusher units in the fuel handling train feeding the boiler tripper conveyors.
Limestone:	
Size:	Limestone is currently delivered to the facility ready for the limestone mills.
Delivery:	Limestone is delivered to the plant by barge.
Unloading:	Limestone is unloaded by an existing barge unloader.
Storage:	Limestone stored in covered piles.
Preparation:	Limestone slurry will be prepared by the existing limestone mills and delivered to the FGD system.
Ash:	
Ash Disposal:	Fly ash and bottom ash will be marketed for beneficial reuse projects. Product that is not marketed will be stored in the existing ash pond.
Ash Storage:	An Ash storage silo will be provided on site to afford approximately 3 days of storage.
Ash Load-out:	Ash truck loadout systems will be provided below the silo via gravity.
Gypsum	
Gypsum Byproduct	It is assumed that an outside company will purchase, install and operate all equipment necessary to receive the FGD slurry and create Gypsum for off-site uses. The water from the dewatered slurry will be sent to the existing ash pond. No dewatering or gypsum processing equipment is included in this estimate.
Construction Utilities:	
Construction Water:	Water supply for construction will be supplied by Owner.
Construction Power:	Power supply for construction will be supplied by Owner.
Major Equipment Delivery:	Major equipment will be delivered to the site via barge. Minimal heavy haul is assumed to be required.
Civil	
Existing Facilities:	The site is a level, clear brownfield site without environmental hazards or wetlands.
Disposal of Spoils:	Spoils will be disposed of on site. No hazardous material handling or removal is included.
Soil Conditions / Stability:	According to Owner personnel, the existing soils in the area designated for Unit 2 were removed, replaced with new soil and compacted during the original Unit 1 construction. Therefore, we assume the soil is stable and adequate to support mat foundations. Additional soil borings may be required for verification.
Subsurface Rock:	It is assumed that there is no subsurface rock in the area of construction that will need to be removed.
Cut & Fill:	Site will be developed as a balanced site requiring minimal off-site

	fill and minimal disposal of spoils. Site is assumed to be relatively level requiring only cut and fill equivalent to the top 1 foot of the prepared area. Off-site fill will be available from within 10 miles of the site.
Dewatering:	It is assumed that no dewatering will be required during construction.
Construction Storm Water Control:	Silt fences are included for construction erosion control. No other special erosion control is included.
Permanent Project Storm Water Control:	Storm water will be collected in the existing storm drainage system. No new storm water pond is included.
Roads:	New site roads will be developed for access to the project. New main plant roads will be surfaced with asphalt topping. Minor roads and maintenance areas will be covered with crushed rock. Costs for road, bridge or other improvements or for road maintenance for any roads outside the project perimeter are not included.
Truck Scales:	No truck scales are included.
Coal Pile Run-off:	No modifications will be made to the existing coal pile run-off system.
Site Security:	No new plant security is included. Temporary plant security will be added during construction.
Landscaping:	No landscaping is included except for seeding for erosion control.
Structural	
Soil Bearing Capacity:	Soils in the area are assumed suitable for spread footings for light loads.
Piling:	It is assumed that piling will not be required due to the soil preparation during the construction of Unit 1.
Boiler Enclosure:	Boilers will be enclosed for weather protection.
Steam Turbine Enclosure:	Steam turbines will be enclosed, top and bottom, in a turbine hall. The existing bridge crane will be used to service the steam turbine.
Administration / Control Facilities:	A new control room will be developed next to the existing Unit 1 control room. No new administration areas are included.
Warehouse Facilities:	No new facilities included.
Maintenance Shop:	No new facilities included.
Yard Maintenance Building	No new facilities included.
Electrical Enclosures	Several buildings of various sizes
Stack:	A single flue stack, 760 feet tall, has been included. The stack will have an alloy liner.
Mechanical	
Boiler:	The new boiler is a supercritical pulverized coal unit with reheat designed for 100% of MCR output. The main steam supply to the steam turbines at 3690 psia and 1050°F. Reheat steam at 1050°F.
Steam Turbine Generator:	3,600 rpm, down-exhaust, reheat type using 3690 psia, 1050°F/1050°F throttle steam and having eight stages of feedwater extraction for feedwater heating and using 40 inch LSBs. It will consist of a single flow HP, a two flow IP and 2-two flow LP sections.
Feedwater Heaters:	Eight stages of feedwater heating. Five low pressure and three high pressure. No deaerator is included.
Emissions Control:	
NOx:	SCR to 0.09 lbs/MMBtu. The SCR will be supplied with 2 extra

	empty levels for future catalyst installation.
CO:	Controlled by good combustion practices to 0.1 lb/MMBtu.
SO_2:	Wet forced oxidation FGD unit will be supplied to meet 0.34 lbs SO_2/MMBtu assuming ~6% sulfur fuel.
PM_{10}:	Dry electrostatic precipitator to accomplish emissions of 0.02 lb/MMBtu.
Ammonia:	The existing ammonia storage and forwarding pumps will be utilized. New vaporizers will be provided
Pumps:	
Boiler Feed Pumps:	Two 50% turbine driven boiler feed pumps with a motor driven start-up pump are included. The start-up pump will be sized for approximately 30% flow at 50% steam turbine throttle pressure.
Condensate Pumps:	Two 50% motor driven pumps with hydraulic couplings are included.
Circulating Water Pumps	Two 50% motor driven constant speed pumps are included.
Heat Rejection:	
Condenser:	Two-pressure surface condenser with 304SS tubes.
Cooling Tower:	A counterflow, induced draft, fiberglass structure, helper cooling tower is included to assist the existing hyperbolic. The tower basin will be elevated and designed to completely drain to the existing basin.
Water Treatment:	A new water treatment facility is included to treat the ash pond water as required to control the chloride concentration.
Condensate Cycle	A full flow condensate polisher is included.
Compressed Air Supply:	Three new air compressors with two desiccant type air dryers are included.
Fire Protection:	The existing fire protection pumps will be utilized. New fire water distribution system and detection inside the buildings are included.
Raw Water Storage:	No new service water storage is included.
CCW Exchangers:	Plate & Frame with 304SS plates
Electrical	
Generator Step-up Transformers:	Two winding transformer on each generator. Transformers are rated at OA/FOA/FOA.
Black Start Capability:	Not Included.
Emergency Generator:	1500 kW Unit Included
Emergency Power:	8-hour DC systems with a UPS for supply to the control system and critical instrumentation.
Auxiliary Power Supply:	One 100% auxiliary transformer and switchgear.
Plant Control System:	Distributed Control System with remote mounted panels.
Plant Communications:	The existing plant PA system will be extended to Unit 2.
Transmission / Interconnection	
Switchyard:	We have assumed the substation rock is in place and no fence or grading is required. Also, panel space and AC/DC system capacity is available in the substation control room. We have also assumed the existing communication and SCADA systems are adequate.
	We have included two power circuit breakers, four motor-operated disconnect switches, a dead-end structure for the interconnection to Unit 2 GSU, and instrument transformers. In addition, associated bus supports, insulators, bus, conductor, connectors, grounding, raceway, and relay panels are included.

Transmission:	No transmission modifications have been included.
Interconnection	A connection from the 345-kV switchyard to the new GSU is included. This connection will utilize an existing double-circuit structure that services Unit 1 on its west side and is empty on the east.
Project Indirects	
Construction Bonds	Construction bonding is not included for the Boiler Island EPC. It is included at 1.3% for the BOP construction.
Performance Bonds	Not Included.
Construction Power/Water	Interconnect charges are included. The energy usage is included as a Project Indirect.
Heavy Haul	Heavy haul is included as part of each EPC Contract.
Commissioning / Start-up:	Craft Support Included
Electrical Testing	Included with the EPC Contracts.
Initial Fills	Included
Startup fuel/water/etc.	Included
Equipment Tech Services	Included
Site Surveys/Studies	Included
Engineering	Included
Construction Management	Included
Owner's Project Insurance	Included
Owner's Personnel	Included
Permitting	Building permits, construction permits, air permits, or any other types of permits, including permit applications development are not included.
Construction Testing	Included.
Sales Tax	Included
Financing/Legal Costs	Not Included
Start-up Spare Parts	Included
Operating Spare Parts	Included
Escalation	Included at a rate of 3% per year escalated to the mid point of expenditure.
Interest During Construction	Not Included.
Construction Schedule	It is assumed that the construction schedule will be adequate to allow the project to be completed with minimal overtime. 10 hours per week of overtime is included in the base price to provide and incentive to attract labor.

6.3 CONTINGENCY ANALYSIS

Contingency is included in the project cost estimate to add provisions for unforeseeable elements of cost with regards to pricing and scope.

The contingency included in the estimate is a result of an uncertainty analysis. The uncertainty analysis includes a detailed review of each individual work package that makes up the cost estimate for Trimble County Unit 2. Each work package is reviewed with regards to pricing and scope certainty and assigned an applicable probability of cost deviation.

The uncertainty analysis includes a data distribution process that generates multiple probable project costs. The process varies each individual work package cost within its probability range and sums the results. For each cost probability run, the result is stored in a table for future analysis. After the probability runs are complete, the results are evaluated with respect to confidence level. A 95% confidence level was chosen for this project estimate, which corresponds to the capital cost of $900,000,000.

6.4 CASH FLOW

The cash flow illustrated in Table 6-3 is based upon the contracting strategy defined previously in which there are four major contracts involved on this project. We have assumed the cash flows of the Boiler Island Contract and the APC Contract would follow the same pattern. Therefore, we have combined them for ease of viewing.

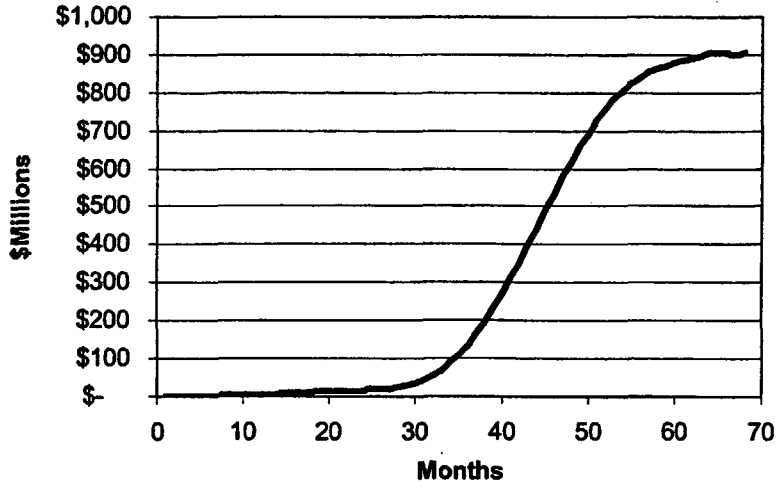
During the first several months, the cash flow will be concentrated on the engineering effort required to bid the Steam Turbine, Boiler/APC Island EPC and Turbine Island EPC contracts. Included in this effort is evaluating the contracts, negotiating the contracts and preparing the contracts for award. This is in preparation for the Limited Notice to Proceed (LNTP). At this point, all three contracts will be awarded to the chosen vendors on a LNTP basis to allow initial engineering to take place. Therefore, money was allocated to these contracts for the engineering efforts and a down payment on the steam turbine.

Table 6-3 Project Monthly Cash Flow

Milestone	Month	Project Indirects	Steam Turbine Equipment Contract	Boiler/APC Island EPC Contract	Turbine Island EPC Contract	Monthly Total	Cumulative Cash Flow
Start Engineering	Nov-2002	$ 200,000	$ -	$ -	$ -	$ 200,000	$ 200,000
	Dec-2002	$ 200,000	$ -	$ -	$ -	$ 200,000	$ 400,000
	Jan-2003	$ 300,000	$ -	$ -	$ -	$ 300,000	$ 700,000
	Feb-2003	$ 300,000	$ -	$ -	$ -	$ 300,000	$ 1,000,000
	Mar-2003	$ 300,000	$ -	$ -	$ -	$ 300,000	$ 1,300,000
	Apr-2003	$ 400,000	$ -	$ -	$ -	$ 400,000	$ 1,700,000
	May-2003	$ 400,000	$ -	$ -	$ -	$ 400,000	$ 2,100,000
	Jun-2003	$ 300,000	$ -	$ -	$ -	$ 300,000	$ 2,400,000
	Jul-2003	$ 300,000	$ -	$ -	$ -	$ 300,000	$ 2,700,000
	Aug-2003	$ 300,000	$ -	$ -	$ -	$ 300,000	$ 3,000,000
	Sep-2003	$ 300,000	$ -	$ -	$ -	$ 300,000	$ 3,300,000
LNTP for Turbine Equipment	Oct-2003	$ 300,000	$ 600,000	$ -	$ -	$ 900,000	$ 4,200,000
	Nov-2003	$ 3,800	$ -	$ -	$ -	$ 3,800	$ 4,203,800
	Dec-2003	$ 5,271	$ -	$ -	$ -	$ 5,271	$ 4,209,071
	Jan-2004	$ 7,221	$ -	$ -	$ -	$ 7,221	$ 4,216,292
LNTP for Boiler Island	Feb-2004	$ 9,772	$ -	$ 500,000	$ -	$ 509,772	$ 4,726,064
LNTP for Turbine Island	Mar-2004	$ 13,061	$ -	$ 500,000	$ 500,000	$ 1,013,061	$ 5,739,125
	Apr-2004	$ 17,243	$ -	$ 500,000	$ 500,000	$ 1,017,243	$ 6,756,368
FNTP for Turbine	May-2004	$ 22,485	$ 62,835	$ 500,000	$ 500,000	$ 1,085,319	$ 7,841,687
	Jun-2004	$ 28,960	$ 137,208	$ 500,000	$ 500,000	$ 1,166,168	$ 9,007,855
	Jul-2004	$ 36,843	$ 278,136	$ 500,000	$ 500,000	$ 1,314,979	$ 10,322,834
	Aug-2004	$ 46,296	$ 523,399	$ 500,000	$ 500,000	$ 1,569,694	$ 11,892,529
	Sep-2004	$ 57,461	$ 914,333	$ 500,000	$ 500,000	$ 1,971,793	$ 13,864,322
	Oct-2004	$ 70,443	$ 1,482,768	$ 500,000	$ 500,000	$ 2,553,211	$ 16,417,533
FNTP for Boiler	Nov-2004	$ 85,299	$ 2,232,230	$ 383,941	$ 500,000	$ 3,201,470	$ 19,619,003
FNTP for Turbine Island	Dec-2004	$ 102,020	$ 3,119,623	$ 575,115	$ 291,068	$ 4,087,826	$ 23,706,829
	Jan-2005	$ 120,523	$ 4,047,270	$ 844,077	$ 440,205	$ 5,452,074	$ 29,158,904
	Feb-2005	$ 140,634	$ 4,874,381	$ 1,213,797	$ 651,649	$ 6,880,461	$ 36,039,364
	Mar-2005	$ 162,087	$ 5,449,715	$ 1,710,201	$ 944,218	$ 8,266,221	$ 44,305,585
	Apr-2005	$ 184,521	$ 5,656,206	$ 2,360,940	$ 1,339,152	$ 9,540,819	$ 53,846,404
	May-2005	$ 1,080,060	$ 5,449,715	$ 3,183,446	$ 1,859,031	$ 11,582,251	$ 65,428,655
	Jun-2005	$ 266,683	$ 4,874,381	$ 4,232,248	$ 2,526,054	$ 11,899,365	$ 77,328,020
	Jul-2005	$ 309,468	$ 4,047,270	$ 5,495,655	$ 3,359,681	$ 13,212,074	$ 90,540,094
	Aug-2005	$ 360,236	$ 3,119,623	$ 6,992,052	$ 4,373,736	$ 14,845,646	$ 105,385,740
	Sep-2005	$ 421,222	$ 2,232,230	$ 8,716,190	$ 5,573,221	$ 16,942,863	$ 122,328,603
	Oct-2005	$ 494,963	$ 1,482,768	$ 10,645,979	$ 6,951,192	$ 19,574,901	$ 141,903,505
	Nov-2005	$ 584,067	$ 914,333	$ 12,740,349	$ 8,486,165	$ 22,724,915	$ 164,628,419
	Dec-2005	$ 690,852	$ 523,399	$ 14,938,738	$ 10,140,583	$ 26,293,572	$ 190,921,991
	Jan-2006	$ 816,881	$ 278,136	$ 17,162,611	$ 11,860,789	$ 30,118,418	$ 221,040,409
	Feb-2006	$ 962,430	$ 137,208	$ 19,319,223	$ 13,578,865	$ 33,997,726	$ 255,038,136
ST Delivery	Mar-2006	$ 1,125,972	$ 62,835	$ 21,307,514	$ 15,216,424	$ 37,712,744	$ 292,750,880
	Apr-2006	$ 1,303,765	$ -	$ 23,025,696	$ 16,690,177	$ 41,019,637	$ 333,770,517
	May-2006	$ 1,489,671	$ -	$ 24,379,769	$ 17,918,783	$ 43,788,223	$ 377,558,740
	Jun-2006	$ 1,675,278	$ -	$ 25,292,005	$ 18,830,216	$ 45,797,499	$ 423,356,238
	Jul-2006	$ 1,850,389	$ -	$ 25,708,325	$ 19,368,738	$ 46,927,452	$ 470,283,690
	Aug-2006	$ 2,003,867	$ -	$ 25,603,607	$ 19,500,537	$ 47,108,011	$ 517,391,701
	Sep-2006	$ 2,124,748	$ -	$ 24,984,196	$ 19,217,241	$ 46,326,184	$ 563,717,885
	Oct-2006	$ 2,310,145	$ -	$ 23,887,265	$ 18,536,799	$ 44,734,209	$ 608,452,094
	Nov-2006	$ 2,523,972	$ -	$ 22,377,128	$ 17,501,596	$ 42,402,696	$ 650,854,790
	Dec-2006	$ 2,504,174	$ -	$ 20,538,991	$ 16,174,088	$ 39,217,253	$ 690,072,043
	Jan-2007	$ 2,434,575	$ -	$ 18,471,013	$ 14,630,568	$ 35,536,155	$ 725,608,198
	Feb-2007	$ 2,323,963	$ -	$ 16,275,681	$ 12,953,937	$ 31,553,580	$ 757,161,779
	Mar-2007	$ 2,184,634	$ -	$ 14,051,558	$ 11,226,428	$ 27,462,619	$ 784,624,398
	Apr-2007	$ 2,030,814	$ -	$ 11,886,298	$ 9,523,151	$ 23,440,263	$ 808,064,661
	May-2007	$ 1,874,349	$ -	$ 9,851,574	$ 7,907,131	$ 19,633,054	$ 827,697,715
	Jun-2007	$ 1,720,377	$ -	$ 8,000,211	$ 6,426,233	$ 16,146,821	$ 843,844,536
	Jul-2007	$ 2,815,943	$ -	$ 6,365,524	$ 5,112,027	$ 14,293,494	$ 858,138,030
	Aug-2007	$ 2,653,591	$ -	$ 4,962,536	$ 3,980,422	$ 11,596,549	$ 869,734,579
	Sep-2007	$ 2,778,491	$ -	$ 3,790,618	$ 3,033,642	$ 9,602,751	$ 879,337,330
	Oct-2007	$ 2,994,321	$ -	$ 2,836,961	$ 2,263,074	$ 8,094,355	$ 887,431,685
Synchronization	Nov-2007	$ 1,655,124	$ -	$ 2,080,335	$ 1,652,465	$ 5,387,924	$ 892,819,610
	Dec-2007	$ 1,493,065	$ -	$ 1,494,687	$ 1,181,042	$ 4,168,794	$ 896,988,403
Provisional Acceptance	Jan-2008	$ (445,319)	$ -	$ 1,052,214	$ 826,223	$ 1,433,118	$ 898,421,522
	Feb-2008	$ (543,008)	$ -	$ 725,763	$ 565,755	$ 748,510	$ 899,170,031
	Mar-2008	$ (610,084)	$ -	$ 490,481	$ 379,192	$ 259,589	$ 899,429,620
	Apr-2008	$ (610,444)	$ -	$ 324,778	$ 248,765	$ (36,901)	$ 899,392,719
COD	May-2008	$ 236,829	$ -	$ 210,711	$ 159,742	$ 607,281	$ 900,000,000

The Full Notice to Proceed (FNTP) for the Steam Turbine Contract is scheduled for May 2004 with the following Contracts scheduled for the end of 2004.. At FNTP, the cash flow for all the contracts ramps up quickly due to equipment and material procurement. Figure 6-1 displays the high rate at which cash is required near month 30, which is April 2005, 6 to 12 months after FNTP is given to the contractors.

Figure 6-1 Cumulative Cash Flow



We have assumed a neutral cash flow and no retention for all the contracts. We realize that each contract may be structured differently, which may vary the cash flow. However, these contract specifics will need to be reviewed during the bidding process and accounted for in a revised cash flow.

6.5 OPERATION & MAINTENANCE ESTIMATE

The operation and maintenance cost of Trimble County Unit 2 presented in Appendix B were revisited after the conceptual design was completed. The changes represent the following operating philosophy:

- New staff members will be hired to supplement the existing Trimble County staff. Approximately 30 additional personnel are estimated.
- The water consumption estimate includes the cost of clarifying the water and the cost of producing demineralized water for the boiler makeup. Water operational costs are estimated to be $0.50/1000 gallons.
- The estimated limestone usage was based on the revised material balance for the new unit. The cost of the limestone is $5.20/ton.
- The ash disposal cost includes the cost to dispose of all the fly ash and bottom ash. Assuming a portion of the fly ash will be sold for beneficial reuse could minimize this. Disposal of ash on-site is assumed to be $5/ton.
- We have assumed that a third party company would remove all the scrubber waste product from the site at no cost to the plant. No credit has been given to the O&M costs for the sale of fly ash.
- The yearly incremental maintenance of the supercritical unit is estimated to be approximately $2 million per year more than the subcritical unit due to the affects of the high corrosive coal at the higher temperatures of the supercritical unit.
- The ammonia usage in the SCR was revised according to the new material balance. Ammonia was estimate at $300/ton.

Table 6-4 below summarizes the revised O&M estimates to be used by LG&E in the development of Unit 2. Please note that property tax and insurance is not included in these estimates. Also, the O&M estimates in Table 6-4 are incremental costs above the current facility costs associated with Unit 1. No allocation of Unit 1 O&M costs that would be common to Unit 2 has been included.

Table 6-4 Unit 2 O&M Estimates

Operating Assumptions					750 MW Super
Capacity Factor					80.0%
Net Output, kW					750,000
Net Output, MWh					5,256,000
Fixed O&M (2002$)					
Labor					***$ 2,400,000***
Plant Manager	0	person @	$ 200,000		
Operations Manager	0	person @	$ 120,000		
Maintenance Manager	0	person @	$ 120,000		
Plant Engineer	0	person @	$ 120,000		
Performance Engineer	0	person @	$ 110,000		
Coal Yard Supt	0	person @	$ 120,000		
Engineering Staff	0	person @	$ 100,000		
Shift Supervisor	0	people @	$ 100,000		
Operators	8	people @	$ 80,000		
Administration	0	people @	$ 45,000		
Coal Yard	6	people @	$ 80,000		
Maintenance/Technicians	16	people @	$ 80,000	30	
Office & Admin					***$ 105,000***
Other Fixed O&M					***$ 180,000***
Employee Expenses/Training					
Contract Labor					
Environmental Expenses					
Safety Expenses					
Buildings, Grounds, and Painting					
Other Supplies & Expenses					
Communication					
Control Room/Lab Expenses					
Property Taxes					***In Proforma***
Insurance					***In Proforma***
Total Fixed O&M Annual Cost					***$ 2,685,000***
Non-Fuel Variable O&M (2002$)					
Water Consumption					
Makeup Water	120 MMGal/yr @		500 /MMGal		***$ 60,000***
Other Variable O&M					***6,625,000***
Electronics, Controls, BOP Electrical					
Steam Generators					
Steam turbine Generators					
BOP					
Misc. Maintenance Expenses					
Consummables					
Limestone Consumption			$ 5.20 /ton		***$ 2,020,000***
SCR Ammonia & Replacements					***$ 500,000***
Ash Disposal	500,000 tpy @		5.00 /ton		***2,500,000***
Emissions					
NOx Allowance			$ - /ton		$ -
Sox Allowance			$ - /ton		$ -
CO2 Allowance			$ - /ton		$ -
HG Allowance			$ - /lb		$ -
Total Non-Fuel Variable O&M Annual Cost					***$ 11,705,000***
Total Fixed and Variable O&M Annual Cost					*$ 14,390,000*
Total Fixed O&M Annual Cost, $/kW-yr					*3.58*
Total Non-Fuel Variable O&M Annual Cost, $/MWh @ 750 MW					*$ 2.23*

* * * * *

7.0 DESIGN ALTERNATIVES

A cursory review of potential design alternatives is included as part of this development phase. The alternatives reviewed include potential design alternatives to allow the new unit to be 100% flexible with regards to three fuel choices: Bituminous Coal, PRB Coal and Petroleum Coke. Additional design alternatives included an analysis of the cooling tower design, a review of the potential structural design and an option for modification to the existing ash pond. These discussions are incorporated into the following.

7.1 FUEL FLEXIBILITY - POWDER RIVER BASIN COAL

Burning a blend of PRB coal has similar effects to burning PRB exclusively. This section discusses the effects and requirements of burning PRB exclusively. The "PRB Blends" article in the summary addresses the limitations of burning a PRB blend in a boiler designed for the performance fuel.

Many systems in a power plant are effected by the characteristics of the coal burned. The heating value defines the quantities of coal required for a given energy release. The nature of the coal determines to some extent the way it must be handled and stored. The hardness of the coal and its moisture content will affect the pulverizing and burning systems as well as the primary air system. The moisture content and the constituents of the ash in the coal will cause changes in how the furnace converts the chemical energy of the coal to steam. The constituents of the ash will affect the way particulate is removed from the flue gas stream. The quantities and nature of ash will effect ash-handling equipment. The moisture in the fuel and the side effects of the nature of the ash will cause changes in the sizing of the air and gas systems. In the following sections the effect of burning PRB in each of these systems will be discussed.

7.1.1 Coal Handling System

Coal handling systems consist of coal receiving equipment, coal storage, coal reclaiming, coal crushing, and coal bunkering subsystems. The characteristics of PRB coals that affect coal handling systems the most are the reduction in heating value, which results in a higher fuel mass flow rate, and the friability of PRB coals. A typical heating value for PRB is 8,400 Btu/lb.

7.1.1.1 Coal Receiving Equipment

The plant usage rate of PRB in both Units 1 and 2 would be around 750 tons/hour. The existing coal receiving equipment was designed for 3,000 tons/hour. Therefore there is sufficient coal receiving capacity to utilize PRB as a fuel.

7.1.1.2 Coal Storage

PRB coal requires additional attention to packing and maintaining the coal pile. PRB coals have a high moisture content and larger surface areas. These characteristics can lead to moisture adsorption, which promotes oxidation. Under certain conditions, this oxidation can result in fires.

7.1.1.3 Coal Reclaiming

The plant usage rate of PRB in both Units 1 and 2 would be around 750 tons/hour. The stacker/reclaimer reclaiming capacity is 2,640 tons/hr. The emergency reclaim capacity is 1,320 tons/hr. The silo filling system consists of twin 1,320 ton per hour conveyors. Therefore there is sufficient coal reclaiming capacity to utilize PRB as a fuel.

7.1.1.4 Coal Crushing

Coal crushing is not usually affected when burning PRB, unless additional capacity is required. Crushers are sized to support the capacities of the conveyors they feed. Since the reclaiming capacity is sufficient, the crushing capacity will be sufficient.

7.1.1.5 Coal Bunkering

When burning PRB coals, the coal silos, or bunkers are subjected to a greater possibility of coal fires in the bunker. Unless detected and extinguished, a bunker fire can destroy and disable equipment.

When a fire is detected it can be handled in several ways. If the fire is determined to be small and low in the silo, and the pulverizer the silo is feeding is operating, the operators may simply burn the coal as fast as possible until the fire is moved into the furnace. If the fire is higher in the silo or it cannot be run out, a silo inerting system is used to smother the fire with an inert gas. This gas usually is carbon dioxide. For a conversion to PRB the addition of a silo inerting system would be required.

The use of PRB will require more frequent filling of the coal bunkers.

7.1.1.6 Coal Dust Collection

PRB coals are inherently more dusty than other coals. This dust can create hazardous conditions when mixed with air in the right proportions. When that happens, any spark or other source of ignition can set off an explosion. Even small piles of PRB dust on handrails, for example, have been known to self-ignite and burn. Extra attention must be given to plant cleanliness and cleanup must be on a regular basis.

Coal handling systems will need to be reviewed for adequate dust control measures because of the dusty nature of PRB coals. The dust control systems must take into account the self-igniting characteristics of PRB coals, which is expected to include fire sprinkler systems installed inside the dust collectors.

7.1.1.7 Coal Handing System Costs

The cost considerations for the future burning of PRB on the coal handling system are shown in the following table.

ITEM	POTENTIAL COST CONSIDERATIONS
Coal Receiving Equipment	None Expected
Coal Storage	None Expected
Coal Reclaiming	None Expected
Coal Crushing	None Expected
Coal Bunkering	The addition of a silo inerting system will be required. This can easily be added at a future date.
Coal Dust Collection	Additional duct collection capacity may be required. Fire sprinkler systems will need to be installed inside the dust collectors.

7.1.2 Coal Preparation & Firing Equipment

7.1.2.1 Coal Feeders

The coal feeders receive the coal from the bunker and feed it at a controlled rate to the pulverizers. Burning PRB does not usually affect the coal feeders unless the total throughput of the pulverizers must be increased significantly. Feeders are usually designed in classes of capacities and some excess capacity usually exists.

7.1.2.2 Pulverizers

Sizing of pulverizers is a function of coal surface moisture, Hardgrove Grindability Index, raw coal size, and of the throughput and required size (fineness) of the pulverized coal. Pulverizers are manufactured in a few different sizes with throughput controlled by the feeder. Generally, capacity is not effected by surface moisture unless it exceeds 10 percent; capacity decreases as the coal gets harder, and the raw coal size increases. Fineness is a result of the other three adjustment factors and the throughput.

Surface moisture of PRB coals is approximately 10 percent, while the surface moisture content of eastern coals is much lower. The total moisture content of the design coal is 14 percent.

PRB coals have Hardgrove Indices (HGI) in the area of 50-55, while typical eastern coals are usually harder, about 45 HGI. The hardness of the design coal is 48 HGI.

When burning sub-bituminous coals like PRB, pulverizer product fineness is normally accepted at 65% through a 200-mesh screen. For bituminous coals, fineness is usually required to be 70% through 200 mesh.

The volatility of PRB coal can also cause problems in the pulverizers. With PRB coals, any mill startup or shutdown must be considered a potentially dangerous situation. A mill inerting system will be required if PRB is utilized.

7.1.2.3 Primary Air Fans

Primary air fan sizing is a function of the mass of the coal to be conveyed, the moisture content of the coal, and the mill inlet temperature. Each of these factors is increased when burning PRB coal. The coal must be conveyed at a velocity that will prevent it from dropping out of the air stream.

PRB coal contains significantly more moisture than other coals. The total moisture content of PRB is around 30 percent, compared to 14 percent for the design coal. To remove the moisture from the coal, additional and hotter primary air is required.

7.1.2.4 Coal Conduits

If more coal must be conveyed to the burners to support the loading on the unit, the velocity in the coal conduits must increase. Minimum line velocities should be 3000 feet per minute, while velocities should

be kept below 5,000 feet per minute. Since the typical PRB heating value is about 85 percent of the design coal heating value, the coal conduit velocity will not be a problem.

7.1.2.5 Coal Burners

Coal burners are designed to accommodate coal and air on the basis of velocity. Historically, burners have been designed for a specific coal or a narrow range of coals. Frequently, replacement coal burners, and more and more frequently new coal burners, are designed to accommodate a wider range of fuels. To accommodate PRB in a burner designed specifically for the design fuel, it may be necessary to change the burner tip, and possibly the air register.

7.1.2.6 Coal Preparation & Firing Costs

The cost considerations for the future burning of PRB on the coal handling system are shown in the following table.

ITEM	POTENTIAL COST CONSIDERATIONS
Coal Feeders	May require the next size larger coal feeder.
Pulverizers	May require the next size larger pulverizer. An alternative would be to utilize the spare pulverizer. A mill inerting system will be required.
Primary Air Fans	Will require larger PA fans.
Coal Conduits	None Expected
Coal Burners	May require different burner tips and air registers.

7.1.3 Boiler/Furnace

Most of the effects of changing fuels occur in the boiler/furnace. PRB fuels in particular cause some unique problems when burned in a boiler designed for other coals. Even when a blend of PRB is burned, maintaining approximately the same heating value, the effects are sometimes dramatic.

7.1.3.1 Furnace/Combustion Zone

PRB coals burn at a lower temperature than eastern or mid-western coals. This makes less energy available in the furnace for transfer to the waterwall fluids and, along with other effects, results in a decrease in waterwall outlet temperature.

PRB coals also contain more magnesium (Mg) and calcium (Ca) than eastern coals. The ash that results from burning coal with high Mg and Ca is white and very reflective. When PRB coals are burned, less radiation heat transfer will occur because of this characteristic.

Slagging is the accumulation of ash on the furnace surfaces. Slag is usually ash that has melted or vaporized and then re-solidified when it is cooled below the melting point of the material such as when it comes in contact with a 'cool' boiler tube. In most furnaces burning PRB coal this appears to be at or near the furnace 'nose,' the screen tubes, and in the convection passes, which are discussed later.
Any accumulation on or around the furnace tubes tends to insulate the tubes and slow down the rate of energy transfer to the fluid in the tube.

Fouling is the 'plating' of tubes with ash and condensed alkaline compounds. Fouling is related to the sodium, chlorine, and water-soluble alkali content of the coal ash, but the actual indication of whether a coal is a 'fouling' coal is very difficult to predict. Fouling results in a deposit that is strongly bonded to the tube upon which further ash deposits build. The strength of the deposit increases with time. Boilers are designed to decrease the flue gas temperatures so sodium and sodium oxides will condense on suspended ash particles and be carried from the furnace and through the convection passes. However, if gas temperatures remain high until they reach the cooler superheater and reheater tubes, fouling can, and probably will, occur.

Because these processes occur in all furnaces burning PRB coals, any fuel switch to PRB coals leads to additional and more effective waterwall cleaning considerations. Experience has shown that the deposits on the furnace waterwall tubes are very tenacious and difficult to remove. Traditional cleaning media (steam and air) have proven unsuccessful in removing this tenacious ash. Water lances and water cannons seem to work the best on deposits of this type.

7.1.3.2 Convection Surfaces

Slagging and fouling occur on the convection surfaces as well as in the combustion zone. The effect of fouling is more noticeable on the convection surfaces. Slagging can be a problem if slag carries over from the furnace to the convection surfaces.

7.1.3.3 Attemperators

Heat absorption in the lower furnace primarily affects steam pressure, while heat transfer in the upper furnace and convection passes primarily affects steam temperature. As furnace exit gas temperatures increase due to the decrease in energy transfer in the furnace, heat transfer in the superheater and reheater sections of the boiler increase. This will cause the superheat and reheat temperatures to increase and require additional attemperation. The required superheat attemperation flows could exceed the design capacity of the equipment installed for the design fuel.

7.1.3.4 Boiler Performance

Not only are specific areas of the boiler affected by the characteristics of PRB coals, but the performance of the boiler is also affected. Boiler efficiency will change because of the loss due to moisture in the fuel, loss on ignition, and flue gas exit temperature.

PRB coal is high in moisture. The more moisture contained in the fuel the more that must be evaporated and heated to the temperature of the flue gas. The energy contained in this moisture when it leaves the boiler represents an efficiency loss.

Unburned combustibles in the ash, or loss-on-ignition (LOI) means that not all of the combustible material in the fuel was burned. LOI is a function of coal fineness and coal-air mixing during combustion. PRB fuels are usually more volatile and result in lower LOI when pulverized to the same fineness.

Because of the fouling and slagging associated with PRB fuels, the flue gas exit temperature will increase. This means that less of the chemical energy of the fuel was 'captured' in the boiler and results in a loss of efficiency.

7.1.3.5 Boiler/Furnace Costs

The cost considerations for the future burning of PRB on the coal handling system are shown in the following table.

ITEM	POTENTIAL COST CONSIDERATIONS
Furnace/Combustion Zone	A larger furnace will be required for a boiler designed for both the design coal and PRB.
Convection Surfaces	More convection surface will be required for a boiler designed for both the design coal and PRB.
Attemperators	The attemperators will need to be larger, and perhaps an additional attemperation stage will be required.

7.1.4 Ash Handling Equipment

The typical total ash content of PRB is 6 percent, while the total ash content of the design coal is 21 percent. PRB tends to result in lower proportions of bottom ash than other coals.

7.1.4.1 Bottom Ash

Bottom ash from PRB coals is typical of most bottom ash and is handled the same way. Due to the high ash content of the design coal, the total bottom ash to be handled when burning PRB will be lower than that for the design coal.

7.1.4.2 Fly Ash

Some PRB fly ashes contain a sufficient amount of free lime, which reacts with other components of the fly ash upon the addition of water to produce a cementitious compound. When this reaction occurs the fly ash is referred to as "self-hardening." For these reasons, it is preferred to handle fly ash from PRB coals in a dry state. Due to the high ash content of the design coal, the total fly ash to be handled when burning PRB will be lower than that for the design coal.

Fly ash from PRB coal has a higher resistivity than fly ash from a typical bituminous coal. This requires a larger precipitator and a higher power input to obtain the required removal efficiencies when burning PRB coal. Depending on the conservatism of the precipitator design, it may need to be replaced with a baghouse to ensure removal of sufficient fly ash to satisfy the air emissions permit.

This results in a significantly higher auxiliary power requirement if the electrostatic precipitators are utilized.

7.1.4.3 Ash Handling Cost

The cost considerations for the future burning of PRB on the ash handling system are shown in the following table.

ITEM	POTENTIAL COST CONSIDERATIONS
Bottom Ash	None Expected
Fly Ash	Upgrade of precipitator or replacement of precipitator with a baghouse

7.1.5 Air & Draft System

The air and draft systems provide combustion air to the furnace and exhaust the products of combustion through any necessary environmental cleanup equipment from the furnace. This system includes the forced draft (FD) fans, secondary or tri-sector air heaters, air pre-heaters, and induced draft (ID) fans.

7.1.5.1 Forced Draft Fans

The only change in airflow when burning PRB coal results from a loss in boiler efficiency, which requires additional coal to be burned to maintain the unit gross output. Even with this loss of efficiency, total heat input to the boiler will not change significantly when firing PRB. As a result, the total airflow will not change. Since the primary airflow for PRB coals is significantly larger than for the design coal, the FD fans will be over sized for PRB.

7.1.5.2 Induced Draft Fans

Flue gas flow and the resulting demand on the ID fans will increase for two reasons. The additional moisture in the fuel will increase the gas flow (as well as reduce boiler efficiency.) And, the boiler exit gas temperature is expected to increase. This increase in flue gas temperature will increase the specific volume of the gas, which will, in effect, again increase the flue gas flow.

7.1.5.3 Air Heaters

Burning PRB affects tri-sector air heaters by increasing the proportion of flow that is primary air, and increasing the desired primary air temperature. To accommodate the PRB, the air heater would need to be

capable of supporting the secondary airflow associated with the design coal and the primary airflow associated with the PRB.

7.1.5.4 Air and Draft Cost

The cost considerations for the future burning of PRB on the air and draft system are shown in the following table.

ITEM	POTENTIAL COST CONSIDERATIONS
Forced Draft Fans	None Expected.
Induced Draft Fans	Larger ID fan required.
Air Heaters	May require the next size larger air heater, and the addition of a primary air tempering air duct.

7.1.6 Summary

Burning PRB coals is often attractive because PRB coals are inexpensive to mine and are low in sulfur content. However, transportation costs can be high because of the distance from the Power River Basin in Wyoming to the plant site. Long supply lines are also subject to failure due to weather and other factors.

7.1.6.1 Cost Impacts PRB

The following table shows the items that have been identified as having a potential cost impact if Unit 2 was designed for PRB in addition to the design coal. Many of these items could be incorporated into the boiler design at minimal additional cost.

ITEM	POTENTIAL COST CONSIDERATIONS
Coal Bunkering	The addition of a silo inerting system will be required. This can easily be added at a future date.
Coal Dust Collection	Additional duct collection capacity may be required. Fire sprinkler systems will need to be installed inside the dust collectors.
Coal Feeders	May require the next size larger coal feeder.
Pulverizers	May require the next size larger pulverizer. An alternative would be to utilize the spare pulverizer. A mill inerting system will be required.
Primary Air Fans	Will require larger PA fans.
Coal Burners	May require different burner tips and air registers.

ITEM	POTENTIAL COST CONSIDERATIONS
Furnace/Combustion Zone	A larger furnace will be required for a boiler designed for both the design coal and PRB.
Convection Surfaces	More convection surface will be required for a boiler designed for both the design coal and PRB.
Attemperators	The attemperators will need to be larger, and perhaps an additional attemperation stage will be required.
Fly Ash	Upgrade of precipitator or replacement of precipitator with a baghouse
Induced Draft Fans	Larger ID fan required.
Air Heaters	May require the next size larger air heater, and the addition of a primary air tempering air duct.

7.1.6.2 Heat Rate Considerations

If the larger PA and ID fans are installed, the heat rate of the unit while burning the design coal will not be as low as it would be if properly sized fans were installed.

When PRB is burned the unit will experience an increase in unit heat rate because the boiler efficiency decreases and auxiliary power increases.

7.1.6.3 Operating Considerations

Unit efficiency and equipment capacities are not the only effects of burning PRB. Several additional effects are unit availability and safety of the equipment and personnel around the unit.

If all pulverizers are required when firing PRB, the amount of time that they will be available for maintenance will be reduced, and will result in a de-rate of the unit upon equipment failure and during repair.

PRB coals are inherently more dusty than other coals. This dust can create hazardous conditions when mixed with air in the right proportions. When that happens, any spark or other source of ignition can set off an explosion. Even small piles of PRB dust on handrails, for example, have been known to self-ignite and burn. Extra attention must be given to plant cleanliness and cleanup must be on a regular basis. Pulverizer explosions are also a greater potential with PRB coal. This is especially true on startup or

shutdown of the mills. Most utilities burning PRB have instituted the practice of evacuating the area around the pulverizers and feeders whenever starting up or shutting down a pulverizer.

7.1.6.4 PRB Blends

When burning a blend of PRB coal, all effects of burning PRB exclusively must be considered. These effects are a result of changes in the chemical composition of the coal, the reaction of the coal to various conditions in the furnace, and the physical characteristics of the coal. When blended, some of the characteristics of each coal will be evident in the blend. As an example, if PRB, a fouling coal, is blended with a slagging coal, the result is a fuel that is both fouling and slagging. Occasionally, undesirable characteristics will be compounded and intensified through reactions between the two coals.

Given the corrosive and slagging characteristics of the design coal, it is anticipated that the furnace for Trimble Unit 2 will be fairly conservatively designed. A conservatively designed furnace will be more tolerant to PRB than an aggressively designed furnace. This will improve the tolerance of Unit 2 to PRB blends. However, the best way to determine how tolerant a boiler is to PRB is to make some test burns of several months in duration.

The following table shows the items that have been identified as having a cost impact if PRB or a PRB blend is burned in Unit 2, within the constraints of the equipment required for the design coal. This may impose a limit on unit output, and perhaps the utilization of spare equipment.

ITEM	POTENTIAL COST CONSIDERATIONS
Coal Dust Collection	Additional duct collection capacity may be required. Fire sprinkler systems will need to be installed inside the dust collectors.
Coal Bunkering	The addition of a silo inerting system will be required.
Pulverizers	A mill inerting system will be required.

7.2 FUEL FLEXIBILITY - PETROLEUM COKE

Petroleum coke is a byproduct of the petroleum refining process. Petroleum coke generally has very low volatile matter, high carbon content, and frequently has a higher sulfur content than fuels currently in use in the power industry. In order to support the future firing of petroleum coke at Trimble County, the following considerations must be made.

7.2.1 Coal Handling System

In general, petroleum coke presents the opposite problems from attempting to burn PRB. See Article 7.1.1 for a description of PRB coal handling. While PRB is dusty, petroleum coke is oily. Petroleum coke has a higher heating value, requiring the coal handling equipment to operate less, rather than more. Petroleum coke is hard to get started burning while PRB can easily create an explosive atmosphere.

If a blend of petroleum coke were to be burned, a method of blending the petroleum with the coal would be required. Most utilities that blend the petroleum coke with coal prior to firing do so using mobile equipment in a dedicated area of the coal yard. This is due to the high cost of installing permanent equipment for the purpose.

An alternative to blending is to keep the petroleum coke separated from the coal, and fire it in dedicated pulverizers. This is accomplished by keeping the petroleum coke in a separate area of the coal yard and reclaiming it to fill the silos feeding specific pulverizers. This method is generally preferred as it reduces the required manpower and coal yard equipment needed.

7.2.2 Coal Preparation & Firing Equipment

7.2.2.1 Pulverizers

Petroleum coke usually has a Hardgrove Grindability Index (HGI) of about 25. This compares to an HGI of about 45 for mid-western coals and 55 for PRB coals.

Because petroleum coke has much lower volatility content than other solid fuels, it is more difficult to ignite and complete combustion. This makes it desirable to improve fineness as much as possible. While there aren't any published numbers, the fineness for petroleum coke would have to be better than that for mid-western coals. Midwestern coals are generally ground to 99% through 50 mesh and 70% through 200 mesh. It would be reasonable to expect that petroleum coke would have to be ground to more than 70% through 200 mesh in order to achieve the same performance.

Grinding a harder product will reduce the capacity of the mill if the same fineness is maintained at the outlet. At the same time, grinding to a more stringent fineness will also reduce the capacity of the mill. In the case of petroleum coke, since the heating value is higher, it will reduce the required capacity of the mills. All of these factors will have to be balanced to determined a given mill's ability to supply petroleum coke in the required quantities and at the required conditions.

Since the petroleum coke contains less volatile mater, it tends to have a higher level of unburned carbon leaving the furnace. Some utilities have found it helpful to burn petroleum coke in the lower level and the normal coal in the upper levels. This operation improves the burnout of the petroleum coke, without the fineness being as critical as would be required for 100 percent petroleum coke firing.

7.2.2.2 Coal Conduits

Since less material will have to be transported to the burners, the velocity in the coal conduits will go down. Minimum line velocities must be maintained to keep the fuel suspended in the air stream. At sea level, minimum line velocities should be 3000 feet per minute. At higher elevations this minimum velocity increases to maintain the coke in suspension. Minimum velocities would have to be checked to assure there would be no dropout in the fuel conduits.

7.2.2.3 Coal Burners

Because petroleum coke is difficult to ignite, the fuel must be raised to a high temperature to achieve ignition. It is normally burned in blends or after another fuel has raised the temperature of the combustion zone sufficiently to assure ignition. This may require complete replacement or significant modification of the coal burners.

7.2.3 Air Quality Control Equipment

Petroleum coke has a higher sulfur content than most coals, typically exceeding 5%. This will result in additional SO2 loading to the scrubber. This will of course increase the reagent consumption. In addition, scrubber modules must be designed to handle the increased loading to achieve the same outlet concentrations since simply increasing reagent flow will not necessarily achieve the desired sulfur removal rates.

Ash from petroleum coke contains more heavy metals, such as vanadium, than most coals. This leads to higher SO2 oxidation resulting in higher concentrations of SO3 in the flue gas. In plants with wet scrubbers, the SO3 is converted to H2SO4 that creates a very visible and sometimes dangerous plume downwind of the stack. Additional control equipment may be required to control the sulfuric acid mist. The increased SO3 concentration increases the flue gas dew point temperature, necessitating a higher air heater outlet temperature to control corrosion in the downstream flue gas ducts and equipment. This has a negative impact on boiler and plant efficiency.

The low volatile matter in petroleum coke makes it harder to burn unless the firing temperature is raised and longer residence time is provided. High flame temperature and relatively high nitrogen content lead to higher nitrogen oxide (NOX) production. Thus a larger selective catalytic reduction (SCR) system may be required. For certain emission requirement levels, even a larger SCR may not be adequate. Low volatile content can also lead to higher unburned carbon and associated lower boiler efficiency.

7.2.4 Summary

The current pricing of petroleum coke makes it an attractive fuel, especially for plants located close to a source. Many of the issues with petroleum coke are the opposite of those with PRB, such as volatility and sulfur content.

7.2.4.1 Cost Impacts Petroleum Coke

The following table shows the items that have been identified as having a potential cost impact if Unit 2 was designed for Petroleum coke in addition to the design coal.

ITEM	POTENTIAL COST CONSIDERATIONS
Pulverizers	May require the next size larger pulverizer. An alternative would be to utilize the spare pulverizer.
Coal Burners	May require change out of the burners if a conversion to petroleum coke was made.
Air Quality Control Equipment	May require air quality control equipment with a higher NOX and SO2 removal efficiency, and SO3 removal capability.

7.2.4.2 Efficiency Considerations

Petroleum coke will have a negative impact on boiler efficiency due to the following:

- Low volatility and associated increase in unburned carbon in the ash.
- Increased oxidation of SO2 to SO3, which requires an increase in air heater outlet temperature.

7.2.4.3 Petroleum Coke Blends

At utilities burning a blend of coal and petroleum coke, it is common to keep the petroleum coke separate from the coal and fire it in dedicated pulverizers. This method has the following advantages.

- Blending facilities are not required.
- The petroleum coke can be fired in the pulverizers serving the lower burner levels. This increases the residence time in the furnace, which improves the burnout and reduces the unburned carbon content of the ash.

Existing boilers have been capable of handling up to 40 percent petroleum coke. At Trimble Unit 2, it is expected that the boiler will be capable of burning petroleum coke in one, and possible two, pulverizers without significant modifications being required.

A definite limitation to the amount of petroleum coke that can be burned will be the capability of the air quality control equipment to remove the additional SO2 as a result of the higher sulfur content of the petroleum coke (about twice that of the design coal).

7.3 COOLING TOWER ALTERNATIVES

Burns & McDonnell has evaluated design alternatives in regards to the heat rejection system for Trimble County Units 1 and 2, and has compared the alternatives to the base design analyzed in the rest of this report. The alternatives are evaluated based upon a Net Present Value analysis that incorporates differential plant efficiency (including cycle performance and auxiliary power effects at constant net plant output) and the associated capital and construction costs. The purpose of this analysis is not to optimize the station heat rejection system, but to provide insight into potential benefits/drawbacks associated with certain design options.

This section briefly describes the base design as well as each alternative and discusses the performance and cost implications of each option. All design conditions/parameters mentioned in this section refer to operation at the 90°F day unless otherwise specified. It should also be noted that none of the options analyzed were designed to achieve a decrease in Unit 1 steam turbine backpressure. It is Burns & McDonnell's belief that attempting to increase performance of Unit 1 by lowering the steam turbine backpressure will not increase performance or efficiency of the unit. Because of the already high steam flows associated with the 500-plus MW turbine and the relatively small last stage blades (26 inch), decreasing backpressure will most likely lead to an increase in turbine exhaust loss, ultimately negating any performance gained through the additional steam expansion.

7.3.1 Base Design

In the base design, Trimble County Unit 1 will continue to utilize the existing natural draft cooling tower as its only thermal sink. Unit 2 will utilize the remaining heat rejection capacity of the natural draft tower as well as a new mechanical draft helper tower. The cooling water flow for Unit 2 was selected so that the water loading and temperature range of the natural draft tower, including the cooling water contributions from Unit 1, are the same as the original design conditions. As such, flow to the helper tower will be minimized.

The condensers were designed to achieve 3.8-inch HgA in the high-pressure condenser. This also represents a design with a 5°F terminal temperature difference (TTD) in both condenser units under the aforementioned cooling water flow conditions assuming a parallel water circuit. Comparison between series and parallel configurations using the same condenser surface area shows that a small average-ambient performance increase is available at slightly lower construction cost with the series configuration. However, the TTD in series condenser is slightly increased.

Plant performance estimates and heat balance diagrams for the base design option are located in the Project Design Manual.

7.3.2 Design Alternative 1

The first design alternative involves the same series configuration and cooling water flows as the base design; however, the condensers in alternative 1 have been designed to achieve a 5° F terminal temperature difference in the high-pressure condenser by increasing condenser surface area.. This increase in condenser surface area results in an average ambient efficiency increase of approximately 2%. The preliminary NPV analysis shows that the value of this efficiency increase is negated by the additional capital cost associated with the larger condensers. In addition, increasing the condenser surface area with no change in water flow or condenser tube velocity necessitates a lengthening of the condenser tubes by approximately 30%. This result introduces the potential for additional installation costs that were not included in the NPV analysis, and could also require space that may not be available given the site's spatial constraints.

7.3.3 Design Alternative 2

The second design alternative is the same as the base design in terms of condenser size and cooling water flows. The natural draft tower in this option, however, provides heat rejection for Unit 2 only, and a new mechanical draft tower will be installed for Unit 1. The mechanical draft tower will be designed to achieve the same Unit 1 performance as is currently being experienced. This would require a larger mechanical draft tower and cooling water piping than the helper tower of the base design, thus there will be increases in capital and construction cost as well as Unit 1 auxiliary load.

Unit 2 average-ambient performance will benefit from the decrease in water loading of the natural draft tower, as the higher air-to-water ratio will decrease the cooling tower approach to wet bulb. Unit 2 will also experience a small decrease in auxiliary load because the mechanical draft helper tower is no longer needed. The overall efficiency gain over the base design is approximately 2% at average ambient.

Design Alternative 2 assumes that no stack will be installed for Unit 2. Instead, the existing natural draft cooling tower will be modified to perform this function. Both Ceramic Cooling Towers and Hamon were contacted to provide information regarding past projects they were involved with that were similar. Neither vendor was willing to provide a modification estimate to the cooling tower. However, they did

indicate that the modification would require several months to install the extensive scaffolding required on the interior for the application of the protective coating. They also indicated that units in Europe plan to reapply the coating in the tower every 5 to 10 years. This would require another significantly long outage. Based on the fact that the cooling tower experts appeared to be apprehensive about the modification to the tower and the maintenance of the tower interior would require extended outages, we do not feel that this would be a feasible alternative.

7.3.4 Design Alternative 3

In design alternative 3, Trimble County Unit 1 will utilize a new mechanical draft cooling tower as its only thermal sink, just as in option 2. Unit 2 will utilize the existing natural draft tower with a cooling water flow rate equal to the tower's design flow rate. This cooling water flow rate is a significant increase over that assumed in the other three design options, and allows for a lower cooling water return temperature to the tower and subsequently a lower turbine backpressure.

Condensers for option 3 will be designed to achieve 3.0-inch HgA in the high-pressure condenser. This also represents the largest possible condenser design available under the aforementioned cooling water flow conditions assuming a parallel water circuit. With this design, it is observed that the series cooling water circuit offers no performance benefit at average ambient over a parallel circuit at the same flow conditions. This result is due to the exhaust loss characteristics of the low-pressure steam turbine sections. If turbine backpressure gets sufficiently low, the resulting steam exit velocities become too high leading to an increase in turbine exhaust loss. These additional exhaust losses negate, and can even out-weigh, any performance gain due to increased expansion in the steam turbine. This design option does offer an average ambient performance increase over the base design, but requires considerably more capital expenditure and auxiliary power as described below.

As in option 2, larger cooling water piping and a larger mechanical draft tower are required for Unit 1, which will result in increased cost and auxiliary load. For Unit 2, the increased flow translates into higher costs for cooling water pumps, as well as an increase in pumping power. The higher cooling water flow for Unit 2 will require the use of the original Unit 1 and Unit 2 cooling water pipe. Additional capital cost will be incurred to tie the supply lines together prior to the low-pressure condenser as well as the return lines back to the cooling tower. The condensers for option 3 will be larger than the base in terms of surface area, thus there will also be a capital cost increase for the condensers.

The results indicated that the incremental heat rate gained did not justify the capital cost required to modify the systems. Therefore, we would no recommend this alternative over the base case.

A fourth design alternative was to evaluate the use of larger condensers at the same flow conditions as option 3. However, based upon the steam turbine exhaust limitations discovered during the evaluation of option 3, it was decided that the decrease in backpressure that this new design alternative would produce would result in little or no efficiency gain for the increased capital cost of the condenser surface area.

7.3.5 Conclusions

Based upon the results of this preliminary design analysis, the base design appears to be the best option of those analyzed, assuming both units are using the natural draft tower. Regardless of the design option chosen, the analysis shows that modifying heat rejections system design to increase plant performance, either by increasing condenser surface area or increasing cooling water flow, will not appreciably increase the NPV of the plant. The additional steam turbine performance does not justify the additional capital cost and auxiliary power.

None of the alternatives evaluated represent optimized designs. Further analysis would be required to optimize the heat rejection system to ensure that the best design is selected for Unit 2.

7.4 FOUNDATION SYSTEM DESIGN

Trimble County Unit 1 was constructed using a design that included replacing and compacting the subsurface soil and installing mat foundations. The base estimate for Unit 2 included the same design philosophy to take advantage of the subsurface work already performed for Unit 2. However, as-built design drawings were not available to show the location of the subsurface modifications. Therefore, an alternate foundation design is presented here. Once a geotechnical survey is completed, the foundation design options should be reevaluated.

As an alternate a preliminary estimate was prepared assuming 14" augercast piles with a capacity of 65 tons for the larger foundations. These piles were estimated to be 90' long and extend to approximate elevation 380'. This was one of the options noted in the Atex Associates subsurface report dated April 5, 1976. Page 27 indicated that the augercast pile extending to elevation 380' should develop 55 to 75 tons of capacity.

Other types of piles were discussed in the subsurface report and may need to be considered. However, we felt that augercast piles had an advantage since they would not result in significant vibration, which is a plus for the existing facility.

The preliminary estimates for the two types of foundations would indicate that mat foundations similar to those used for Unit #1 would cost less assuming the subsurface preparation is complete. The estimate is approximately $22,250,000 using pile foundations vs approximately $18,500,000 using mat foundations. This should be further evaluated when the project continues to design. The pile foundation approach included 4,812 piles at an estimated cost of $2,000 each. We estimated that the concrete quantity for the mat foundation approach would be approximately 61,000 cubic yards for mat foundations vs. 38,000 cubic yards for pile type foundations.

The mat foundation estimate did not include any costs for soil preparation below the mats. We understand that a substantial amount of soil was removed below the foundations and recompacted. We assumed that this has already been accomplished for Unit 2. Additional costs for removal and recompaction of soils would need to be included if this were not the case. If the subgrade preparation has not been completed, it would likely be very difficult (or not feasible) to complete at this time without causing problems for the existing unit. This needs to be further investigated and evaluated during the geotechnical investigation.

The settlement and deflection of the foundation systems also need to be reviewed during the geotechnical investigation. An advantage of the pile foundations is that they typically have very small displacements under load. However, mat foundations similar to those used for Unit #1 are a viable option if the anticipated settlement is design into the structure. Since Unit 1 has potentially already experienced settlement, the tie bays between the two units would need to be design to allow settlement of Unit 2.

Relative to schedule, it is likely that the mat foundations would require somewhat less construction time. For pile foundations, the piles would need to be installed prior to concrete construction. This would delay the start of concrete construction. However, the concrete work for the pile foundations would be smaller and require less construction time.

The optimal foundation design is still to be determined. It is possible that a combination of the two estimated foundation types may be the best solution.

7.5 ASH STORAGE POND CAPACITY INCREASE

With the addition of the proposed Unit 2 at Trimble County, additional combustion byproduct disposal will be required. It is unknown at the present how much remaining capacity exists in the bottom ash pond, but Burns & McDonnell has evaluated the costs and implications of two options for increasing storage capacity in the existing bottom ash storage pond. This information will help LG&E to better plan for their byproduct storage.

The first option evaluated was to raise the pond dikes on the north, west, and south dikes to match the existing east dike elevation. We assumed a 2-foot vertical to 1-foot horizontal side slopes (based on the original design) and a 10-foot wide bench in the dikes at every 20-foot vertical elevation. Based on this assumption the pond dike on the west would encroach approximately 100-foot into the existing area designated as a natural wildlife area. The volume of earthwork (including a 2' clay liner) to raise the pond dikes to match the east dike elevation was estimated to 521,000 cubic yards. Assuming $12.50/yd^3 for placement of the fill material the cost was estimated to be $6,470,000. This option would add 2.6 million cubic yards of additional capacity to the existing pond (approximately 4.35 years of storage assuming all waste goes to the pond), which equates to $2.50/cubic yard of storage space.

The second option evaluated was to raise the north, west, and south dikes by only extending the existing inside and outside slopes of the dikes to a point in which the top width matched the exiting east dike width (approximately 32'). Again assuming the same side slope of 2-foot vertical to 1-foot horizontal as the original design and placing a 10-foot wide bench in the dikes at every 20' vertical elevation, the total volume of earthwork for the second option (including the 2' clay liner) was estimated to be 156,000 cubic yards at a cost of $1,950,000. This would add 1.8 million cubic yards of storage to the pond (approximately 2.7 years of storage assuming all waste goes to the pond), which equates to $1.10/cubic yard of storage space.

In summary the second option would save $4,520,000 of construction cost, but would provide approximately 800,000 cubic yards less storage capacity than the first option. Approximately 100 feet of the existing wildlife area would be encroached upon for option one, but would remain entirely intact with option two.

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APPENDIX A - UNIT TECHNOLOGY ASSESSMENT

A.1 PROJECT ALTERNATIVES

Burns & McDonnell prepared pro forma economic analyses and performed an initial site evaluation for the following project alternatives for Unit 2 at Trimble County:

- PC Subcritical – 500 MW Unit with 1000°F/1000°F Steam
- PC Subcritical – 500 MW Unit with 1000°F/1000°F Steam and HARP[1]
- PC Subcritical – 500 MW Unit with 1050°F/1050°F Steam
- PC Supercritical – 500 MW Unit with 1050°F/1050°F Steam and HARP
- Atmospheric Fluidized Bed Combustion (AFBC) – 2x250 MW Units with 1000°F/1000°F Steam

Each of the alternatives was assumed to have specific emission control technology as described in the following sections. Costs associated with this technology were incorporated into the cost estimate of each alternative. The emission control technology will be refined during the Best Available Control Technology (BACT) assessment to be completed in a later phase.

A.1.1 PC Subcritical- 500 MW Unit with 1000°F/1000°F Steam

This project option includes construction of a 500 MW (net) electric generating station utilizing a single pulverized coal (PC) fired boiler and a single, reheat steam turbine generator.

The PC-fired boiler will be balanced-draft combustion with reheat. Emissions control technology is assumed to include selective catalytic reduction (SCR) for NOx control, wet flue gas desulfurization for sulfur removal, and an electrostatic precipitator for particulate capture. Steam generated by the boiler will be supplied to the steam turbine to complete the power generation cycle. The steam turbine will be a two casing, tandem compound, two-flow model and will include seven stages of feedwater heating. Steam conditions will be 2400 psig main steam pressure and 1000°F main steam and reheat temperature. Main heat rejection will be via a water-cooled surface condenser and the existing natural-draft cooling tower at the Trimble County site.

A.1.2 PC Subcritical- 500MW Unit with 1000°F/1000°F Steam and HARP

[1] HARP is an acronym for an eight feedwater heater cycle in which one is a Heater Above Reheat Pressure.

This project option includes construction of a 500 MW (net) electric generating station utilizing a single pulverized coal (PC) fired boiler and a single, reheat steam turbine generator.

The PC-fired boiler will be balanced-draft combustion with reheat. Emissions control technology is assumed to include selective catalytic reduction (SCR) for NOx control, wet flue gas desulfurization for sulfur removal, and an electrostatic precipitator for particulate capture. Steam generated by the boiler will be supplied to the steam turbine to complete the power generation cycle. The steam turbine will be a two casing, tandem compound, two-flow model and will include eight stages of feedwater heating. The eighth heater operates above reheat pressure (HARP) and accepts steam from a high-pressure turbine section extraction. It is anticipated that the additional heater will increase steam cycle efficiency by approximately 0.5%. Steam conditions will be 2400 psig main steam pressure and 1000°F main steam and reheat temperature. Main heat rejection will be via a water-cooled surface condenser and the existing natural-draft cooling tower at the Trimble County site.

A.1.3 PC Subcritical- 500 MW Unit with 1050°F/1050°F Steam

This project option includes construction of a 500 MW (net) electric generating station utilizing a single pulverized coal (PC) fired boiler and a single, reheat steam turbine generator.

The PC-fired boiler will be balanced-draft combustion with reheat. Emissions control technology is assumed to include selective catalytic reduction (SCR) for NOx control, wet flue gas desulfurization for sulfur removal, and an electrostatic precipitator for particulate capture. Steam generated by the boiler will be supplied to the steam turbine to complete the power generation cycle. The steam turbine will be a two casing, tandem compound, two-flow model and will include seven stages of feedwater heating. Steam conditions will be 2400 psig main steam pressure and 1050°F main steam and reheat temperature. It is anticipated that the elevated steam temperatures will increase steam cycle efficiency by approximately 1.5%. Main heat rejection will be via a water-cooled surface condenser and the existing natural-draft cooling tower at the Trimble County site.

A.1.4 PC Supercritical- 500 MW Unit with 1050°F/1050°F Steam and HARP

This project option includes construction of a 500 MW (net) electric generating station utilizing a single pulverized coal (PC) fired boiler and a single, reheat steam turbine generator.

The PC-fired boiler will be balanced-draft combustion with reheat. Emissions control technology is assumed to include selective catalytic reduction (SCR) for NOx control, wet flue gas desulfurization for sulfur removal, and an electrostatic precipitator for particulate capture. Steam generated by the boiler will be supplied to the steam turbine to complete the power generation cycle. The steam turbine will be a two casing, tandem compound, two-flow model and will include eight stages of feedwater heating. Steam conditions will be 3500 psig main steam pressure and 1050°F main steam and reheat temperature. It is anticipated that the additional feedwater heater, elevated steam temperatures, and supercritical pressure will increase steam cycle efficiency by approximately 4-4.5%. Main heat rejection will be via a water-cooled surface condenser and the existing natural-draft cooling tower at the Trimble County site.

A.1.5 AFBC Subcritical- 500 MW Unit with 1000°F/1000°F Steam

This project option includes construction of a 500 MW (net) electric generating station utilizing two atmospheric fluidized bed combustors (AFBC) and a single, reheat steam turbine generator.

The AFBC boiler will be balanced-draft combustion with reheat. Emissions control technology is assumed to include selective non-catalytic reduction (SNCR) for NOx control, limestone injection into the boiler for sulfur dioxide removal, and a pulse-jet fabric filter (PJFF) for particulate capture. Steam generated by the boiler will be supplied to the steam turbine to complete the power generation cycle. The steam turbine will be a two casing, tandem compound, two-flow model and will include seven stages of feedwater heating. Steam conditions will be 2400 psig main steam pressure and 1000°F main steam and reheat temperature. Main heat rejection will be via a water-cooled surface condenser and the existing natural-draft cooling tower at the Trimble County site.

A.2 ASSUMPTIONS & COST ESTIMATES

For each project option, capital cost, performance, and operations and maintenance estimates were created for utilization in the pro forma financial analysis. Table A.1 lists the project estimates that were utilized in the financial analysis.

Table A-1 Project Estimates for Pro Forma Analysis

	500 MW PC-2400/1000/1000	500 MW PC-2400/1000/1000 HARP	500 MW PC-2400/1050/1050	500 MW PC-3500/1050/1050 HARP	2x250 MW AFBC-2400/1000/1000[1]
Plant Performance/Operation					
Capital Costs including Owner Costs and Contingency, 2002$/kW	$1162	$1170	$1173	$1209	$1157
Net Plant Heat Rate, Btu/kWh	9578	9530	9434	9156	9846
Planned Dispatch, Hours	8016	8016	8016	8016	8016
Plant Reliability, %	97	97	97	97	95
Load Factor, %	95.8	95.8	95.8	95.8	95.8
Capacity Factor, %	85	85	85	85	83.3
O&M Costs					
Fixed, 2002$/kW-yr	$5.91	$5.91	$5.91	$5.91	$6.55
Property Tax	0.18% of Capital Cost	0.18% of Capital Cost	0.18% of Capital Cost	0.18% of Capital Cost	0.18% of Capital Cost
Insurance	0.05% of Capital Cost	0.05% of Capital Cost	0.05% of Capital Cost	0.05% of Capital Cost	0.05% of Capital Cost
Non-Fuel Variable[2], 2002$/MWHr	$2.02	$2.02	$2.29	$2.52	$3.69
Emissions					
NOx, 2002$/MWh	$1.12	$1.12	$1.11	$1.07	$1.82
SOx, 2002$/MWh	$0.26	$0.26	$0.26	$0.25	$0.45
Hg, 2002$/MWh	$0.235	$0.234	$0.231	$0.224	$0.241
CO2 @ $10 Carbon Tax, 2002$/MWh	$2.94	$2.93	$2.90	$2.81	$3.02
CO2 @ $25 Carbon Tax, 2002$/MWh	$7.36	$7.33	$7.25	$7.04	$7.57

[2] Variable O&M does not include emission allowances and are in line with Best Practice values.

The following are the economic/financial parameters used in the pro forma analyses.

- Fuel Assumptions:

Coal	9,800 Btu/lb 4.5% Sulfur
	$1.15/MMBtu delivered (2002$)

- Financing Assumptions:

Debt/Equity Percentage	50/50
Debt Interest Rate	7.25%
Equity Interest Rate	11.5%
Tax Life	20 years
Tax Rate	40.36%
Book Life	50 years
Construction Cash Flow Profile	Straight Line over Construction
Construction Financing	46 months (AFBC) to 51 months (PC)
Commitment Fees	0.0%
Financing Fees	0.0%
Debt Service Reserve	0 months
Commercial Operation	January 2008

- O&M Cost Assumptions:

Maintenance Reserve	$0/MWh
Transmission Wheeling	Not Included – Busbar Cost Evaluation
Limestone Costs	$5.20/ton delivered
Raw Water Treatment Costs	$0.50 per 1000 gallons
Emissions Allowances	Not included in O&M

- Economic Assumptions:

O&M Inflation	3.0% per annum
Fuel Inflation	3.0% per annum
Discount Rate	9.34%
Emission Allowance Inflation	3.0% per annum

- Emission Allowances (2002$)

NOx Allowance	$3350/ton ($4000/ton in 2008 de-escalated @3%)
SO_2 Allowance	$200/ton
CO_2 Allowance (@$10/ton C tax)	$2.72/ton
CO_2 Allowance (@$25/ton C tax)	$6.81/ton
Hg Allowance	$16,000/lb

- Emission Rates

	PC Options	AFBC Option
NOx Emissions, lbs/MMBtu	0.09	0.11
SO_2 Emissions, lbs Sulfur/MMBtu	0.3 (95% Removal)[3]	0.3 (95% Removal)
CO_2 Emissions, lbs/MMBtu	225	225
Hg Emissions, lbs/MMlbs of Coal	0.015 (90% Removal)	0.015 (90% Removal)

The capital cost estimates presented in Table A-1 were developed in 2002$ and are representative of an appropriate and comparable scope of work for each technology. The capital cost estimates include the direct costs for procurement of all mechanical and electrical equipment including appropriate air pollution control equipment. Direct construction costs include site preparation, piling, foundations, structures, equipment erection, piping and wiring. Indirect costs include engineering and construction management, construction and owner indirects and project contingency. No escalation has been incorporated in the initial cost estimates. Subsequently, the pro forma busbar cost estimates consider the in-service date and life cycle economic assumptions such as escalation.

These estimates were developed by utilizing in-house greenfield capital cost estimates for the different 500 MW coal fired power plant options. Each estimate was modified to recognize the existing infrastructure at the Trimble County site. The existing infrastructure includes the coal handling with the tripper floor and bunkers in place for Unit 2, the limestone handling system, the raw water system, the raw water treatment system, the auxiliary boiler, the cooling tower, the circulating water piping, the service air system, the exhaust stack, the ash pond and the existing site development including the administration and maintenance areas. All other systems were assumed to be included in the estimate.

Net plant heat rate was determined using representative OEM steam turbine heat balances for two flow machines at a design backpressure of 3 in. HgA. Auxiliary power loads were assumed to be 7% of gross

[3] Assumes a coal with a sulfur content of 6 lbs/MMBtu.

output for the PC options and 10% for AFBC options. A boiler efficiency of 87.43% was used based upon the performance coal reported in Section A.2.1. Table A-2 summarizes the net plant heat rate determination for each technology option.

Fixed operations and maintenance costs were developed based upon assumed staffing levels for each technology option located at a brown-field site. Staffing includes only operating and maintenance personnel—no additional managerial, supervisory, engineering, or administrative personnel have been included.

Burns & McDonnell estimated non-fuel variable operations and maintenance costs based upon previous project experience in the following areas: variable maintenance costs, water, limestone, and ammonia consumption, SCR catalyst replacement (PC options), and transportation costs for ash disposal.

Table A-2 Net Plant Heat Rate Determination

	Turbine Heat Rate, Btu/kWh	Gross Output, kW	Aux Load %	Boiler Eff %	NPHR, Btu/kWh
500 MW PC-2400/1000/1000	7,826	535,000	7%	87.43%	9,578
500 MW PC – 2400/1000/1000 HARP	7,787	535,000	7%	87.43%	9,530
500 MW PC-2400/1050/1050	7,709	535,000	7%	87.43%	9,434
500 MW PC 3500/1050/1050 HARP	7,481	535,000	7%	87.43%	9,156
2x250 MW AFBC-2400/1000/1000	7,826	550,000	10%	87.43%	9,846

The subcritical PC unit was assumed to have the same 3% forced outage rate target as the existing unit at Trimble County and a capacity factor of 85%. No change in reliability for the addition of an eighth (HARP) feedwater heater was assumed. The subcritical 1050°F/1050°F PC and the supercritical PC unit were also assumed to have forced outage rate targets of 3% with higher maintenance costs to achieve this reliability. This increase in maintenance cost is discussed further in the fuel analysis section below. The

AFBC unit was assumed to have a forced outage rate of 5%. This is mainly due to the two-unit configuration required to provide 500 MW rather than one unit.

The reliability and the load factor of the units directly affect the capacity factor as shown in Table A-1. The load factor was calculated for the subcritical PC unit to achieve an 85% capacity factor. The load factor was then held constant for the other technologies and the capacity factor varied as the reliability varied.

A.2.1 Fuel Analysis

LG&E provided the following Design Fuel[4] analysis.

	Design
Proximate Analysis, Wt. % (ASTM D-3172)	
Moisture	14
Volatile Mater	28
Ash	21
Fixed Carbon	37
Higher Heating Value, Btu/lb	9,800
Ultimate Analysis, Wt. % (ASTM D-3176)	
Carbon	47.85
Hydrogen	4.80
Nitrogen	1.65
Oxygen	6.00
Sulfur	4.50
Chlorine	0.20
Fluorine	0.00
Trace Analysis, PPM (Per ASTM D3683-94)	
Antimony	N/A
Arsenic	N/A
Barium	N/A
Cadmium	N/A
Chlorine	N/A
Chromium	N/A
Fluorine	N/A
Lead	N/A
Manganese	N/A
Mercury	N/A
Nickel	N/A
Selenium	N/A
Strontium	N/A
Vanadium	N/A
Zinc	N/A

[4] Design Fuel indicates the fuel that will be used to specify steam generator performance and used as a criteria for equipment sizing.

Mineral Ash, Wt. % (ASTM D-3682-96)	
Silica, SiO_2	45.40
Alumina, Al_2O_3	17.12
Titania, TiO_2	1.06
Iron Oxide, Fe_2O_3	22.92
Calcium Oxide, CaO	4.94
Magnesium Oxide, MgO	0.05
Potassium Oxide, K_2O	2.18
Sodium Oxide, Na_2O	0.90
Sulfur Trioxide, SO_3	3.88
Phosphoric Pentoxide, P_2O_5	0.10
Strontium Oxide, SrO	0.01
Barium Oxide, BaO	0.03
Manganese Oxide, Mn_3O_4	1.02
Undetermined	0.40

The constituents of this coal are conducive to corrosion. In the case of the supercritical cycle with elevated steam temperatures of 1050°F or above, the areas of concern include the high temperature superheater and reheater pendants and the upper portions of the water walls. A subcritical unit with elevated steam temperatures of 1050°F or above will have similar corrosion issues in the reheater and superheater as the metal temperatures approach 1100°F. Corrosion of the upper portions of the water walls is not an issue. The lower water temperature inside the tubes causes a different phase of ash to accumulate on the tubes, which does not cause liquid phase corrosion. In a subcritical unit with steam temperatures of 1000°F, metal temperatures approach 1100°F a minimal amount of time. Therefore, the concerns of corrosion in the superheater and reheater are minimized.

Historical data from NERC shows an increase in the forced outage rates for supercritical and subcritical boilers of 25% and 10% respectively when burning corrosive coals. To maintain the same level of reliability (97%) when operating a cycle with elevated steam temperatures, replacement of the upper water wall tubes (supercritical cycle only), partial superheaters, and partial reheaters every 5 years has been assumed. Incremental maintenance increases of $1,000,000 and $2,000,000 per year have been added to the subcritical 1050°F/1050°F and supercritical 1050°F/1050°F cycles respectively to maintain the target reliability of 97%. These maintenance values were developed with the assistance of Alstom technical personnel with experience burning corrosive coal.

A.2.2 Preliminary Site Evaluation

The Trimble County site was originally designed for four units. Units 1 and 2 were originally sized at approximately 500 MW each and Units 3 and 4 were originally sized for 650 MW each for total coal

generation of approximately 2300 MW. This ultimate site capacity has been included as one of the criteria for the technology options to allow for future expansion.

The original site layout designated space for Unit 2 between Unit 1 and the cooling tower. The space designated is approximately 210 feet wide and 750 feet long. A preliminary review indicates the space is adequate for a 500 MW subcritical PC or supercritical PC. However, it is not adequate to install two 250 MW AFBC units, which would require approximately 400 feet in width. Therefore, if 500 MW of AFBC technology were to be installed at Trimble County, it would be required to locate it in the area designated for Units 3 and 4. This in turn would limit the total future coal generation capability of the Trimble County site to much less than the original design of 2300 MW. Therefore, this site does not appear to be a good fit for AFBC technology.

A.3 ECONOMIC ANALYSIS RESULTS

Economic pro forma analyses were used to determine the busbar costs of power for each alternative, as well as the incremental busbar cost of power assuming various emissions allowance cost scenarios. Figure A-1 presents a graph of the resulting levelized busbar costs over a 20-year planning period.

The baseline and incremental levelized busbar costs were developed by preparing project pro forma for each of the alternatives under consideration both with and without allowances for emissions.

Figure A-1 indicates that a subcritical PC unit utilizing a 1000°F steam cycle will have the lowest levelized busbar cost at $46.63/MWHr. The levelized busbar cost increases as the costs for efficiency improvements are added as project alternatives. The supercritical PC unit will have a busbar cost of $47.77/MWHr. This is an increase of approximately 2.4% over the subcritical unit. The levelized busbar cost of the AFBC option is $50.45/MWHr, which is over 8% higher than the subcritical unit.

Construction of new generation must recognize the value of its emissions in a cost analysis. The existing system emissions are fixed or capped for NO_x and SO_2 emissions and any new emissions must be offset by reducing the emissions from the existing units or purchase of allowances available on the open market. If the host utility has credits to sell, consumption of these credits by new capacity addition still may be considered as an offset to sales and treated as a cost.
CO_2 costs are a potential future cost that has not yet been imposed but is looming on the horizon and should be considered in the analysis at different allowance rates.

The results of the analyses indicated above do not take into account emission allowances. As the emission allowances are added into the evaluation, the differential becomes less between the subcritical and supercritical alternatives. Figure A-1 indicates that if NO_x allowances are valued at $3350/ton, SO_2 allowances are valued at $200/ton, mercury allowances are valued at $16,000/lb and a $25 carbon tax is implemented, the difference in levelized busbar costs between a subcritical PC unit and a supercritical PC unit is approximately 0.8%, which is assumed to be equal at this level of analysis. The annual emissions savings generated by the supercritical unit would be approximately $1,500,000.

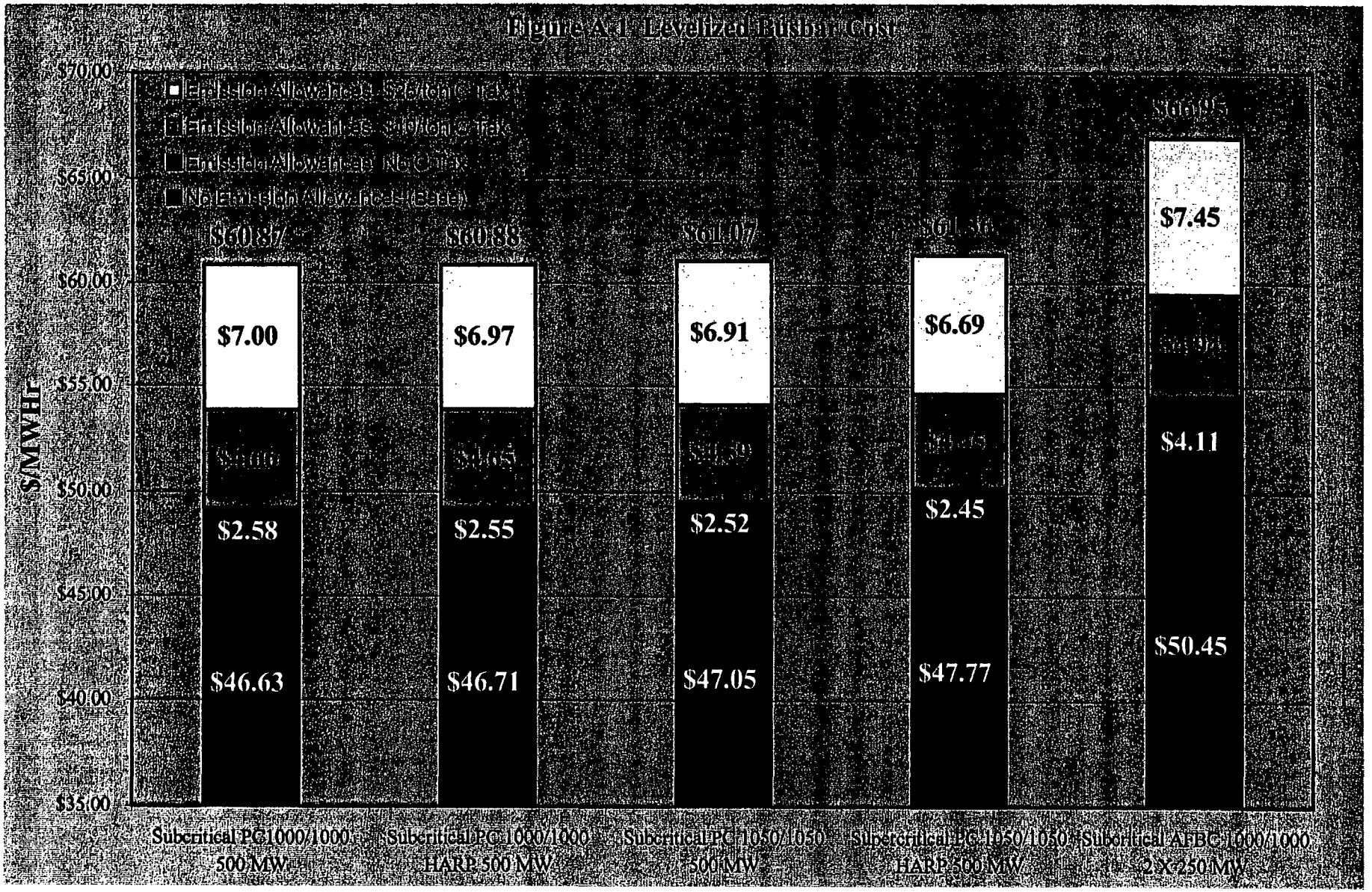


Figure A-1 Levelized Busbar Cost

A.4 SENSITIVITY ANALYSIS RESULTS

A sensitivity analysis was prepared for each configuration option with regard to the following cases:

- Capital Cost (plus or minus 10%)
- Capacity Factor (plus or minus 5%)
- Fuel Cost (plus or minus 10%)

The sensitivities prepared were exclusive of all emissions allowance cost and carbon tax. The results of the sensitivity analyses are presented in tornado diagrams in Figures A-2 through A-6. A tornado diagram illustrates the range of results for each sensitivity case and its impact on the levelized busbar cost, and ranks the results from greatest impact to least impact. The sensitivity analysis indicates that capital cost and fuel cost are the most significant factors affecting the project economics. Capacity factor also has a strong impact on the overall economics of a coal unit.

Figure A - 2
500 MW PC Subcritical
Sensitivity Analysis - Tornado Diagram

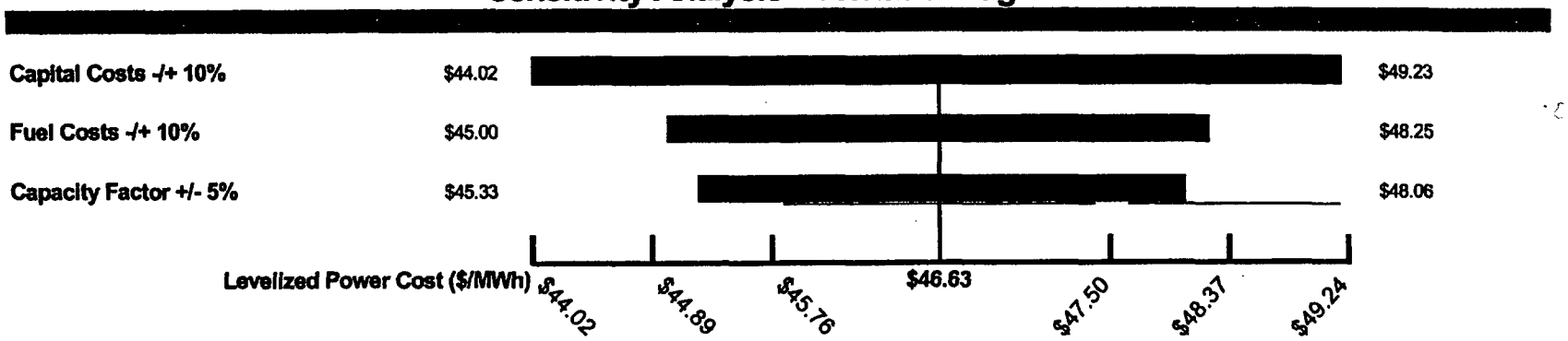


Figure A - 3
500 MW PC Subcritical HARP Cycle
Sensitivity Analysis - Tornado Diagram

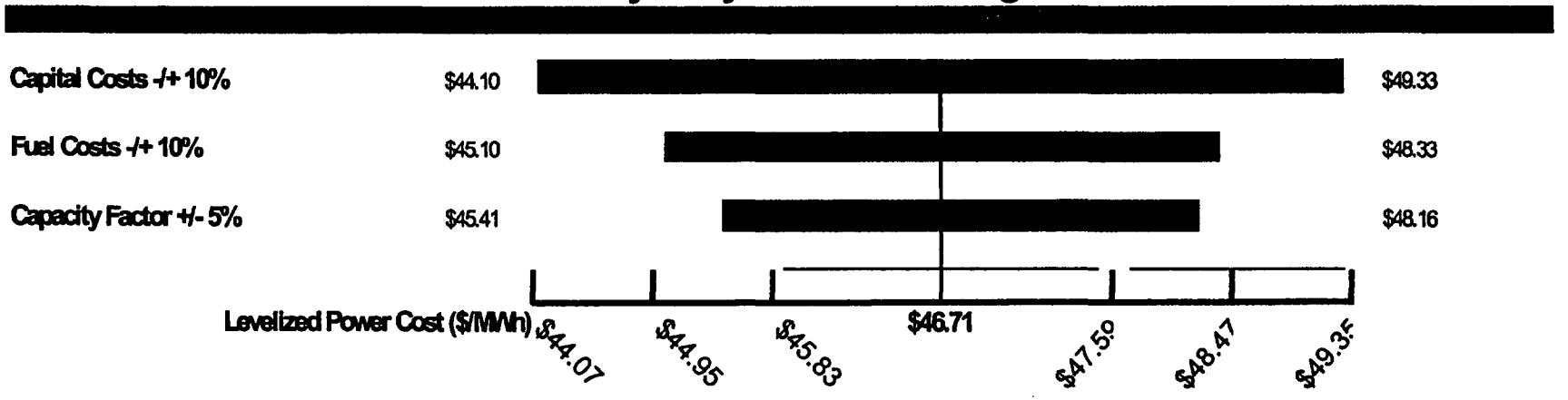


Figure A - 4
500 MW PC Subcritical 1050/1050 Steam
Sensitivity Analysis - Tornado Diagram

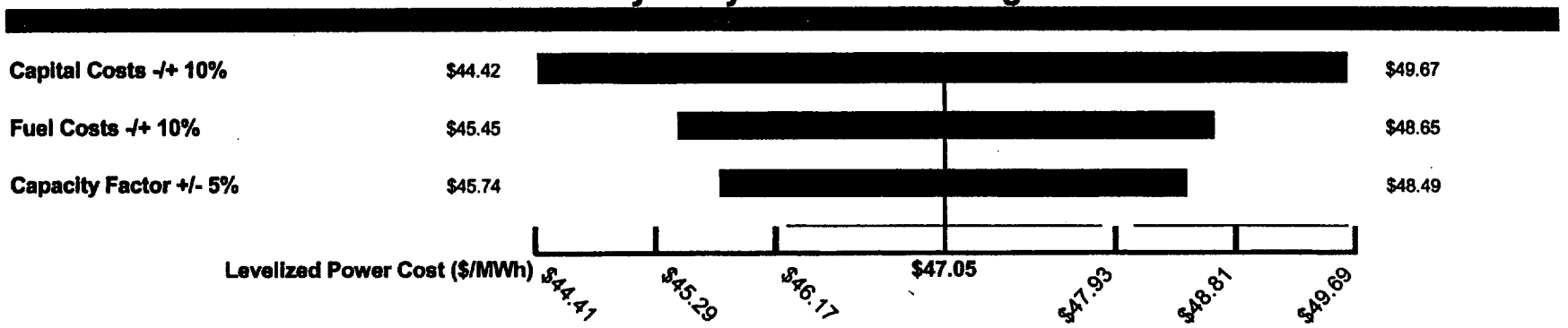


Figure A - 5
500 MW PC Supercritical
Sensitivity Analysis - Tornado Diagram

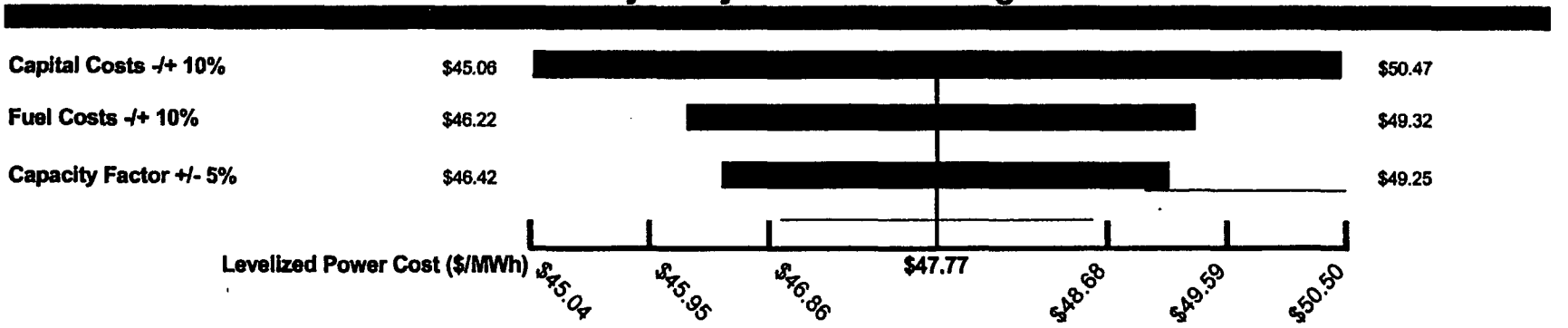
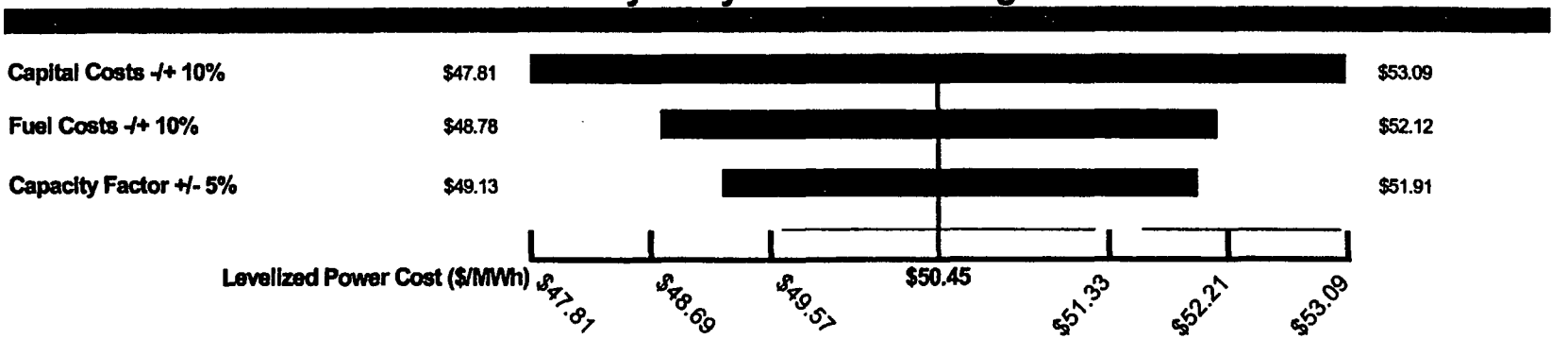


Figure A - 6
2 x 250 MW AFBC Subcritical
Sensitivity Analysis - Tornado Diagram



A.5 RECOMMENDATIONS

Based upon the results of the unit technology assessment, Burns & McDonnell recommends that two of the five technology options be carried forward for further analysis. The two options are the base subcritical PC option utilizing 1000°F steam and a 7-heater feedwater cycle and the supercritical PC option utilizing 1050°F steam and an 8-heater feedwater cycle. This recommendation is based upon the following:

- The base subcritical option is the technology with the lowest overall busbar cost of power. This would likely be the most attractive option economically, especially if a carbon tax does not become an issue.
- There is very little difference in busbar costs to gain additional efficiency. If efficiency becomes a driving factor due to annual emission valuations, choosing the option that provides the maximum efficiency gain over those that offer intermediate efficiency gains would be justifiable. Factors that would justify the subcritical HARP and subcritical 1050°F options would likely justify the supercritical technology.
- Capital cost differences between the lowest cost option and the supercritical option are based upon the Level 1 estimates generated for this phase of the study, and it is believed that the 4% increase in capital cost for the supercritical option is conservative. As shown in the sensitivity analysis, changes in capital cost can lead to significant changes in busbar costs.
- The closeness of the two options merit additional evaluation to see if size impacts the results.

* * * * *

APPENDIX B - UNIT SIZE ASSESSMENT

B.1 UNIT 1 PERFORMANCE REVIEW

The objective of this Unit Size Assessment is to define the optimal size for Unit 2. Definition of the Unit 2 size requires an evaluation of the Unit 1 performance to minimize the impacts Unit 2 may have upon Unit 1.

The information available with regards to the Unit 1 performance was data from a Valve Wide Open (VWO) performance test dated April 12, 2002. The data indicated the range on the tower to be 33.8°F. The design circulating water flow is 173,250 gpm. Therefore, the heat duty required by Unit 1 is approximately 2.93 x 10^9 Btu/hr, which is approximately 56% of the original design heat duty.

The cooling tower performance indicated in the performance test data did not correlate with the original design performance curves. The approach of the tower during the performance test was approximately 15°F. Performance curves indicate the approach should have been closer to 10°F. This difference may be due to water distribution within the tower. The design flow rate of one unit is ½ the design flow rate of the tower. Therefore, poor distribution is likely to occur and result in poor performance.

B.2 EXISTING INFRASTRUCTURE REVIEW

A review of drawings, system descriptions and conversations with LG&E personnel indicated that many of the systems installed at Trimble County were designed with capacity for future units. The existing infrastructure was assessed to identify the design capabilities of these systems. Following are the results of the infrastructure review.

B.2.1 Circulating Water System

The existing natural draft cooling tower was designed for a maximum heat rejection rate of 5.2 x 10^9 Btu/hr. The design flow rate was 173,250 gpm at a range of 30°F for each Unit. The cooling tower can be divided hydraulically into two towers, each with it's own makeup and blowdown. The makeup and blowdown systems for both Units were installed with Unit 1.

Based on the performance test data taken on April 12, 2002 and the evaluation given in Article B.1, Unit 1 is utilizing 2.93 x 10^9 But/hr of the cooling tower capacity, which leaves 2.27 x 10^9 Btu/hr for Unit 2. The 500 MW size range unit options will be limited based on this heat rejection rate. The 750 MW size range units will utilize a helper cooling tower to reject the additional heat.

The circulating water pump basin and below grade piping were installed for Unit 2. The below grade circulating water piping is concrete with an inside diameter of 96". The existing circulating water piping will be sufficient for the 500 MW size units since the flow rate will be similar to the existing Unit 1 flow rate. The circulating water flow rate for the 750 MW units will be approximately 250,000 gpm, which results in a velocity in the existing 96 inch piping of 11 ft/s. This is an acceptable velocity. Therefore, the existing circulating water piping can be utilized for Unit 2.

B.2.2 Flue Gas System

The existing chimney was constructed with two FRP liners, each 18'-0" inside diameter. The original design was based on a dry stack at a velocity of 120 feet per second (fps) at 150°F.

EPRI has published guidelines for the recommended maximum stack velocity of a unit with a wet scrubber and without flue gas reheat. This recommended maximum velocity is 60 fps for fiberglass liners.

LG&E has been operating the Unit 1 stack as a wet stack for the past several years. This operation has been very successful. Therefore, the 500 MW size units will be based on utilizing the existing stack liner. The 750 MW size options will be based on the installation of a new stack since the velocity would be unacceptably high even for a dry stack design. The height of the new stack is assumed to be the same as the existing stack, 720 feet.

B.2.3 Coal Handling System

The coal handling system was installed for 2 units, from the coal reclaim area to the Unit 1 and 2 coal silo outlets. There were 6 coal silos installed for Unit 2, each with a capacity of 800 tons. The coal unloading and transfer system from the unloading dock to the coal yard was designed for 3,000 tons per hour. The stacker/reclaimer reclaiming capacity is 2,640 tons/hr. The emergency reclaim capacity is 1,320 tons/hr. The silo filling system consists of twin 1,320 ton per hour conveyors.

The estimated coal usage for Unit 1 plus a subcritical 750 MW unit will be approximately 650 tons/hr, which is the largest coal usage option evaluated. The existing equipment has sufficient capacity to serve both units.

B.2.4 Limestone Handling and Preparation System

The limestone unloading and stockout system design rate is 1,500 tons per hour. The reclaim system has a design rate of 260 tons per hour.

The limestone slurry preparation system includes 2 trains of equipment. The combined capacity of both trains is 260 tons per hour of limestone.

The estimated limestone usage for Unit 1 plus a subcritical 750 MW unit will be approximately 100 tons/hr. The existing equipment has sufficient capacity to serve both units.

B.2.5 Fire Protection System

The Fire Protection System includes a motor driven and a diesel engine driven fire pump, and a motor driven pressure maintenance pump. The motor and diesel driven pumps are each rated at a flow of 2500 gpm. The diesel pump takes suction from the sediment retention basin, and the motor driven pump takes suction from the service water header.

The fire protection system for Unit 2 will be based on limiting the single system water requirements to 2,500 gpm, and will obtain the water supply from the existing station fire water system.

B.2.6 Ash Water System

The Ash Water System includes three ash water pumps mounted on the ash pond raft. The capacity of each pump is 7,500 gpm. The raft was designed to be expandable to meet the needs of 4 Units, and includes space for the installation of a fourth pump. The design was based on the 3-50% pumps for Unit 1 operation and 4-33% pumps for combined Unit 1 and Unit 2 operation. A 30" water header was installed from the raft to the plant.

LG&E has indicated that one pump is capable of supplying all of Unit 1 requirements, and that the pump runs with a significant quantity of recirculation to avoid pump cavitation and system surges. Unit 2 is planned to utilize a submerged scraper conveyor for bottom ash, dry handling of the fly ash, and sluicing of mill rejects. Based on this design, the water requirements for Unit 2 will be less than 7,500 gpm. Therefore, the existing system can supply both units and have a spare pump.

B.2.7 Condensate Makeup System

The pre-treatment system design flow is 400 gpm and the demineralizer flow is 300 gpm (2 x 300 gpm trains). The demineralization equipment includes a weak anion, strong anion, strong cation, and a mixed bed exchanger, with a design effluent resistivity of 10 Megohms. The condensate storage tank capacity is 1,300,000 gallons. The water treatment equipment installation was based on 2 trains at 100% capacity, with a makeup rate of 4%.

LG&E has indicated that the demineralization system has sufficient capacity for the second unit. The expected normal makeup rate for the existing Unit 1 and a 750 MW Unit 2 is 400 gpm, at a makeup rate of 2%. The two 300 gpm demineralizers are sufficient to provide the water requirements for both units.

The makeup water quality for a supercritical boiler is in the 16-18 Megohms resistivity range. The demineralization equipment installed is capable of meeting this requirement. Regeneration will be more frequent than is required to meet the 10 Megohms resistivity effluent.

B.2.8 Service Water System

The river intake structure was designed for 100,000 gpm, enough to meet the needs of 4 units plus 50% margin. It includes 3 pump bays, with 2 pumps installed with Unit 1. At the normal river elevation of 419.2 ft, the inlet velocity of the intake is less than 0.5 fps. Preliminary review indicates the existing intake structure will comply with proposed USEPA standards to be finalized in the first quarter of 2003.

The 2 installed service water pumps included reduced capacity bowls, with a capacity of 6,000 gpm. The motors and fluid couplings were installed with sufficient capability to support the ultimate capacity of 26,000 gpm per pump. Pump sizing was based on operating the cooling tower at 1.5 cycles of concentration with all pumps is service, and 5 cycles of concentration with one pump out of service.

The service water system will require modification to supply the requirements of two units. We have assumed that larger bowls will be installed on the existing two pumps. An alternative to this would be to install an additional pump and traveling screen. Either option will enable the service water system to provide the needs of both units with one pump out of service.

B.2.9 Potable Water System

The potable water treatment system was designed with a normal capacity of 60 gpm, and a maximum capacity of 120 gpm with all equipment in service. However, the potable water treatment system is currently not in service. The plant potable water is obtained from the County. Unit 2 will likewise use water from the County for potable water.

B.2.10 Circulating Water Chemical Feed System

The Circulating water chemical feed system was sized with the maximum feed rates: Dispersant – 2.8 gph, Acid – 13.3 gph, Biocide – 60 lb/hr. The Dispersant system is adequately sized to serve Units 1 and 2. A new Biocide feed system will be required for Unit 2. The existing unit no longer uses the acid feed system.

B.2.11 Compressed Air Systems

Unit 1 has separate station air, house air, and instrument air systems, each with dedicated compressors that were sized for Unit 1. The Unit 1 station air system provides includes two air compressors that provide air heater soot blowing and fuel oil atomizing air during startup. The station air compressors were sized to serve four units.

LG&E has indicated that the Unit 1 instrument and house air systems have been crosstied. New compressors and air dryers will be installed with Unit 2 sufficient to provide the Unit 2 house and instrument air needs. The new systems will be crosstied with the existing Unit 1 house air and instrument air systems. Since Unit 2 will utilize natural gas for started up, air heater soot blowing and fuel oil atomizing will not be required. Therefore, Unit 2 will not be tied into the existing Unit 1 service air system.

B.3 UNIT SIZE ASSESSMENT

The unit size assessment involved sizing equipment to optimize the existing infrastructure. The plant technology that was used in this assessment is as follows: 1) Subcritical PC unit with a 7 feedwater heater cycle utilizing 1000°F steam and 2) Supercritical PC unit with an 8 feedwater heater cycle utilizing 1050°F steam.

The existing infrastructure review identified logical size breakpoints with regards to the utilization of the existing infrastructure. The first size breakpoints were determined to be the chimney and the cooling

tower capacity. Based on previous LG&E experience, the chimney can be used with all options within the 500 MW range, so each technology option was sized to maximize the remaining cooling tower capacity. The alternatives evaluated at this infrastructure limitation are as follows:

Option 1 - Subcritical PC with a 40" Last Stage Blade (LSB) two-flow LP Steam Turbine.
Option 2 - Subcritical PC with a 30" LSB four-flow LP Steam Turbine.
Option 3 - Subcritical PC with a 33.5" LSB four-flow LP Steam Turbine.
Option 4 - Supercritical PC with a 40" LSB two-flow LP Steam Turbine.
Option 5 - Supercritical PC with a 30" LSB four-flow LP Steam Turbine.
Option 6 - Supercritical PC with a 33.5" LSB four-flow LP Steam Turbine.

Once the cooling tower design limitation is exceeded, there does not appear to be another infrastructure limitation that would limit the size of the new unit. Therefore, the next unit size evaluated was 750 MW (net), which was agreed to be the maximum size unit to be reviewed for this site. The two additional alternatives evaluated are as follows:

Option 7 - Subcritical PC with a 40" LSB four-flow LP Steam Turbine.
Option 8 - Supercritical PC with a 40" LSB four-flow LP Steam Turbine.

The conceptual design of these alternatives included the following assumptions:

1. The performance of each option was based on representative OEM steam turbine heat balances and exhaust loss information.
2. The new condenser was sized to achieve a 5°F Terminal Temperature Difference (TTD) to improve the heat rate and increase capacity in lieu of the 9°F TTD operation on the existing condenser.
3. The existing natural draft-cooling tower was designed for a maximum heat rejection rate of 5.2 x 10^9 Btu/hr. Unit 1 is currently utilizing 2.9 x 10^9 Btu/hr, which leaves 2.3 x 10^9 Btu/hr for Unit 2.
4. Cooling tower makeup water temperatures were assumed to be 90°F during the summer and 60°F average.
5. A mechanical draft helper tower has been included for both the 750 MW cases.
6. The 750 MW options were evaluated based on a constant MW basis.

The results of the preliminary performance evaluations are included in Table B-1. The lowest capital cost option on a $/kW basis is the Option 7 - 750 MW subcritical PC. Option-8 – 750 MW supercritical PC obtains the best heat rate.

Table B-1 Project Estimates for Pro Forma Analysis

	500MW Subcritical			500 MW Supercritical			750 MW	
Plant Performance/Operation	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**	**Option 6**	**Subcritical Opt 7**	**Supercritical Opt 8**
Capital Costs including Owner Costs and Contingency, 2002$/kW[5]	$1167	$1179	$1173	$1165	$1178	$1174	$992	$1005
Net Plant Heat Rate, Btu/kWh (59F/60% RH)	9531	9453	9390	9174	9115	9071	9426	8940
Net Plant Output, MW (59F/60% RH)	495	498	501	527	526	530	750	750
Net Plant Heat Rate, Btu/kWh (90F/59% RH)	9716	9783	9776	9274	9350	9337	9645	9164
Net Plant Output, MW (90F/59% RH)	477	472	472	521	513	514	733	732
Planned Dispatch, Hours	8016	8016	8016	8016	8016	8016	8016	8016
Capacity Factor, %	85	85	85	85	85	85	85	85
O&M Costs								
Fixed, 2002$/kW-yr	$5.97	$5.93	$5.90	$5.60	$5.62	$5.57	$4.90	$4.90
Property Tax, % of Capital Cost	0.18%	0.18%	0.18%	0.18%	0.18%	0.18%	0.18%	0.18%
Insurance, % of Capital Cost	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%
Non-Fuel Variable[6], 2002$/MWHr	$2.02	$2.02	$2.02	$2.41	$2.41	$2.41	$2.00	$2.49
Emissions								
NOx, 2002$/MWh	$1.12	$1.12	$1.12	$1.07	$1.07	$1.07	$1.11	$1.05
SOx, 2002$/MWh	$0.26	$0.26	$0.26	$0.25	$0.25	$0.25	$0.26	$0.25
Hg, 2002$/MWh	$0.235	$0.235	$0.235	$0.224	$0.224	$0.224	$0.231	$0.219
CO2 @ $10 Carbon Tax, 2002$/MWh	$2.94	$2.94	$2.94	$2.81	$2.81	$2.81	$2.89	$2.74
CO2 @ $25 Carbon Tax, 2002$/MWh	$7.36	$7.36	$7.36	$7.04	$7.04	$7.04	$7.25	$6.87

[5] Based on Net Plant Output at 59°F.

[6] Variable O&M does not include emission allowances.

B.4 ECONOMIC ANALYSIS RESULTS

Economic pro forma analyses were used to determine the busbar costs of power for each alternative, as well as the incremental busbar cost of power assuming various emissions allowance cost scenarios. Figure B-1 presents a graph of the resulting levelized busbar costs over a 20-year planning period. These results assume that all options have an 85% capacity factor and that all energy produced can be sold.

The baseline and incremental levelized busbar costs were developed by preparing project pro forma for each of the alternatives under consideration both with and without allowances for emissions.

Figure B-1 indicates that a 750 MW subcritical PC unit will have the lowest levelized busbar cost at $42.35/MWHr. The 750 MW supercritical PC unit will have a busbar cost of $42.58/MWHr. This is an increase of less than ½% over the subcritical unit. These levelized bus bar costs assume that the supercritical option will incur approximately $3 million dollars more per year in maintenance due to internal boiler corrosion associated with the corrosive coal and high temperatures. If the major maintenance of the two options is set equal, the 750 MW supercritical option has a levelized busbar cost of $41.72/MWHr, which is $0.63/MWHr lower than the subcritical option.

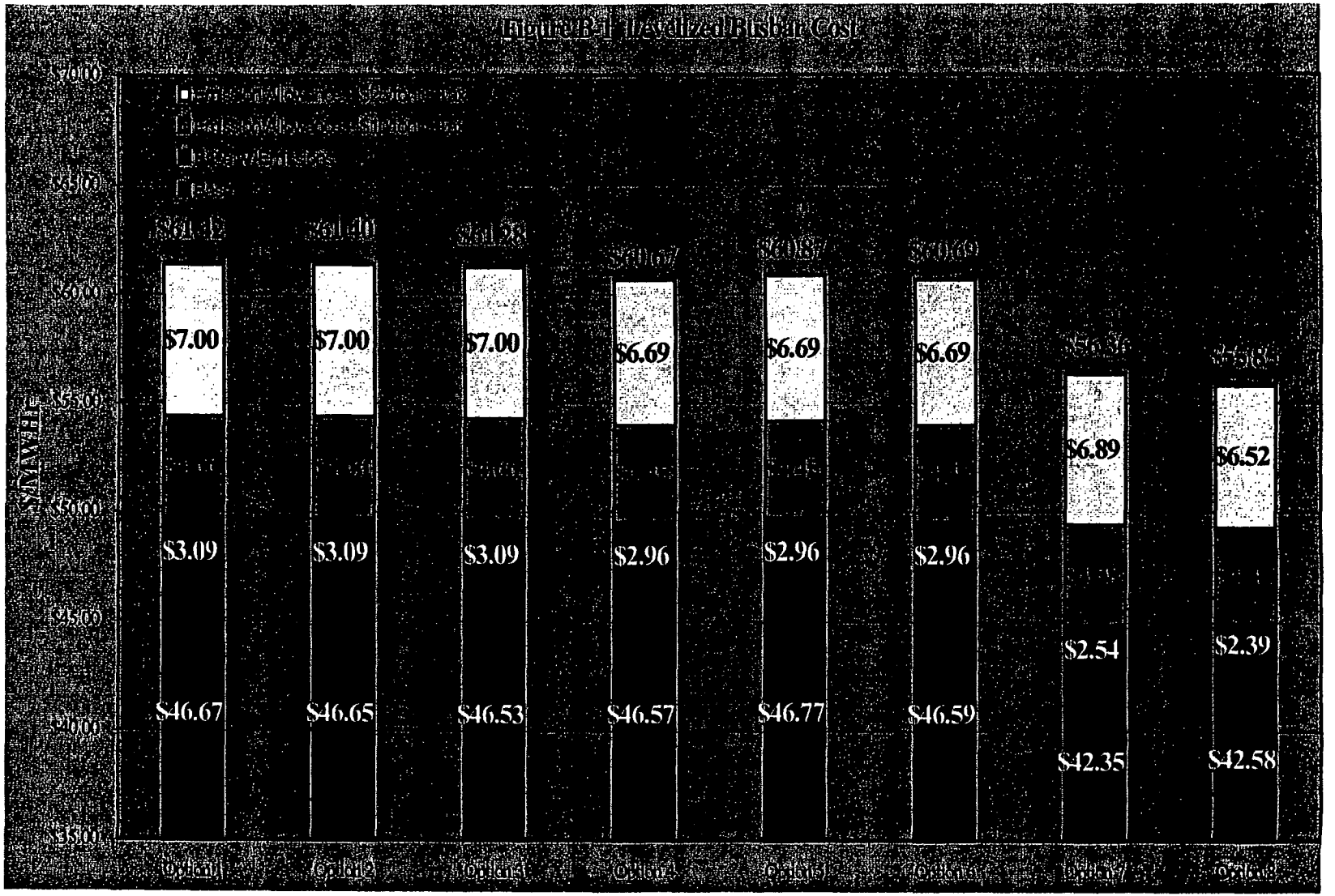
The lowest levelized busbar cost option in the 500 MW range is Option 3 – 500 MW subcritical PC with a 33.5" LSB four-flow LP steam turbine at $46.53/MWHr valued without emissions. When emissions are taken into consideration, Options 4 and 6 are attractive. These options are relatively equal and will require a more detailed evaluation if LG&E wishes to further review either option. This can be accomplished in the detailed conceptual design to follow this phase of the analysis.

The sensitivity analyses performed in Appendix A indicated that the capital cost of the project will have the most impact on the levelized busbar cost. For example, a $10 million change in capital cost will result in a levelized bus bar reduction of $0.42/MWhr and $0.30/MWHr for the 500 MW and the 750 MW options respectively.

A sensitivity analysis was performed on the 750 MW supercritical Variable O&M cost to determine what the breakeven points would be when compared to the subcritical option with a Variable O&M of $2.00/MWHr. The results of the evaluation indicated that a supercritical option with a Variable O&M rate of $2.35/MWHr would produce the same levelized busbar cost as the subcritical option when evaluated under the base case (no emissions). The evaluation performed with the emissions (NO_x, SO_2,

and Hg) valued as an expense resulted in a $2.45/MWHr breakeven. A breakeven Variable O&M of $2.80/MWHr resulted when the analysis incorporated a $25 carbon tax.

The results of the analysis indicated above do not take into account allowances for emissions that may need to be purchased depending on the system configuration. Figure B-1 indicates that if NOx allowances are valued at $3350/ton, SO_2 allowances are valued at $200/ton, Mercury allowances are valued at $16,000/lb and a $25 Carbon tax is implemented, Option 8 – 750 MW supercritical has the lowest levelized busbar cost at $55.85/MWHr. This is $0.51 less than the 750 MW subcritical unit.



500 MW Subcritical Options | 500 MW Supercritical Options | 750 MW Options

B.5 RECOMMENDATIONS

Burns & McDonnell concludes that a 750 MW plant would be the most cost effective option for the new unit at Trimble County. However, this is based upon the assumption that the extra energy produced can be sold on the open market to cover the levelized bus bar cost. Therefore, we recommend that LG&E further evaluate the 750 MW options internally to determine how this size unit would fit into the predicted load profile.

Burns & McDonnell recommends LG&E consider installing a 750 MW supercritical power plant based on the following assessment:

- The base levelized busbar costs between the two 750 MW options were within $0.23/MWHr of each other with the subcritical having the lowest cost. However, if emissions are evaluated as an operating cost, the supercritical has the lowest levelized busbar cost by $0.51/MWHr.

- The 750 MW supercritical option was evaluated with a $3 million per year increase in maintenance cost over the subcritical unit. This value was based on conversations with Alstom regarding the possible internal corrosion of the boiler. However, if there is not a significant maintenance cost differential between the two technologies, the supercritical has a lower base levelized busbar cost by $0.63/MWHr.

- The supercritical alternative also provides an advantage with public relations. The new power plant can be marketed as the most efficient plant utilizing state of the art technology with the lowest emissions. This could help minimize public objection to the project and decrease permitting time.

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APPENDIX C – LEVEL 1 SCHEDULE

C.1 Planning Strategy

Figure C-1 depicts a Level 1 Project Schedule for a large coal-fired unit, such as proposed Trimble County Unit 2. The designation Level 1 defines the schedule level of detail as conceptual for the purpose of initial project planning.

This Level 1 schedule is based on a strategy to perform low cost or necessary tasks as soon as possible to position the project to move forward when regulatory approval is granted. Intermediate decision points are established for executive review and Board of Directors sanction to confirm the project should continue its course toward completion. While engineering may proceed at moderate cost procurement of equipment and materials and release for fabrication is deferred until the appropriate construction permits are obtained. This strategy defers large expenditures and commitments until regulatory approval is granted to construct. The permitting process in Kentucky is somewhat untested with the implementation of new siting reviews. The time required for project approval has not been recently demonstrated for a large power project. The schedule now shows an estimated 12 months for siting and air permit review and approval.

C.2 Project Milestone Dates

Project Milestone dates are established to guide the overall project planning process. Broad time durations and key interfaces are established for initial studies, permitting, design engineering, procurement, construction, and unit startup. These milestones are used during the planning and execution process to confirm that basic timeframes are within the bounds of the planners' experience and to set realistic project targets for all activities. The Level 1 schedule establishes the framework for the more detailed schedules that follow. Key milestones depicted by Figure C-1 are as follows.

"Start Construction" is ready for released after the regulatory authorities grant permit approval. These permits primarily include siting review by the State of Kentucky and the PSD (prevention of significant deterioration) air permit.

"Start Boiler Steel Erection" (furnace area) is a key construction start interface between the boiler constructor and the civil works or foundations contractor. This may start once the boiler steel is procured, fabricated and delivered to the site. Meanwhile, the civil contractor must install the large foundations in

time to support the start. This target date is set by the full release of boiler procurement and fabrication about 12 months prior to required steel deliveries. The full release is also preceded by about 6 months of steel and boiler design. A design engineer would perform the foundation designs as the boiler designers develop loads. A 12-month lead-time is included from boiler award to start of foundations and 6 months are allowed for the piling and foundations construction. This milestone can be influenced by weather but may also be expedited due to the limited craftsmen and contractors that are on site during this period.

"Start Boiler Erection" (pressure parts) follows the boiler steel erection and lasts until the steam generator is ready for hydrostatic testing. This is the logical continuation after adequate steel structure is constructed for support of the furnace.

"Building Ready for Mechanical and Electrical" denotes when the turbine building has been erected with floors installed ready for entry by multiple crafts. This kicks off the mechanical and electrical equipment erection, installation of critical piping and installation of the primary medium voltage wiring for the electrical system targeted toward making startup power available for plant startup. This time milestone is intended to provide workmen with a well-lit and ventilated place to work with adequate protection from the weather to allow reasonable productivity. Eight months are allotted for these activities prior to the next interface of startup power energization.

"Startup Power Energized" denotes the kickoff of startup activities as system wiring and piping is trimmed out with instrumentation. System completions are scheduled in a logical sequence to support construction completion and startup of plant systems during the next 9 months.

"Boiler Ready for Hydro" denotes the completion of pressurized boiler components. The boiler water and steam circuits are ready to be hydrostatically tested for leaks using water. This test is a predecessor to firing the boiler to perform chemical cleaning or "boilout". Introduction of water into the boiler for testing usually may be performed several months in advance of boilout but may be postponed until just before boilout to avoid cold weather and the need for extended freeze protection of boiler tubes. Time of year is a consideration in planning.

"Ready for Boilout" denotes the boiler as successfully passing hydrostatic testing and completion of an adequate air and gas path to support initial combustion using burner igniters. This denotes a construction completion milestone and a startup sequence start milestone indicating the unit is ready for the last series of startup activities leading to steam blows, synchronization, generation and commercial operation. The

"Boilout" activity will circulate demineralized water and appropriate chemical additives throughout the pressurized circuits of the boiler to remove petroleum protectants, debris and oxidation. This activity is a predecessor to steam blow.

"Synchronization" is a startup milestone that demonstrates adequate plant systems are in place to connect the generator to the grid and to export power from the plant to the system. This is a joint milestone for every contract contributing to its accomplishment. This event initiates a series of activities by the Owner/Operator to operate the plant equipment at higher and higher demands to demonstrate equipment and plant capability. The unit must be synchronized to the grid and capable of evacuating energy to accept the system heat input from coal firing. Trial operation will continue in a logical sequence to increase load to 95% capability or greater to achieve a contractually defined provisional acceptance.

"Provisional Acceptance" is the typical target date for definition of schedule guarantees and is the result of a capability performance test. At this point in time a significant quantity of test energy is available for dispatch and many of the demonstration tests require high load for proper tuning. Energy revenue should significantly exceed fuel costs from this point forward.

"Commercial Operation" is typically contractually defined but in essence defines that point in time when the unit is considered reliable, in compliance with all permitted emissions limitations and ready for dispatch. This characterization is the result of defined objective performance tests to verify the plant as capable of operation to meet specified performance guarantees.

Emission control equipment will be protected or operated as required during the initial operation period. Current permitting regulations are interpreted to allow a 6-month period of startup and tuning to achieve emissions compliance beginning with synchronization.

The startup sequence will likely be to first place into service the particulate removal and ash handling systems to protect the induced draft fans. Next will be coal firing and furnace combustion tuning to achieve targeted furnace NO_x control. This will be followed by SCR catalyst loading and initial ammonia feed for NO_x reduction and then startup of the SO_2 removal system. Clear water sprays may be required in advance of reagent feed to control flue gas temperature to the stack.

C.3 Intermediate Decision Points

LG&E has identified three key decision points for internal management control during the planning process, which have been included in the Level 1 milestone schedule.

Decision 1 is scheduled after preparation of this Coal Study, which is a component part in the assessment of the feasibility of the project. This first decision will be whether or not to sanction the recommended technology, unit size, cost estimate, contracting approach and schedule outlined in this Coal Study. This decision will allow authorization of additional engineering and consultant expenditures that are required to prepare the project bid documents and perform permitting services. The bid documents will be used to solicit proposals for the required contracts. Consulting services will be required to support the siting and environmental permitting requirements. All of these services will be required to achieve the sanctioned project schedule.

Decision 2 is for the purpose of a Limited Notice to Proceed (LNTP) or award of major procurement contracts to release contractor engineering. This will not release procurement of materials and equipment or release for fabrication of components. Decision 2 will be deferred until the bids for the major contracts have been received and evaluated to compare the market response to the cost estimate developed in the Coal Study. In addition, the Project Schedule indicates approval of the siting application as a condition precedent to Decision 2, which would approve rate base recovery of the engineering and planning costs associated with proceeding with the vendor engineering authorized by the LNTP. In comparison to Decision 1, this LNTP will significantly increase the development costs incurred in the event the project is subsequently cancelled.

Decision 3 is for the purpose of a Full Notice to Proceed (FNTP) to the contractors that have been performing engineering under a LNTP. Such a release would authorize procurement of materials and equipment and release of fabrication, which would incur substantial commitments for cancellation costs should the project be canceled. A condition precedent to this Decision 3 is approval of the PSD or air permit to allow LG&E to release contractors to begin construction. This FNTP requires a high confidence that the project plan is reasonable and will manage risk regarding the planned outcomes of the project budget, schedule and work plan.

This sequence of decision-making limits the expenditures during the initial development phases of the project and provides periodic review and approval of the project planning process.

C.4 Contract Approach

Figure C-1 depicts a Level 1 Project Schedule for the primary components and interfaces required for a large coal-fired unit, such as proposed Trimble County Unit 2. The intent is to depict adequate startup and construction time allocations with permitting, procurement and engineering planned far enough in advance to support the construction.

The schedule focuses on the major interface components of the project without regard to the contracting approach. All contracting approaches will include some form of Boiler Island scope of supply to purchase a furnished and erected boiler, SCR and APC equipment. Market response to the solicitations after Decision 1 will influence exactly how these components are purchased and the extent of the scope of work included in a single package.

Note that the Level 1 schedule depicts the planning activities as early start dates to make the best use of currently available planning time and to allow for potential uncontrollable delays due to the planning and development process. Permit applications are subject to regulatory approvals that may extend beyond the planning times depicted.

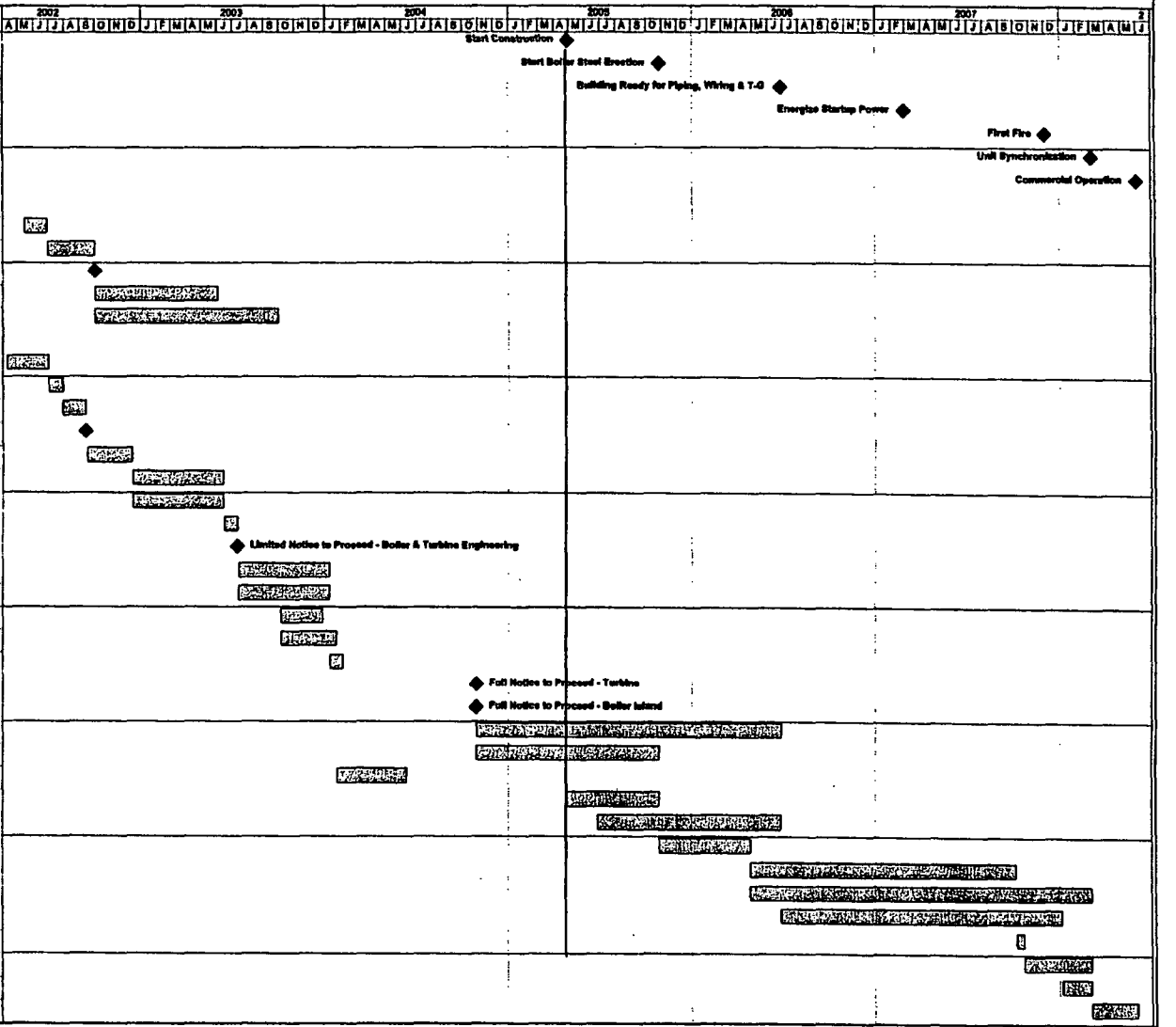
The duration between FNTP and Commercial Operation is considered the time necessary to allow for normal procurement lead times and on-site construction duration. The time allotted is intended to be aggressive but reasonable and such that schedule compression may be avoided along with corresponding increased costs. Variances in civil construction, changes in equipment lead times and a host of other factors may shift this schedule a few months but it is considered representative for Trimble Unit 2.

Refer to Section 4.0 Contracting Strategies for the recommended approach. Refer to Section 5.0 Project Schedule for a schedule that recognizes the recommended Contracting Strategy.

* * * * *

Figure C-1 Level 1 Schedule
750 MW Net 6/1/2008

ID	Task Name	Duration	Start	Finish
1	Start Construction	0 days	Fri 4/25/08	Fri 4/25/08
2	Start Boiler Steel Erection	0 days	Fri 10/26/06	Fri 10/26/06
3	Building Ready for Piping, Wiring & T-G	0 days	Tue 6/27/06	Tue 6/27/06
4	Energize Startup Power	0 days	Wed 2/28/07	Wed 2/28/07
5	First Fire	0 days	Tue 12/4/07	Tue 12/4/07
6	Unit Synchronization	0 days	Tue 3/4/08	Tue 3/4/08
7	Commercial Operation	0 days	Mon 6/2/08	Mon 6/2/08
8	PERMITTING	366 days	Wed 6/19/02	Tue 9/30/03
9	BACTIMACT Analysis	33 days	Wed 6/19/02	Fri 8/2/02
10	Perform Air Modeling; Prepare PSD Application	87 days	Mon 7/1/02	Tue 10/1/02
11	Submit CPCN & PSD Applications	0 days	Tue 10/1/02	Tue 10/1/02
12	CCN Siting Review and Approval	174 days	Wed 10/2/02	Mon 6/2/03
13	PSD Review and Approval	260 days	Wed 10/2/02	Tue 9/30/03
14	COAL STUDY	78 days	Thu 4/11/02	Mon 7/29/02
15	DRAFT - Phase 1 Coal Study	66 days	Thu 4/11/02	Mon 7/1/02
16	FINAL - Phase 1 Coal Study	20 days	Tue 7/2/02	Mon 7/29/02
17	BOARD SANCTION PHASE 1 - Release Phase 2	34 days	Tue 7/30/02	Fri 9/13/02
18	Begin Phase 2 - Prepare Turbine and Boiler Island Bid Documents	0 days	Fri 9/13/02	Fri 9/13/02
19	Prepare/Issue Major Bid Document to Bidders	65 days	Mon 9/16/02	Fri 12/13/02
20	Bid & Ready for Award - Boiler Island w/AQC	130 days	Mon 12/16/02	Fri 6/13/03
21	Bid & Ready for Award - Turbine-Generator	130 days	Mon 12/16/02	Fri 6/13/03
22	BOARD SANCTION PHASE 2 - Limited Notice To Proceed	20 days	Mon 6/16/03	Fri 7/11/03
23	Limited Notice to Proceed - Boiler & Turbine Engineering	0 days	Fri 7/11/03	Fri 7/11/03
24	Turbine Engineering	130 days	Mon 7/14/03	Fri 1/9/04
25	Boiler Island Engineering	130 days	Mon 7/14/03	Fri 1/9/04
26	Boiler Foundation Design Information Available	60 days	Mon 10/6/03	Fri 12/26/03
27	Design Initial Foundations	60 days	Mon 10/6/03	Fri 1/23/04
28	BOARD SANCTION PHASE 3 - Full NTP Release of Phase 3	20 days	Mon 1/12/04	Fri 2/6/04
29	Full Notice to Proceed - Turbine	0 days	Fri 10/29/04	Fri 10/29/04
30	Full Notice to Proceed - Boiler Island	0 days	Fri 10/29/04	Fri 10/29/04
31	Turbine Procurement/Manufacturing/Delivery	433 days	Fri 10/29/04	Tue 6/27/06
32	Boiler Procurement/Fabrication/Delivery	260 days	Fri 10/29/04	Thu 10/27/05
33	Bid and Award Foundations Construction Package	100 days	Mon 1/26/04	Fri 6/11/04
34	Sitework & Foundations Construction	130 days	Fri 4/29/05	Thu 10/27/05
35	Turbine Building Construction	261 days	Tue 6/28/05	Tue 6/27/06
36	Boiler Steel Erection	130 days	Fri 10/28/05	Thu 4/27/06
37	Boiler Erection	378 days	Fri 4/28/06	Fri 10/5/07
38	Balance of Plant Mech & Elec Construction	482 days	Fri 4/28/06	Mon 3/3/08
39	Turbine Erection	388 days	Wed 6/28/06	Fri 1/4/08
40	Boiler Hydro	11 days	Mon 10/8/07	Mon 10/22/07
41	Boiler Commissioning	66 days	Tue 10/23/07	Mon 3/3/08
42	Turbine Commissioning	41 days	Mon 1/7/08	Mon 3/3/08
43	Tuning & Performance Testing	66 days	Tue 3/4/08	Mon 6/2/08



prepared by
Burns & McDonnell

Louisville Gas & Electric
Trimble County 2 Coal Study

Appendix B

List of Trimble County General Plant Facilities

STRUCTURES

A. Service Building

1. Concrete
   a. Foundations b.
   Base Slab
   c. Elevated Floors
   d. Unloading Ramps

2. Steel Structures
   a. Columns & Girders

3. Enclosures
   a. Insulated Metal Siding
   b. Glass Curtain Wall
   c. Concrete & Built-Up Roof

B. As Fired Sample House

1. Concrete
   a. Foundations b.
   Base Slab
   c. Elevated Floors

2. Steel Structures
   a. Columns & Girders b.
   Stairways c. Grating

3. Enclosures
   a. Insulated Metal Siding
   b. Concrete & Built-Up Roofing

G Screenwell

1. Piles
   a. Sheet Piles b.
   H-Piles

2. Concrete

a. Walls
b. Elevated Floors

3. Steel Structures
a. Columns & Girders
b. Miscellaneous Platforms

4. Enclosures
a. Insulate Metal Siding
b. Concrete & Built-Up Roof

D. Stack

1. Concrete
a. Foundations
b. Base Slab
c. Concrete Shell & Liner

E. Coal Handling

Barge Unloader

1. Piles
a. Sheet Piles b.
H-Piles

2. Steel Structures
a. Columns & Girders b.
Stairways

Transfer House

1. Concrete
a. Foundations b.
Base Slab

2. Steel Structures
a. Columns & Girders

3. Enclosures
a. Uninsulated Metal Siding b.

2. Concrete

Concrete & Built-Up

As Delivered Sample House

2. Concrete

a. Foundations
b. Base Slab
c. Elevated Floors
d. Equipment Foundations

2. Steel Structures
a. Columns & Girders

3. Enclosures
a. Uninsulated Metal Siding
b. Concrete & Built-Up Roofing

Coal Dock Electrical Service Building

1. Concrete
a. Foundations b.
Base Slab

2. Steel Structures
a. Pre-Engineered Building

Radial Stacker

1. Concrete
a. Base Slab - Rail

Reclaim Hopper & Tunnel

1. Concrete
a. Foundations b.
Base Slab c.
Walls
d. Elevated Slab e.
Access Stairway

Crusher House

1. Concrete
a. Foundations
b. Base Slab
c. Elevated Floors
d. Equipment Foundations

2. Steel Structures
a. Columns & Girders b.
Stairways

3. Enclosures
   a. Uninsulated Metal Siding

Crusher House Electrical Building

1. Concrete
   a. Foundations b.
   Base Slab

2. Steel Structures
   a. Pre-Engineered Building

Coal Maintenance Building

1. Concrete
   a. Foundations b.
   Base Slab

2. Steel Structures
   a. Pre-Engineered Building

Conveyors A, B, C, D, E, & S

1. Piles
   a. Bearing Piles

2. Concrete
   a. Foundations

3. Steel Structures
   a. Steel Trusses b.
   Conveyor Bents c.
   Stairways

4. Enclosures
   a. Conveyor Uninsulated Metal Siding

Conveyors Fl, F2, GI, and G2

1. Concrete
   a. Foundations

2. Steel Structures
   a. Steel Trusses b.
   Conveyor Bents

c. Stairways
d Gallery Steel Enclosure

3. Enclosures
a. Gallery Uninsulated Metal Siding

F.

Reactant Handling

Barge Unloader

1. Piles
a. Sheet Piles b.
H-Piles

2. Steel Structures
a. Columns & Girders b.
Stairways

3. Enclosures
a. Uninsulated Metal Siding

Transfer House

1. Concrete
a. Foundations b.
Base Slab
c. Elevated Floors

2. Steel Structures
a. Columns & Girders

3. Enclosures
a. Insulated Metal Siding

Live Action Pile Enclosure

1. Concrete
a. Foundations
b. Base Slab - Rail

2. Steel Structures
a. A-Frame Structural Steel

3. Enclosures
a. Uninsulated Metal Siding

Dead Storage Pile

1. Concrete
   a. Foundations
   b. Base Slabs c. Walls
   d. Elevated Slab e. Access Stairway

Conveyors A, B, and C

1. Concrete
   a. Foundations

2. Steel Structures
   a. Steel Trusses b. Conveyor Bents c. Stairways

Reactant Prep. Building

1. Concrete
   a. Foundations b.
   c.
   d. Base Slab
      Elevated Floors
      Equipment Foundations

2. Steel Structures
   a. Columns & Girders b. Stairways

3. Enclosures
   a. Insulated Metal Siding
   b. Concrete & Built-Up Roofing

Reactant Live Storage Tanks

1. Concrete
   a. Foundations

2. Steel Structures
   a. Carbon Steel Tanks

G. Water Treatment Building

1. Concrete

a. Foundations b.
Base Slabs c.
Walls
d. Equipment Foundations

2. Steel Structures
a. Columns & Girders b.
Stairways
c. Equipment Platforms

3. Enclosures
a. Insulated Metal Siding

H. Cooling Tower

1. Concrete
a. Foundations
b. Base Slabs
c. Poured Hyperbolic Natural Draft Tows

I. Station Auxiliary

1. Concrete
a. Equipment Foundations

EQUIPMENT AND SYSTEM COMPONENTS

A. Service Building

1. Masonry Blockwork
2. Fire Protection Equipment
3. Restrooms, Lockers, and Showers 4.
HVAC
S. Roof Drains and Plumbing 6.
Lighting
7. Communications
8. Office, Lab, and Kitchen Equipment 9.
Maintenance Shop Equipment 10.
Material Storage Bins and Shelves 11.
Freight Elevator 12. Passenger Elevator

B. As Fired Sample House

1. HVAC

2. Building Drains 3.
Fire Protection 4.
Lighting
S. Communications 6.
Coal Silos 7. Piping
Systems

C. Screenwell

1. Masonry Blockwork 2.
Multiplex System 3.
HVAC
4. Horizontal Pumps
5. Vertical Pumps
6. Traveling Water Screens
7. Stop Log Gates and Screens 8.
Bridge Crane 9. Strainers
10. 480 Volt Equipment
11. 208/110 Volt Equipment
12. Conduit and Cable Tray
13. Lighting
14. Communications
15. Multiplex System
16. Roof Drains and Plumbing

D. Stack

1. Communications

E. Coal Handling

1. Coal Barge Unloader
2. Conduit and Cable Tray 3.
Lighting
4. Communications

Transfer House .

1. Barge Unloader Bin
2. Feeders and Chutes
3. Dust Collection/Suppression Equipment 4.
Sprinkler System
5. Monorail and Trolley Hoist 6.
Conduit and Cable Tray 7.
Lighting

8. Communications

As Delivered Sample House

1. Feeders and Chutes
2. Dust Collection/Suppression *Equipment* .3.
As Delivered Sampling System 4. Sprinkler System
S. Control Room - Static Wall Siding 6.
Fire Protection System 7. Conduit and Cable Tray 8. Lighting
9. Communications

Coal Dock Electrical Service Building

I. Masonry Blockwork 2.
Suspended Ceiling 3.
Static Wall Siding 4.
HVAC
***5.* Fire Protection System 6.**
Domestic Piping
7. Conduit and Cable Tray 8.
Lighting
9. Communications
10. 4160 Volt Equipment
11. 480 Volt Equipment
12. 208/110 Volt Equipment 13.
Multiplex System

Radial Stacker

1. Radial Stacker
2. HVAC Equipment 3.
Unit Substation
4. Motor Control Centers

Reclaim Hopper and Tunnel

1. Hopper
2. Feeders and Chutes
3. Vertical Pumps
4. Conduit and Cable Tray S.
Lighting

Crusher House

1. Feeders and Chutes
2. Crusher Bin
3. Dust Collection/Suppression Equipment 4. Magnetic Separators and Scales 5. Crusher
6. Conduit and Cable Tray
.7. Lighting
8. Communications
9. Piping Systems

Crusher House Electrical Building

Masonry Walls
Static Wall Siding
Fire Protection Equipment
Domestic Water Conduit
and Cable Tray Lighting
Communications
Piping Systems
4160 Volt Equipment
480 Volt Equipment
208/110 Volt Equipment
Multiplex System

Coal Maintenance Building

1. Masonry Blockwork 2. Suspended Ceiling 3. Dry Wall Partitions 4. HVAC
5. Sprinkler System 6. Hoist and Lifts

Reactant Handling

Barge Unloader

F.

1. Limestone Barge Unloader 2. Conduit and Cable Tray 3. Lighting
4. Communications

Transfer House

1. Feeders

2. Hoppers
3. Piping Systems
4. Conduit and Cable Tray 5.
Lighting

Live Active Pile Enclosure

1. Reclaimer
2. Conduit and Cable Tray 3.
Lighting

Dead Storage Pile

1. Hopper
2. Chutes and Feeders
3. Sump Pumps
4. Conduit and Cable Tray S.
Lighting

Reactant Prep. Building

1. Masonry Blockwork
2. HVAC Equipment
3. Fire Protection Equipment 4.
Piping Systems
5. Limestone Crushers and Hoppers
6. Compressors
7. Lube Oil Systems 8.
Feeders and Chutes 9.
Bridge Crane
10. 4160 Volt Equipment
11. 480 Volt Equipment
12. 208/110 Volt Equipment
13. Conduit and Cable Tray 14.
Lighting
15. Communications
16. Multiplex System

1. Tank Agitators

Reactant Live Storage Tanks

1. Tank Agitators

G. Water Treatment Building

1. Masonry Blockwork 2. Static Wall Siding 3. HVAC 4. Fire Protection Equipment S. Monorail 6. Piping Systems 7. Sanitary Waste Treatment Equipment 8. Water Treatment Equipment 9. Condensate Storage Tank 10. Conduit and Cable Tray 11. 4160 Volt Equipment 12. 480 Volt Equipment 13. 208/110 Volt Equipment 14. Lighting 15. Communications 16. Multiplex System 17. Motor Driven Fire Pump 18. Chemical Injection Equipment 19. Demineralizer Water System

H. Cooling Tower

1. Cooling Tower Pumps 2. Circulating Water Lines 3. Condenser 4. 480 Volt Equipment 5. Lighting 6. Communications

I. Station Auxiliary

1. 138 Volt Equipment 2. 6900 Volt Equipment 3. 480 Volt Equipment 4. 208/110 Volt Equipment 5. Sprinkler System

OTHER EQUIPMENT, SYSTEMS, AND STRUCTURES

1. Fuel Oil Tanks, Piping, Pump House, *and* Electrical Building 2. Ash Pond, Pipe Rack, *and* Pipe 3. Emergency Ash Pond

SITE IMPROVEMENTS

1. General Site Grating and Drainage 2. Helicopter Pad
3. Monitoring Wells 4. Roadways S. Guard Facilities
6. Underground Electrical Ducts 7. Sanitary Sewer Lines 8. Shoreline Protection 9. Fire Protection Lines
10. Potable Water Lines 11. Cathodic Protection

APPENDIX C

LICENSE AGREEMENT

THIS LICENSE AGREEMENT (the "Agreement") made and entered into as of this _____ day of _____, 200___, by and between **LOUISVILLE GAS AND ELECTRIC COMPANY**, a Kentucky corporation, having its principal offices at 220 West Main Street, P.O. Box 32010, Louisville, Kentucky 40202, ("Licensor") and ILLINOIS MUNICIPAL ELECTRIC AGENCY, an Illinois corporation, having its principal offices at 919 South Spring Street, Springfield, Illinois 62704 ("Licensee")

WITNESSETH:

WHEREAS, Licensor, Licensee and others are parties to the Participation Agreement dated _____ ____, 200___, involving their participation in ownership of a coal fired generating unit known as Trimble County Unit 2 (the "Participation Agreement"); and

WHEREAS, Licensor is the owner of the Trimble County General Plant Facilities; and

WHEREAS, pursuant to the Participation Agreement, Licensor has sold to Licensee, and Licensee has purchased from Licensor a _____% undivided ownership interest in Trimble County Unit 2 as a tenant in common with Licensor and other purchasers of similar tenancy in common interests (the "Interest"); and

WHEREAS, Licensee desires to obtain and is entitled under the Participation Agreement to obtain a nonexclusive license to use the Trimble County General Plant Facilities on the Trimble County Site in a manner consistent with the Interest and so long as it may hold the Interest.

NOW THEREFORE, in consideration of the mutual covenants and promises herein contained, the parties agree as follows:

1. DEFINITIONS. Capitalized terms used but not defined in this Agreement have the meanings ascribed them in the Participation Agreement

2. GRANT:

Upon the terms, payments and conditions set forth in the Participation Agreement, Licensor hereby grants to Licensee a nonexclusive license to use the Trimble County General Plant Facilities to the extent necessary for efficient and full use by Licensee of its Interest in and to Trimble County Unit 2. Licensor shall retain full ownership of the Trimble County General Plant Facilities.

3. USE:

a) Licensee covenants that its use of the Trimble County General Plant Facilities pursuant to the license granted herein will be consistent with the Participation Agreement and otherwise in full compliance with all applicable laws, ordinances, statutes, codes, easements and restrictions.

b) Licensee acknowledges that this nonexclusive license shall in no way restrict or prohibit Licensor from constructing additional units or facilities or expanding present units or facilities at the Trimble County Plant Site in a manner consistent with the Participation Agreement.

4. DURATION AND TERMINATION:

Unless otherwise terminated by mutual agreement or the parties, the Agreement and the license granted herein shall continue in full force and effect until the expiration or termination of the Participation Agreement.

5. NOTICES:

All notices, requests and demands and other communications given or made in connection with this Agreement, shall be given or made pursuant to and, in accordance with, the Participation Agreement.

6. CONSTRUCTION AND ASSIGNMENT:

a) This Agreement shall be binding on and inure to the benefit of the Licensor, its legal representatives, successors, and assigns.

b) This Agreement shall be binding on and inure to the benefit of the Licensee, but shall not be transferable or assignable by the Licensee except as permitted by and consistent with the Participation Agreement.

c) This Agreement shall be deemed to be a contract made under the laws of the Commonwealth of Kentucky, and shall be construed and interpreted according to the laws of said state.

7. MODIFICATION:

This Agreement and the Participation Agreement embody all the understandings and obligations between the parties with respect to the subject matter hereof. No amendment or modification of this Agreement shall be valid or binding upon the parties unless made in

writing and signed on behalf of each of the parties by their respective proper officers, duly authorized.

IN WITNESS WHEREOF, the parties caused this Agreement to be executed as of the date first written above.

LOUISVILLE GAS AND ELECTRIC COMPANY

By: _____

Title: _____

ILLINOIS MUNICIPAL ELECTRIC AGENCY

By: _____

Title: _____

APPENDIX D

EXHIBIT D AGGREGATE DEVELOPMENT COST

Trimble 2
Project Spending
Year Ended 12/31/03

Development Cost Inception to 12/31/2002 619,746

2003 Actual Development Cost

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2003 Total
114101 (prelim study)	LG&E	(54,286)	66,486	49,180	72,488	(203,362)	1,196	442						(67,856)
114119 (prelim study)	KU	19,471	66,617	47,927	67,951	(194,049)	1,116	457						9,490
115888 (capital)	LG&E					246,078	44,276	68,015	42,212	72,053	53,305	45,090	(32,826)	538,203
115889 (capital)	KU					239,005	50,019	75,946	46,574	70,044	55,146	47,428	(25,197)	558,965
Combined Total		(34,815)	133,103	97,107	140,439	87,672	96,607	144,860	88,786	142,097	108,451	92,518	(58,023)	1,038,802

Development Spending Inception to 12/31/2003 1,658,548
Supervisory Fee and Interest not included

APPENDIX E

APPENDIX E

DEED

THIS DEED is made and entered into as of the ___ day of ____, 200__, by and between: (i) LOUISVILLE GAS AND ELECTRIC COMPANY, a Kentucky corporation, having an address at 220 West Main Street, Louisville, Kentucky 40202 ("Grantor"), and (ii) KENTUCKY UTILITIES COMPANY, a Kentucky corporation, having an address at 220 West Main Street, Louisville, Kentucky 40202 ("Grantee").

WITNESSETH:

That for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Grantor hereby bargains, sells, grants and conveys unto Grantee, in fee simple, with covenant of GENERAL WARRANTY, a _____ percent (_____%) undivided interest (the "Interest"), as tenant in common with all others holding a fee simple interest therein, in the real property, more fully described on Exhibit A attached hereto and made a part hereof, together with all improvements located thereon and all appurtenances thereunto belonging, situated in Trimble County, Kentucky (the "Property").

TO HAVE AND TO HOLD the Interest in fee simple, together with all rights appurtenances, privileges and improvements thereunto belonging, unto Grantee, its successors and assigns, forever.

Grantor covenants, warrants and represents that it is lawfully seized of the Interest, has full right, power and authority to convey the Interest, and that the Interest is free and clear of all taxes, liens and encumbrances, except (a) the rights of the holders of other interests as tenants in common to the Property, (b) zoning laws, rules and regulations affecting the Property, if any, (c) the lien of current ad valorem taxes not yet due and payable and the lien of all future ad valorem taxes, which future taxes as to the Interest, Grantee hereby assumes and agrees to pay, and (d) all restrictions, covenants, easements and stipulations of record affecting the Property and the Interest.

This Deed and the conveyance which it evidences are subject to the conditions contained in Section 14.1 of the Participation Agreement by and among Grantor, Grantee and others dated _____, 200___ pursuant to which Grantor and Grantee and the other parties to the Participation Agreement for themselves and their respective successors and assigns, including mortgagees, receivers, trustees or other representatives and their successors and assigns have waived any and all rights to seek or obtain a partition of the Property, by judicial action or otherwise whether by partition in kind or by sale and division of the proceeds thereof, including the benefit of all statutory and common law rights of partition now or hereafter existing, including those arising under Chapter 381 of the Kentucky Revised Statutes or any successor statutory or regulatory enactment, which waiver shall run with the land.

As required by KRS 382.135, Grantor hereby certifies, and Grantee appears herein solely for the purpose of certifying, that the fair cash value of the Interest is $_____.

IN TESTIMONY WHEREOF, witness the signatures of Grantor and Grantee on the day, month and year first above written.

LOUISVILLE GAS AND ELECTRIC COMPANY

By: _____
Title: _____

("Grantor")

KENTUCKY UTILITY COMPANY

By: _____
Title: _____

("Grantee")

COMMONWEALTH OF KENTUCKY)
(SS
COUNTY OF JEFFERSON)

The foregoing instrument was acknowledged, subscribed and sworn to before me on this ___ day of _____, 200___, by _____, as _____ of LOUISVILLE GAS AND ELECTRIC COMPANY, a Kentucky corporation, for and on behalf of said corporation.

My Commission expires: _____

_____
Notary Public
State of Kentucky at Large

COMMONWEALTH OF KENTUCKY)
(SS
COUNTY OF _____)

The foregoing instrument was acknowledged, subscribed and sworn to before me this ____ day of _____, 200__, by _____, as _____ of Kentucky Utilities Company, a Kentucky corporation, for and on behalf of the corporation.

My Commission expires: _____

_____
Notary Public
State of Kentucky at Large

The foregoing instrument was prepared by,
and after recording should be returned to:

_____
W. Plumer Wiseman, Esq.
Greenebaum Doll & McDonald PLLC
3500 National City Tower
101 South Fifth Street
Louisville, Kentucky 40202
Telephone (502) 589-4200

APPENDIX F

EASEMENT

THIS EASEMENT is made and entered into the _____ day of _____, 200___, by and between LOUISVILLE GAS AND ELECTRIC COMPANY, a Kentucky corporation, of 220 West Main Street, Louisville, Kentucky 40202 ("Grantor") and ILLINOIS MUNICIPAL ELECTRIC AGENCY, an Illinois corporation of 919 South Spring Street, Springfield, Illinois 62704 ("Grantee").

For a valuable consideration, the receipt of which is hereby acknowledged, Grantor does hereby grant and convey unto Grantee, its successors and assigns, a nonexclusive easement to use the Burdened Property, as defined below, to the extent necessary for use by Grantee with respect to its interest as a tenant in common of Trimble County Unit 2 as defined in the Participation Agreement by and between Grantor,Grantee and others dated _____ ___, 200__, (the "Participation Agreement") and as evidenced, in part, by the Deed of record between Grantor and Grantee of even date herewith of record in Deed Book _____ at Page _____, in the office of the Clerk of Trimble County, Kentucky.

The Burdened Property is the "Trimble County Site" as defined in the Participation Agreement and as more particularly described on Exhibit A attached hereto and made a part hereof.

Grantor grants this Easement upon the following terms and conditions:

1. Participation Agreement. Grantee will at all times abide by the terms and provisions of the Participation Agreement.

2. Use by Grantee. The Burdened Property may be used by Grantee pursuant to this Easement only for purposes consistent with the provisions of the Participation Agreement.

3. Use by Grantor. Grantor reserves the right to fully use and enjoy the Burdened Property for any use which does not unreasonably interfere with the exercise by Grantee of the rights granted by this Easement. Grantee acknowledges that this nonexclusive easement shall in no way restrict or prohibit Grantor from constructing additional generating units or facilities or expanding present units or facilities upon the Burdened Property and the holders of rights and interests in and to such present, future and additional units and facilities shall also have a nonexclusive use of the Burdened Property, to the extent necessary and as determined in Grantor's sole discretion.

4. Indemnification. Grantee will indemnify and hold Grantor harmless from and against any and all losses, liabilities, costs, expenses, damages, claims, and causes of action whatsoever, including reasonable attorney's fees, arising from this Easement or from Grantee's use and enjoyment of this Easement.

5. Binding Effect. This Easement shall be binding upon and inure to the benefit of Grantor and Grantee, and their respective successors and assigns.

6. Termination. This Easement shall terminate upon the occurrence of any of the following:

(i) upon the mutual agreement of Grantor and Grantee,
(ii) if Trimble County Unit 2 ceases to be used or is abandoned,
(iii) the failure by Grantee to remedy any default in the performance of any term or condition of the Participation Agreement, or
(iv) termination of the Participation Agreement.

7. Release. Upon termination of this Easement, Grantee shall execute and deliver to Grantor within ten (10) days of written demand therefore, a good and sufficient quitclaim or transfer and release of all rights granted hereby. If Grantee fails or refuses to deliver such instrument, written notice by Grantor reciting the failure or refusal of Grantee to so deliver and terminating this grant, shall after thirty (30) days from the date of recording be conclusive evidence against Grantee and all persons claiming under Grantee of the termination of this Easement.

8. Matters of Record. This Easement is subject to all easements, restrictions and other matters of record affecting the Burdened Property.

IN TESTIMONY WHEREOF, the parties hereto have executed this Easement on the date above set forth.

GRANTOR:

LOUISVILLE GAS AND ELECTRIC COMPANY, a Kentucky Corporation

By: _____
Title: _____

GRANTEE:

ILLINOIS MUNICIPAL ELECTRIC AGENCY

By: _____
Title: _____

COMMONWEALTH OF KENTUCKY)
(SS
COUNTY OF JEFFERSON)

The foregoing instrument was acknowledged before me this ___ day of _____, 200_, by _____, as _____ of LOUISVILLE GAS AND ELECTRIC COMPANY, a Kentucky corporation, on behalf of the corporation.

My Commission expires: _____

_____
Notary Public
State of Kentucky at Large

STATE OF ILLINOIS)
(SS
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____, 200_, by _____, as _____ of ILLINOIS MUNICIPAL ELECTRIC AGENCY, an Illinois corporation, on behalf of the corporation.

My Commission expires: _____

_____
Notary Public, State at Large
Illinois

The foregoing instrument was prepared by:

_____
W. Plumer Wiseman, Esq.
Greenebaum Doll & McDonald PLLC
3500 National City Tower
101 South Fifth Street
Louisville, Kentucky 40202
(502) 589-4200

APPENDIX G

Appendix G Estimated Interconnection Costs

Construction Cost

Task	Cost in 2003 Dollars	Cost in 2007 Dollars
Trimble Co. 345 KV Substation Cost without Take-off Structure	$3,940,275	$4,486,708
Cost of the interconnection take off structure at the Trimble 345 KV substation	$110,000	$125,255
Line from Trimble 345 KV substation to the new tap on Speed – Ghent 345 KV line Material – Cables; steel structures, etc Dead-end structure at the new tap New line from Trimble 345 KV substation to the new tap on Speed – Ghent 345 KV line	$3,475,210	$3,957,149
Total	$7,525,485	$8,569,112

Note: The interconnection Estimate does not include any cost for construction of facilities between the generator and the point of interconnection at the take-off structure in the Trimble Co. substation.

Source: Project G218 #37356-01 Generation Interconnection Facility Study Report, July 10, 2003

APPENDIX H

EXHIBIT H APPROVED DEVELOPMENT BUDGET

	$(,000) Budget 2004	2005
Third Party Costs		
MISO	70	0
Environmental		
Air	25	0
Siting	125	50
Other	100	25
CCN Prep and Approval	30	70
Bid Package		
Legal	150	
Revised Capital Cost Estimate		
Owner's Engineer	600	
Bid Evaluation / Selection		
Owner's Engineer	550	
Outside Services	200	
Legal	20	
Power Tech / EON	50	
Contract Negotiations		
Legal	80	300
Owner's Engineer	50	120
Limited Release		
Boiler	0	2,000
Steam Turbine	0	2,100
Owner's Engineer	0	400
Development / Proj. Mgmt		
Consultants	260	200
Contingency	368	250
Travel	100	70
Travel - Proj Eng.	265	250
Total Third Party Costs	3,043	5,835
Internal Labor Costs		
Development	490	400
Engineering	700	750
Legal	50	100
Environmental	75	50
Operations	175	175
Total Interal Labor Costs	1,490	1,475
Total Plant Development Costs	4,533	7,310
Interconnection Development Cost	61	519
Total Project Development Cost	4,594	7,829

Note: Excludes Supervisory Fee and Interest

APPENDIX I

TAB 1

Project G218 Queue 37356-01

INTERCONNECTION AND OPERATING AGREEMENT

entered into by the

Midwest Independent Transmission System Operator, Inc.

Louisville Gas & Electric Company

and

Louisville Gas & Electric Company and Kentucky Utilities Company

MISO Contract Designation No.: IC LGE/LGE&KU.G218

Project G218 Queue 37356-01 I&O Agreement

INTERCONNECTION AND OPERATING AGREEMENT

entered into by the

Midwest Independent Transmission System Operator, Inc.

Louisville Gas & Electric Company

and

Louisville Gas & Electric Company and Kentucky Utilities Company

entered into on the 27th day of January, 2004

INTERCONNECTION AND OPERATING AGREEMENT

THIS AGREEMENT is made and entered into this 7th day of January 2004 by and among **Louisville Gas & Electric Company**, a Kentucky Corporation, and **Kentucky Utilities Company**, a Kentucky corporation, (hereinafter referred to as "LG&E and KU"), sometimes hereinafter referred to as "Generator," the **Midwest Independent Transmission System Operator, Inc.**, a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware, sometimes hereinafter referred to as the "Transmission Provider," and **Louisville Gas & Electric Company** (hereinafter referred to as "LG&E") existing under the laws of the State of Kentucky, sometimes hereinafter referred to as "Transmission Owner." Generator, Transmission Owner, or Transmission Provider each may be referred to individually as a "Party" or collectively as the "Parties."

RECITALS

WHEREAS, Generator intends to own and operate the Facility identified in Appendix B; and,

WHEREAS, the Facility is located adjacent to the Transmission System owned by Transmission Owner and subject to functional control of the Transmission Provider; and,

WHEREAS, Generator has requested, and the Transmission Provider and Transmission Owner have agreed to enter into this Interconnection and Operating Agreement with Generator for the purposes of interconnecting the Facility with the Transmission System;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

ARTICLE 1
DEFINITIONS

Wherever used in this Agreement with initial capitalization, the following terms shall have the meanings specified or referred to in this Article 1. Terms used in this Agreement with initial capitalization not defined in this Article 1 shall have the meanings specified in the Transmission Provider OATT:

1.1 "Applicable Laws and Regulations" shall mean all applicable federal, state and local laws, ordinances, rules and regulations, and all duly promulgated orders and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.

1.2 "Applicable Reliability Council" shall mean any of the regional reliability councils of NERC in which the Facility is located.

1.3 "Breach" shall mean the failure of a Party to perform or observe any material term or condition of this Agreement and shall include, but not be limited to, the events described in Section 17.1.

1.4 "Breaching Party" shall mean a Party that is in Breach of this Agreement.

1.5 "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, and 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 Agreement. Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, whether provided electronically or in hard copy, 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.

1.6 "Default" shall mean the failure of a Party in Breach of this Agreement to cure such Breach in accordance with the provisions of Article 17.

1.7 "Effective Date" shall mean the date on which this Agreement becomes effective in accordance with Section 2.1.

1.8 "Emergency Condition" shall mean a condition or situation (i) that in the judgment of any Party is imminently likely to endanger life or property; or (ii) that in the judgment of the Transmission Provider or Transmission Owner is imminently likely to cause a material adverse effect on the security of, or damage to the Transmission System or the electrical or transmission systems of others to which the Transmission System is directly or indirectly connected; or (iii) that in the judgment of Generator is imminently likely to cause damage to the Facility. System restoration and black start shall be considered Emergency Conditions. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one of the enumerated conditions or situations identified in this definition also exists.

1.9 "Facility" shall mean Generator's electric generating facility identified in the "as built" drawings provided to the Transmission Provider in accordance with Section 9.3 and in Appendix B, but shall not include Generator Interconnection Facilities.

1.10 "FERC" shall mean the Federal Energy Regulatory Commission, or its successor.

1.11 "Force Majeure" shall mean any cause beyond the control of the Party affected, including but not restricted to, acts of God, flood, drought, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance or disobedience, labor dispute, labor or material shortage, sabotage, acts of public enemy, explosions, orders, regulations or restrictions imposed by governmental, military, or lawfully established civilian authorities, which, in any of the foregoing cases, by exercise of due diligence such Party could not reasonably have been expected to avoid, and which, by the exercise of due diligence, it has been unable to overcome. No Party shall be relieved of liability for failure of performance to the extent that such failure is due to causes arising out of its own negligence or due to removable or remediable causes which it fails to remove or remedy within a reasonable time. Nothing contained in this Agreement shall be construed to require a Party to settle any strike or labor dispute. Mere economic hardship of a Party does not constitute Force Majeure. A Force Majeure event does not include an act of negligence or intentional wrongdoing.

1.12 "Generator Interconnection Facilities" shall mean all facilities and equipment owned and/or controlled, operated and maintained by Generator on Generator's side of the Point of Interconnection as identified in Appendix B, including any modifications, additions, or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Facility to the Transmission System.

1.13 "Good Utility Practice" shall have the same meaning as assigned to such term in the Transmission Provider OATT.

1.14 "Governmental Authority" means any federal, state, local or other governmental, regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, arbitrating body, or other governmental authority having jurisdiction over either Party.

1.15 "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," "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. For purposes of this Agreement, the term "Environmental Law" shall mean Federal, state, and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders relating to pollution or protection of the environment, natural resources or human health and safety.

1.16 "Interconnection Facilities" shall mean the Transmission Owner Interconnection Facilities and the Generator Interconnection Facilities identified in Appendices A and B.

1.17 "Interconnection Guidelines" shall mean the technical guidelines identified in Appendix D.

1.18 "Interconnection Request" shall mean the information and other requirements prescribed by Attachment R-1 of the Transmission Provider OATT.

1.19 "Interconnection Service" shall mean the interconnection component of transmission service under the Transmission Provider OATT and the services provided by the Transmission Provider to interconnect the Facility with the Transmission System pursuant to the terms of this Agreement. Interconnection Service does not include the right to obtain the delivery component of transmission service on the Transmission System, which service shall be obtained in accordance with the provisions of the Transmission Provider OATT.

1.20 "Interconnection System Upgrades" shall mean the minimum necessary upgrades to the Transmission System that would not have been required but for an Interconnection Request, including (i) upgrades necessary to remove overloads and voltage criteria violations, and (ii) upgrades necessary to remedy short-circuit and/or stability problems resulting from the connection of the Facility to the Transmission System. Interconnection System Upgrades shall not include upgrades to the Transmission System that may be required to move power from the Point of Interconnection to load and shall not include Transmission Owner Interconnection Facilities. Interconnection System Upgrades are identified in Appendix A.

1.21 "Metering Equipment" shall mean all metering equipment installed at the metering points designated in Appendix A.

1.22 "NERC" shall mean the North American Electric Reliability Council, or its successor agency assuming or charged with similar responsibilities related to the operation and reliability of the North American electric interconnected transmission grid.

1.23 "Non-Breaching Party" shall mean a Party that is not in Breach of this Agreement with regard to a specific event of Breach by another Party.

1.24 "Operation Date" shall mean the day commencing at 00:01 hours on the day following the day during which all necessary Interconnection Facilities, any necessary Interconnection System Upgrades, and the Facility have been completed as required by this Agreement and energized in parallel operation with Transmission System as confirmed in a writing substantially in the form shown in Appendix C.

1.25 "Operating Guidelines" shall mean the operating guidelines identified in Appendix E.

1.26 "Point of Interconnection" shall mean the point or points, shown in Appendix A, where the Generator Interconnection Facilities interconnect with the Transmission Owner Interconnection Facilities.

1.27 "Prior Generator" shall mean any person or persons, other than Generator, who has entered into (i) an Interconnection and Operating Agreement with the Transmission Provider on or after the date on which the Transmission Provider commences to provide transmission service or (ii) a similar agreement with a Transmission Owner prior to the date on which the Transmission Provider commences to provide transmission service.

1.28 "Reasonable Efforts" shall mean, with respect to any action required to be made, attempted, or taken by a Party under this Agreement in the exercise of "Reasonable Efforts," such efforts as are timely and consistent with Good Utility Practices that would be undertaken for the protection of its own interests under the conditions affecting such action, including but not limited to the amount of notice of the need to take such action and the duration and type of such action.

1.29 "Secondary Systems" shall mean 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.

1.30 "Subsequent Generator" shall mean any person or persons, other than Generator, that enters into an Interconnection and Operating Agreement with the Transmission Provider on or after the date of this Agreement.

1.31 "Switching and Tagging Rules" shall mean the switching and tagging procedures of Transmission Owners and Generator, as set forth in Appendix E, and as they may be amended from time to time.

1.32 "System Protection Facilities" shall mean the equipment required to protect (i) the Transmission System, other delivery systems and/or other generating systems connected to the Transmission System from faults or other electrical disturbance occurring at the Facility, and (ii) the Facility from faults or other electrical system disturbance occurring on the Transmission System or on other delivery systems and/or other generating systems to which the Transmission System is directly or indirectly connected. System Protection Facilities shall include such protective and regulating devices as are identified in the Interconnection Guidelines or that are required by Applicable Law and Regulations or as are otherwise necessary to protect personnel and equipment and to minimize deleterious effects to the Transmission System arising from the Facility.

1.33 "Transmission Owner" shall have the same meaning as assigned to such term in the Transmission Provider OATT.

1.34 "Transmission Owner Interconnection Facilities" shall mean all facilities and equipment owned and/or controlled, operated and maintained by the Transmission Owner on the Transmission Owner's side of the Point of Interconnection as identified in Appendix A, including any modifications, additions or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Facility to the Transmission System. Transmission Owner Interconnection Facilities do not include Interconnection System Upgrades, which are separately identified in Appendix A.

1.35 "Transmission Provider OATT" shall mean the open access transmission tariff of Transmission Provider, on file with FERC, and in effect, as amended or superceded from time to time, under which transmission service is provided on the Transmission System.

1.36 "Transmission System" shall mean the facilities controlled or operated by the Transmission Provider that are used to provide transmission service under Part II and Part III of the Transmission Provider OATT. The Transmission System includes facilities, the operational control of which has been transferred to the Transmission Provider.

ARTICLE 2
TERM OF AGREEMENT

2.1 **Effective Date.** Subject to required regulatory authorizations, including, without limitation, acceptance by FERC under Section 205 of the Federal Power Act, this Agreement shall become effective on the date on which this Agreement is made and entered into by the Parties.

2.2 **Term.**

2.2.1 **General.** This Agreement shall become effective as provided in Section 2.1 and shall continue in full force and effect until (i) the Parties agree to mutually terminate this Agreement; (ii) the date on which the Facility permanently ceases commercial operations; (iii) earlier termination is permitted or provided for under this Agreement; or (iv) Generator terminates this Agreement after providing the Transmission Provider with written notice at least sixty (60) days prior to the proposed termination date, provided that Generator has no outstanding contractual obligations to the Transmission Provider or Transmission Owner under this Agreement. No termination of this Agreement shall be effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination.

2.2.2 **Termination Upon Default.** In the event of a Default by a Party, the Non-Breaching Party or Parties shall have the termination rights described in Articles 17 and 18; provided, however, if an event described in part (c) of

Section 17.1 has not occurred, and the Default does not pose a threat to the reliability of the Transmission System, neither the Transmission Provider nor the Transmission Owner may terminate this Agreement if Generator is the Breaching Party and Generator (i) has undertaken, in accordance with Section 17.3, to cure the Breach that lead to the Default and has failed to cure the Breach for reasons other than Generator's failure to diligently commence reasonable and appropriate steps to cure the Breach within the thirty (30) days allowed by Section 17.3, and (ii) compensates the Transmission Provider or the Transmission Owner within thirty (30) days for the amount of damage billed to Generator by the Transmission Provider or the Transmission Owner for any damages incurred by the Transmission Provider or the Transmission Owner as a result of such Default. In the event of an occurrence described in part (c) of Section 17.1, and providing the Default does not pose a threat to the reliability of the Transmission System, the Non-Breaching Party or Parties shall not terminate this Agreement provided that the Breaching Party provided an assurance of payment acceptable to the Non-Breaching Party, and pays any applicable damages.

2.2.3 **Material Adverse Change.** In the event of a material change in law or regulation that adversely affects, or may reasonably be expected to adversely affect a Party's rights and/or obligations under this Agreement, the Parties shall negotiate in good faith any amendments to this Agreement necessary to adapt the terms of this Agreement to such change in law or regulation, and the Transmission Provider shall file such amendments with FERC. If, within sixty (60) days after the occurrence of any event described in this Section 2.2.3, the Parties are unable to reach agreement as to any necessary amendments, the Parties may proceed under Article 22 to resolve any disputes related thereto; and, the Transmission Provider and/or Transmission Owner shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Generator shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that a 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. If a Party is unable to fully perform this Agreement due to the occurrence of an event described in this Section 2.2.3 and such inability is not based on economic reasons, such Party shall not be deemed to be in default of its obligations under this Agreement, provided that such Party is seeking dispute resolution under Article 22 or before FERC, to the extent that (i) such Party is unable to perform as a result of such an event and (ii) such Party acts in accordance with its obligations under this Section 2.2.3.

2.3 **Regulatory Filing.** In accordance with Applicable Laws and Regulations, the Transmission Provider shall file this Agreement, and any amendment to this Agreement with FERC as a service Agreement under the Transmission Provider OATT. If Generator has executed this Agreement or any amendment to this Agreement, Generator shall not protest this Agreement or the amendment, shall reasonably cooperate with the Transmission Provider with respect to such filing and shall provide any information, including the rendering of testimony reasonably requested by the Transmission Provider to the extent reasonably needed to comply with applicable regulatory requirements.

2.4 **Survival.** The applicable provisions of this Agreement shall continue in effect after expiration, cancellation, or termination hereof to the extent necessary to provide for final billings, billing adjustments, and the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect.

2.5 **Termination Obligations.** Upon any termination pursuant to this Agreement, Generator shall be responsible for the payment of all costs or other contractual obligations incurred prior to the termination date including any incurred operating expenses, previously incurred capital costs, penalties for early termination, costs of removal and site restoration. Such outstanding contractual obligations may include the payment of costs associated with the construction of the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades under this Agreement that would have been beneficial to a Subsequent Generator.

ARTICLE 3
INTERCONNECTION SERVICE

3.1 **Service.** Under this Agreement, the Transmission Provider shall provide Generator with Interconnection Service for the Facility for the term of this Agreement.

3.2 **Scope of Service.** The Transmission Provider shall provide Interconnection Service for the Facility at the Point of Interconnection. In the event of an increase in the output of the Facility or other material change or modification to the configuration and/or operation of the Facility, the Parties shall negotiate appropriate revisions to this Agreement, including as necessary the specifications or requirements set forth in the Appendices to this Agreement, necessary to permit the Transmission Provider to provide Interconnection Service to the Facility under this Agreement in a secure and reliable manner.

3.2.1 **Limitations on Scope.** Except as otherwise provided under this Agreement, neither Transmission Owner nor the Transmission Provider shall have any obligation under this Agreement (i) to pay Generator any wheeling or other charges for electric power and/or energy transferred through the Facility and/or the Generator Interconnection Facilities or for power or ancillary services provided by Generator; (ii) to make arrangements or pay under

applicable tariffs for transmission and ancillary services associated with the delivery of electricity and ancillary electrical products produced by the Facility; (iii) to procure electricity and ancillary electrical products to satisfy Generator's station service or other requirements; or (iv) to make arrangements under applicable tariffs for transmission, losses, and ancillary services associated with the use of the Transmission System for the delivery of electricity and ancillary electrical products to the Facility.

3.2.2 **No Transmission Service.** Neither the Transmission Provider nor Transmission Owner make any representations to Generator regarding the availability of transmission service on the Transmission System, and Generator agrees that the availability of transmission service on the Transmission System may not be inferred or implied from the Transmission Provider's or Transmission Owner's execution of this Agreement. If Generator wishes to obtain transmission service on the Transmission System, Generator must request such service in accordance with the provisions of the Transmission Provider OATT.

3.3 **Non-Force Majeure Reporting.** A Party shall notify the other Parties when it becomes aware of its inability to comply with the provisions of this Agreement for a reason other than Force Majeure. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including, but not limited to, 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. In the event of Force Majeure, a Party unable to comply with the provisions of this Agreement shall notify the other Parties in accordance with the provisions of Article 11.

3.4 **Third-Party Actions.** Generator acknowledges and agrees that from time to time during the term of this Agreement other persons may develop, construct and operate, or acquire and operate generating facilities located in the Control Areas of the Transmission Provider, and construction or acquisition and operation of any such facilities, and reservations by any such other persons of transmission service under the Transmission Provider OATT may adversely affect the availability of the delivery component of transmission service for the Facility's electric output. Generator acknowledges and agrees that the Transmission Provider and Transmission Owner have no obligation under this Agreement to disclose to Generator any information with respect to third-party developments or circumstances, including the identity or existence of any such person or other facilities, except as otherwise provided under Article 4 and elsewhere in this Agreement. Generator, Transmission Owner, and the Transmission Provider make no guarantees to each other under this Agreement with respect to transmission service that is available under the Transmission Provider OATT or any other tariff under which transmission service may be available in the region.

3.5 **Ancillary Services.** Until the existence of a suitable ancillary services market approved by FERC for use by the Transmission Provider, Generator is obligated to provide ancillary services, within its manufacturer's design limitations, to the Transmission Provider at rates, terms and conditions established by FERC; provided, however, that the failure to have any such rates shall not be a basis for Generator to refuse to provide such services. The Transmission Provider will select ancillary services from generators in a comparable manner so as to not unduly burden any one generator. This will apply on a case-by-case basis for each ancillary service. During the existence of an ancillary services market approved by FERC for use by the Transmission Provider, Generator specifically reserves unto itself, its successors and assigns, the right and option, but not the obligation, to provide ancillary services into an ancillary services market, whether or not such ancillary services are addressed in this Agreement. Ancillary services required to satisfy OATT requirements, either directly via contract or indirectly to satisfy self-provision requirements, shall be provided by Generator at the direction of the Transmission Provider.

3.6 **Cost Sharing with Subsequent Generators.** Within the twelve (12)-month period after the date of this Agreement, the Transmission Provider shall notify Generator of any Interconnection and Operating Agreement entered into by the Transmission Provider after the date of this Agreement with a Subsequent Generator providing for Interconnection Service that, in the judgment of the Transmission Provider, may benefit from the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades installed and operation and maintenance expenses incurred pursuant to this Agreement. Within twenty-four (24) months after the date of this Agreement, but in no event later than twelve (12) months after termination of this Agreement, Generator may request the Transmission Provider to conduct a study, at Generator's expense, to determine whether the Subsequent Generator should share costs with Generator for the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades required to be installed pursuant to this Agreement, including Generator's obligation to reimburse Transmission Owner for actual operation and maintenance costs pursuant to Section 4.10, that are beneficial, or may be beneficial, to provide Interconnection Service to the Subsequent Generator. Cost sharing between Generator and the Subsequent Generator shall not be authorized under this Section 3.6 unless this Agreement and the Interconnection and Operating Agreement of the Subsequent Generator were executed within one (1) year of one another. The Transmission Owner Interconnection Facilities and Interconnection System Upgrades, including Generator's obligation to reimburse Transmission Owner for actual operation and maintenance costs pursuant to Section 4.10, shall be considered beneficial to the provision of Interconnection Service to Generator as required by this Agreement and the Subsequent Generator when the provision of Interconnection Service to the Facility and each of the generating facilities of the Subsequent Generator, independent of the other, would have required the installation of the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades to receive Interconnection Service. If the study finds that the Transmission Owner

Interconnection Facilities and/or the Interconnection System Upgrades installed pursuant to this Agreement, including Generator's obligation to reimburse Transmission Owner for actual operation and maintenance costs pursuant to Section 4.10, are beneficial to the Interconnection Service provided to the Subsequent Generator, Generator shall be responsible for negotiating with the Subsequent Generator to arrive at an agreement between Generator and the Subsequent Generator that, unless otherwise agreed by Generator and the Subsequent Generator, provides for the sharing of costs in proportion to the maximum capability of the Facility and the generating facilities of the Subsequent Generator. The Transmission Provider and Transmission Owner shall not be parties to such agreement and shall not be responsible for the negotiation of such agreement. Nothing in such agreement shall be deemed to relieve Generator of any obligations under this Agreement or Subsequent Generator of any obligation under its Interconnection and Operating Agreement or similar agreement including, but not limited to, payment to the Transmission Owner for the cost of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades and reimbursement to Transmission Owner for actual operation and maintenance costs associated with the Transmission Owner Interconnection Facilities.

3.7 **Cost Sharing with Prior Generators.** Generator acknowledges that a Prior Generator may have the right to request the Transmission Provider to conduct a study, at the Prior Generator's expense, to determine whether Generator should share costs with the Prior Generator for the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades installed or required to be installed pursuant to the Interconnection and Operating Agreement or similar agreement of the Prior Generator, including Prior Generator's obligation to reimburse Transmission Owners for actual operation and maintenance costs associated with the Transmission Owners Interconnection Facilities, that are beneficial, or may be beneficial, to provide Interconnection Service to Generator under this Agreement. Cost sharing shall not be required under this Section 3.7 unless this Agreement and the Interconnection and Operating Agreement or similar agreement of the Prior Generator were executed within one (1) year of one another. The Transmission Owner Interconnection Facilities and Interconnection System Upgrades and Prior Generator's operation and maintenance cost reimbursement obligation shall be considered beneficial to the provision of Interconnection Service to Generator and the Prior Generator when the provision of Interconnection Service to the Facility and each of the generating facilities of the Prior Generator, independent of the other, would have required the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades to receive Interconnection Service. If the study finds that the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades installed or required to be installed pursuant to the Interconnection and Operating Agreement or similar agreement of the Prior Generator are beneficial to the Interconnection Service provided to Generator under this Agreement, Generator shall negotiate in good faith with the Prior Generator to arrive at an agreement between Generator and the Prior Generator that, unless otherwise agreed by Generator and the Prior

Generator, provides for the sharing of costs in proportion to the maximum capability of the Facility and the generating facilities of the Prior Generator. The Transmission Provider and Transmission Owner shall not be parties to such agreement and shall not be responsible for the negotiation of such agreement. Nothing in such agreement shall be deemed to relieve Generator of any obligations under this Agreement or Prior Generator of any obligations under its Interconnection and Operating Agreement or similar agreement including, but not limited to, payment to the Transmission Owner for the cost of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades and reimbursement to Transmission Owner for actual operation and maintenance costs associated with the Transmission Owner Interconnection Facilities.

ARTICLE 4
OPERATIONS

4.1 **General.** The respective performances of the Transmission Provider, Transmission Owner, and Generator under this Agreement shall comply with the Interconnection Guidelines attached hereto in Appendix D and the requirements, directions, manuals, standards, and guidelines of NERC, the Applicable Reliability Council and the Control Area in which the Facility is electrically located. To the extent that this Agreement does not specifically address or provide the mechanisms necessary to comply with such Interconnection Guidelines and NERC, the Applicable Reliability Council and Control Area requirements, directions, manuals, standards, or guidelines, each Party shall provide to the other Party all such information available or reasonably obtainable as may reasonably be required to comply with such requirements, directions, manuals, standards, or guidelines and shall operate, or cause to be operated, their respective facilities in accordance with such requirements, directions, manuals, standards, or guidelines. To the extent that the Transmission Provider or the Transmission Owner is assessed any penalties or other costs by NERC, the Applicable Reliability Council or such Control Area and such penalties or other costs are due to Generator's action or inaction, Generator shall reimburse the Transmission Provider and/or Transmission Owner for such penalties or other costs.

4.2 **Coordination Contact.** The Parties shall each identify one representative to serve as a "Coordination Contact" to be the initial point of contact and coordinate the communication between the Parties in implementing this Agreement. Each Party shall notify the other Parties in writing of the personnel that it has appointed as its Coordination Contact.

4.3 **Transmission Provider and Transmission Owner Obligations.** The Transmission Provider and the Transmission Owner shall cause the Transmission System and the Transmission Owner Interconnection Facilities to be operated, maintained and controlled (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including

those of the Applicable Reliability Council; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement. The Transmission Provider shall have the responsibility to provide functional control and direction of the Transmission System, and the Transmission Owner shall have direct control of the Transmission System. This responsibility and control will require that, from time to time, the Transmission Provider or Transmission Owner will provide operating instructions to Generator consistent with this Agreement, Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of the NERC, the Applicable Reliability Council and Applicable Laws and Regulations. Normal operating procedures and protocols to be observed by the Transmission Provider, the Transmission Owner, and the Generator shall be established in advance. Generator shall inform the Transmission Provider and Transmission Owner of any consequential, negative impacts on Generator of the direction provided by the Transmission Provider or Transmission Owner to Generator. The Transmission Provider and Transmission Owner shall factor these impacts into the direction it then provides to Generator. Any direction provided to Generator shall follow Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, the Applicable Reliability Council and Applicable Laws and Regulations, and shall consider the machine limitations of the Facility and will be consistent with this Agreement. To the extent that the direction ultimately provided to Generator by the Transmission Provider or Transmission Owner has a consequential, negative impact or impacts on Generator, the Transmission Provider or Transmission Owner shall compensate Generator in accordance with Generator's FERC tariff then in effect or rates negotiated in advance with the Transmission Provider, as applicable, except that if such direction is required due to non-compliance, Default or Breach by the Generator under this Agreement, no compensation shall be paid by the Transmission Provider or Transmission Owner.

4.4 **Generator Obligations.** Generator shall operate and control the Facility and the Generator Interconnection Facilities (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Council, the Transmission Provider, and Transmission Owner; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement. Nothing in this Agreement should be construed as creating any obligation that Generator operate the Facility and the Generator Interconnection Facilities as part of any Control Area operated by a Transmission Owner or the Transmission Provider. The Generator shall operate the Facility and the Generator Interconnection Facilities in accordance with the requirements of the Control Area of which it is part and in accordance with all directives of its Control Area operator and security coordinator, provided that such requirements and directives are not inconsistent with this Agreement, the Transmission Provider OATT, Good Utility Practice and NERC policies and standards and the directives of the Transmission Provider in accordance therewith.

4.5 **Access Rights.** Consistent with the provisions of Sections 6.3 and 9.1.7, the Parties shall provide each other with access rights as permissible to the property of the providing party as may be necessary for a Party's performance of their respective operational obligations under this Agreement; provided that, notwithstanding anything stated herein, a Party performing operational work within the boundaries of the other Party's facilities must abide by the rules applicable to that site.

4.6 **Switching and Tagging Rules.** The Parties shall abide by their respective Switching and Tagging Rules for obtaining clearances for work or for switching operations on equipment. Such Switching and Tagging Rules shall be developed in accordance with OSHA standards codified at 29 CFR Part 1910, or successor standards.

4.7 **Reactive Power.**

4.7.1 **Obligation to Supply Reactive Power.** Generator shall supply reactive power to the Transmission System in accordance with Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, the Applicable Reliability Council, Applicable Laws and Regulations and this Agreement. Generator shall respond to requests from the Transmission Provider to increase or decrease generator reactive power output in a manner consistent with Generator's obligation to operate and control the Facility as set forth in Section 4.4. The Transmission Provider shall exercise Reasonable Efforts under current operating circumstances to provide Generator with such schedules or levels at least one (1) day in advance, provided the Transmission Provider shall have the right to make changes to such schedule or levels in a manner consistent with the second sentence of this Section 4.7.1. The Facility shall generate such reactive power from the Facility's equipment connected to, and operating in parallel with, the Transmission System and within the manufacturer's design limitations of the Facility, provided that a schedule shall be provided to Generator in advance. Such limitation shall be in accordance with Section 4.7.2. If Generator supplies any reactive power or voltage control service to the Transmission System, the Transmission Provider shall arrange for payment to Generator in accordance with Generator's FERC tariff in effect at such time until a Transmission Provider rate becomes effective.

4.7.2 **Reactive Power Standards.** The Facility power factor design limitation minimum requirement shall be a reactive power capability sufficient to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor between 0.95 leading and 0.90 lagging. Under normal operating conditions, Generator shall operate the Facility to maintain a voltage schedule at the Point of Interconnection as prescribed by the Transmission Provider and within the manufacturer's

power factor design limitations for the Facility. In the event that the voltage schedule at the Point of Interconnection cannot be or is not maintained within this requirement, the Transmission Provider may request Generator to operate the Facility (within the manufacturer's design limitation of the equipment in service that is physically available for operation at the time) to produce increased or decreased, as appropriate, available reactive power output (measured in MVAR) in order to achieve the prescribed voltage schedule, provided that the Transmission Provider has requested other generating facilities and other reactive compensation resources in the affected area to produce increased available reactive power output (measured in MVAR) in order to achieve the prescribed voltage schedule. Generator shall promptly comply with such requests made by the Transmission Provider. In the event that under normal Transmission System operating conditions the Facility is unable to consistently maintain a voltage schedule, a reactive schedule or power factor schedule, whichever is applicable, at the Point of Interconnection as specified in the Interconnection Guidelines, Generator shall take such steps as are appropriate, within Generator's judgment and the manufacturer's design limitations of the Facility, to reconfigure and/or operate the Facility to meet the standards specified by this Section 4.7.2, provided Generator is compensated for such action pursuant to a FERC tariff then in effect.

Records of requests made by the Transmission Provider, and records indicating actual responses to these requests, shall be maintained by the Transmission Provider and subject to a third-party independent audit at Generator's request and expense. Any such request for an audit shall be presented to the Transmission Provider by Generator no later than twenty-four (24) months following a request by the Transmission Provider request for reactive power in accordance with this Section 4.7.2. For purposes of this Section 4.7.2, physical availability of equipment or the Facility shall not be based on economic considerations.

4.8 **Scheduling.** Generator shall submit schedules, either directly or through an agent, to the Transmission Provider in accordance with the Transmission Provider OATT.

4.9 **Redispatch for Congestion Management.** Generator shall comply with the FERC-authorized congestion management policies and procedures of Transmission Provider.

4.10 **Operating Expenses.** Generator shall be responsible for all expenses associated with operating the Facility and the Generator Interconnection Facilities. Generator shall reimburse the Transmission Owner for the actual cost of operating and maintaining the Transmission Owner Interconnection Facilities incurred by the Transmission Owner, including, but not limited to, the cost of ordinary and extraordinary replacements of equipment, taxes, insurance and applicable administrative and general overheads. Such "Operating Expenses" shall be the type

of expenses that would be classified to the following accounts in the FERC's Uniform System of Accounts, 18 CFR Part 101:

Transmission Expenses - Operation

FERC Accounts	Description
560	Operation supervision and engineering
561	Load dispatching
562	Station expenses
563	Overhead line expenses
564	Underground line expenses
565	Transmission of electricity by others
566	Miscellaneous transmission expenses
567	Rents
567.1	Operation supplies and expenses

Transmission Expenses - Maintenance

FERC Accounts	Description
568	Maintenance supervision and engineering
569	Maintenance of structures
570	Maintenance of station equipment
571	Maintenance of overhead lines
572	Maintenance of underground line expenses
573	Maintenance of miscellaneous transmission plant
574	Maintenance of transmission plant

In addition, an allocation of applicable Administrative and General Expenses FERC Accounts 920 through 935 would apply.

4.11 **Protection and System Quality.** Generator shall, at its expense, install, maintain, and operate System Protection Facilities as a part of the Facility and the Generator Interconnection Facilities. Any System Protection Facilities that may be required on the Transmission Owner Interconnection Facilities or the Transmission System in connection with the operation of the Facility shall be installed by the Transmission Owner at Generator's expense.

4.11.1 **Requirements for Protection.** In compliance with applicable Interconnection Guidelines, and NERC and Applicable Reliability Council requirements, Generator shall provide, install, own, and maintain relays, circuit breakers, and all other devices necessary to promptly remove any fault contribution of the Facility to any short circuit occurring on the Transmission System not otherwise isolated by the Transmission Owner equipment. Such protective equipment shall include, without limitation, a disconnecting device or switch with load interrupting capability to be

located between the Facility and the Transmission System at an accessible, protected, and satisfactory site selected upon mutual agreement of the Parties. Generator shall be responsible for protection of the Facility and Generator's other equipment from such conditions as negative sequence currents, over-or under-frequency, sudden load rejection, over-or under-voltage, and generator loss-of-field. Generator shall be solely responsible for provisions to disconnect the Facility and Generator's other equipment when conditions on the Transmission System could adversely affect the Facility.

4.11.2 **System Quality.** The design and operation of the Facility shall not cause excessive voltage excursions nor cause the voltage to drop below or rise above the range specified in the planning criteria defined in the Interconnection Guidelines and consistent with Generator's obligation to meet the voltage schedule specified by the Transmission Provider. The Facility and Generator Interconnection Facilities shall not cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.l-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard including the Interconnection Guidelines. In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric industry standard and the Interconnection Guidelines, ANSI Standard C84.1-1989 or the applicable superseding electric industry standard, shall control.

4.11.3 **Transmission Provider and Transmission Owner Right to Inspect.** The Transmission Provider and Transmission Owner shall have the right, but shall have no obligation or responsibility to (i) observe Generator's tests and/or inspection of any of Generator's System Protection Facilities and other protective equipment; (ii) review the settings of Generator's System Protection Facilities and other protective equipment; and (iii) review Generator's maintenance records relative to the Facility, Generator Interconnection Facilities and/or Generator's System Protection Facilities and other protective equipment. The foregoing rights may be exercised by the Transmission Provider and/or Transmission Owner from time to time as deemed necessary by the Transmission Provider and/or Transmission Owner upon reasonable notice to Generator. However, the exercise or non-exercise by the Transmission Provider or Transmission Owner of any of the foregoing rights of observation, review or inspection shall be construed neither as an endorsement or confirmation of any aspect, feature, element, or condition of the Facility, the Generator Interconnection Facilities or Generator's System Protection Facilities or other protective equipment or the operation thereof, nor as a warranty as to the fitness, safety, desirability, or reliability of same. Any information obtained by the Transmission Provider or Transmission Owner through the exercise

of any of its rights under this Section 4.11.3 shall be deemed to be Confidential Information.

4.11.4 **Generator Right to Inspect.** Generator shall have the right, but shall have no obligation or responsibility to (i) observe Transmission Owner's tests and/or inspection of any of Transmission Owner Interconnection Facilities and associated protective equipment; (ii) review the settings of such Transmission Owner's protective equipment; and (iii) review Transmission Owner's maintenance records relative to the Transmission Owner Interconnection Facilities and associated protective equipment. The foregoing rights may be exercised by Generator from time to time as deemed necessary by the Generator upon reasonable notice to Transmission Owner. However, the exercise or non-exercise by Generator of any of the foregoing rights of observation, review or inspection shall be construed neither as an endorsement or confirmation of any aspect, feature, element, or condition of the Transmission Owner Interconnection Facilities and associated protective equipment or the operation thereof, nor as a warranty as to the fitness, safety, desirability, or reliability of same.

4.12 **Nuclear Regulatory Commission.** To the extent required by Applicable Law and Regulations, the Transmission Provider shall abide by all Nuclear Regulatory Commission regulations associated with operating and scheduling transmission facilities associated with nuclear generating units to ensure the safety and reliability of such facilities. These requirements shall be documented in Appendix E.

4.13 **Outages, Interruptions, and Disconnection.**

4.13.1 **Outage Authority and Coordination.** Absent the existence or imminence of an Emergency Condition, each Party may, after notifying the other Parties in accordance with Good Utility Practice, and in cooperation with each other, remove from service its facilities that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. The Party scheduling a removal of a facility from service shall use Reasonable Efforts to schedule such removal on a date mutually acceptable to all Parties, in accordance with Good Utility Practice.

4.13.2 **Outage Planning.** Generator shall submit its planned generating unit maintenance schedules to the Transmission Provider and Transmission Owner for a minimum of a rolling twelve (12)-month period. The planned maintenance schedules shall be updated as necessary.

4.13.2.1 **Voluntary Changes.** If Generator voluntarily accepts a change to the maintenance schedule submitted to the Transmission Provider to support a Transmission Provider request, Generator shall be compensated for any unavoidable

costs of rescheduling such maintenance. To the extent practicable, these costs shall be determined by negotiation between the Transmission Provider and Generator prior to implementation of the voluntary change in maintenance schedules and shall not reflect costs recovered in accordance with Section 7.6.1.

4.13.3 Nuclear Generating Facilities. The Transmission Provider shall enter into written agreements with operators of nuclear generating facilities which define planned transmission and generating unit maintenance scheduling criteria, limitations and restrictions based on Nuclear Regulatory Commission requirements and necessary to ensure the safety and reliability of the nuclear generating facility operations.

4.13.4 Outage Restoration.

4.13.4.1 Unplanned Outage. In the event of an unplanned outage of a Party's facility that adversely affects the other Party's facilities, the Party that owns or controls the facility out of service shall use Reasonable Efforts to promptly restore that facility to service.

4.13.4.2 Planned Outage. In the event of a planned outage of a Party's facility that adversely affects the other Party's facilities, the Party that owns or controls the facility out of service shall use Reasonable Efforts to promptly restore that facility to service, in accordance with the notice given pursuant to Section 4.13.1.

4.13.5 Disconnection.

4.13.5.1 Disconnection after Agreement Terminates. Upon termination of this Agreement by its terms, the Transmission Owner may disconnect the Facility from the Transmission System in accordance with a plan for disconnection upon which the Parties agree.

4.13.5.2 Disconnection after Under-Frequency Load Shed Event. In the event of an under-frequency system disturbance, the Transmission System is designed to automatically activate a load shed program as described in the Interconnection Guidelines. To ensure "ride through" capability of the Transmission System, Generator shall implement an under-frequency relay set point for the Facility as described in the Interconnection Guidelines.

4.14 **Continuity of Service.** Subject to the provisions of this Section 4.14, if required by Good Utility Practice to do so, the Transmission Provider may require Generator to curtail, interrupt or reduce deliveries of electricity if such delivery of electricity adversely affects the Transmission Provider's or Transmission Owner's ability to perform such activities as are necessary to safely and reliably operate the Transmission System or interconnected sub-transmission or distribution system. The following provisions shall apply to any curtailment, interruption or reduction permitted under this Section 4.14:

(a) The curtailment, interruption, or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

(b) Any such curtailment, interruption, or reduction shall be made on an equitable, non-discriminatory basis with respect to all generators directly connected to the Transmission System;

(c) When the curtailment, interruption, or reduction must be made under circumstances which do not allow for advance notice, the Transmission Provider shall notify Generator 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;

(d) Except during the existence of an Emergency Condition, when the curtailment, interruption, or reduction can be scheduled, the Transmission Provider shall notify Generator in advance regarding the timing of such scheduling and further notify Generator of the expected duration. The Transmission Provider shall use Good Utility Practices to schedule the curtailment or interruption to coincide with the scheduled outages of the Facility, and if not possible, the Transmission Provider shall use Good Utility Practice to schedule the curtailment or interruption during non-peak load periods;

(e) The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Facility, Interconnection Facilities, and the Transmission System to their normal operating state, consistent with system conditions and Good Utility Practice; and

(f) Notwithstanding any other provision of this Agreement, neither the Transmission Provider nor Transmission Owner shall be obligated to accept, and the Transmission Provider or Transmission Owner may require Generator to curtail, interrupt or reduce, deliveries of energy if such delivery of energy impairs the ability of the Transmission Owner to construct, install, repair, replace or remove any of its equipment or any part of its system or if the Transmission Provider or Transmission Owner determine that curtailment, interruption or reduction is necessary because of an Emergency Condition, forced outages, operating conditions on its system, or any reason

otherwise required by Applicable Laws and Regulations. Prior to any such curtailment, interruption or reduction, the Transmission Provider or Transmission Owner shall exercise good faith efforts under the circumstances to provide Generator with reasonable notice thereof.

ARTICLE 5
GENERATOR IMBALANCE SERVICE

5.1 General. Generator shall comply with the generation imbalance service provisions of the Transmission Provider OATT.

ARTICLE 6
MAINTENANCE

6.1 Transmission Owner Obligations. Transmission Owner shall maintain the Transmission Owner Interconnection Facilities and Interconnection System Upgrades to the extent they might reasonably be expected to have an impact on the operation of the Facility and Generator Interconnection Facilities (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Council; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement.

6.2 Generator Obligations. Generator shall maintain the Facility and the Generator Interconnection Facilities, to the extent they might reasonably be expected to have a material adverse impact on the operation of the Transmission System and other systems and generating facilities directly or indirectly interconnected to the Transmission System (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Council; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement.

6.3 Access Rights. Consistent with the provisions of Sections 4.5 and 9.1.7, the Parties shall provide each other such easements and/or access rights as permissible to the property of the providing party as may be necessary for a Party's performance of their respective maintenance obligations under this Agreement; provided that notwithstanding anything stated herein, a Party performing maintenance work within the boundaries of the other Party's facilities must abide by the rules applicable to that site.

6.4 Maintenance Expenses. Generator shall be responsible for all expenses associated with maintaining the Facility and the Generator Interconnection Facilities. The expense incurred by the Transmission Owner in maintaining the Transmission

Owner Interconnection Facilities shall be included in the actual cost of operation and maintenance reimbursed to Transmission Owner as set forth in to Section 4.10.

6.5 **Coordination.** The Parties agree to confer regularly to coordinate the planning and scheduling of preventative and corrective maintenance. Each Party shall conduct preventive and corrective maintenance activities as planned and scheduled in accordance with this Section.

6.6 **Inspections and Testing.** Each Party shall 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 Facility with the Transmission System in a safe and reliable manner.

6.7 **Right to Observe Testing.** Each Party shall, at its own expense, have the right to observe the testing of any of the other Party's Interconnection Facilities whose performance may reasonably be expected to affect the reliability of the observing Party's facilities and equipment. Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities, and the other Party may have a representative attend and be present during such testing.

6.8 **Cooperation.** Each Party agrees to cooperate with the other in the inspection, maintenance, and testing of those Secondary Systems directly affecting 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 in these areas, especially in electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

6.9 **Observation of Deficiencies.** If a Party observes any deficiencies or defects on, or becomes aware of a lack of scheduled maintenance and testing with respect to, the other Party's facilities and equipment that might reasonably be expected to adversely affect the observing Party's facilities and equipment, the observing Party shall provide notice to the other Party that is prompt under the circumstance, and the other Party shall make any corrections required in accordance with Good Utility Practice. Any Party's review, inspection, and approval related to the other Party's facilities and equipment shall be limited to the purpose of assessing the safety, reliability, protection and control of the Transmission System and shall not be construed as confirming or endorsing the design of such facilities and equipment, or as a warranty of any type, including safety, durability or reliability thereof. Notwithstanding the foregoing, the inspecting Party shall have no liability whatsoever for failure to give a deficiency notice to the other Party and the Party owning the Interconnection Facilities shall remain fully liable for its failure to determine and correct deficiencies and defects in its facilities and equipment.

ARTICLE 7
EMERGENCIES

7.1 **Obligations.** Each Party agrees to comply with the Emergency Condition procedures of NERC, the Applicable Reliability Council, the Transmission Provider, Transmission Owner, and of Generator.

7.2 **Notice.** The Transmission Provider shall provide Generator with prompt notification of an Emergency Condition regarding the Transmission Owner Interconnection Facilities and/or the Transmission System that may reasonably be expected to affect Generator's operation of the Facility, to the extent the Transmission Provider is aware of the Emergency Condition. Generator shall provide the Transmission Provider with prompt notification of an Emergency Condition regarding the Facility and/or the Generator Interconnection Facilities which may reasonably be expected to affect the Transmission System or the Transmission Owner Interconnection Facilities, to the extent Generator is aware of the Emergency Condition. To the extent the Party becoming aware of an Emergency Condition is aware of the facts of the Emergency Condition, such notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Generator's or the Transmission Owner's facilities and operations, its anticipated duration, and the corrective action taken and/or to be taken, and shall be followed as soon as practicable with written notice.

7.3 **Immediate Action.** In the event of an Emergency Condition, the Party becoming aware of the Emergency Condition may, in accordance with Good Utility Practice and using its reasonable judgment, take such action as is reasonable and necessary to prevent, avoid, or mitigate injury and danger to, or loss of, life or property. In the event Generator has identified an Emergency Condition involving the Transmission System, Generator shall obtain the consent of the Transmission Owner personnel prior to performing any manual switching operations at the Facility unless, in Generator's reasonable judgment, immediate action is required.

7.4 **Transmission Provider and Transmission Owner Authority.** The Transmission Provider or Transmission Owner may, consistent with Good Utility Practice, take whatever actions or inactions with regard to the Transmission System it deems necessary during an Emergency Condition in order to (i) preserve public health and safety; (ii) preserve the reliability of the Transmission System and interconnected sub-transmission and distribution system; (iii) limit or prevent damage; and (iv) expedite restoration of service. The Transmission Provider and Transmission Owner shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Facility. An Emergency Condition may be declared on a day ahead basis by the Transmission Provider to ensure a secure and reliable Transmission System under expected normal operating and first contingency conditions. Notwithstanding any other provision of this Agreement, the Facility may be called upon by the Transmission Provider or Transmission Owner during a potential or an

actual Emergency Condition to mitigate such Emergency Condition by, but not limited to, requesting Generator to start-up, shut-down, and increase or decrease the real or reactive power output of the Facility consistent with the provisions of Sections 7.6 and 7.6.1. As requested by the Transmission Provider or Transmission Owner, Generator shall assist the Transmission Provider or Transmission Owner with any black start or restoration efforts of the Transmission System resulting from an Emergency Condition with compensation to be paid in accordance with Section 7.6.1, provided that such assistance does not require the installation of any equipment.

7.5 **Generator Authority.** Generator may, consistent with Good Utility Practice, take whatever actions or inactions with regard to the Facility it deems necessary during an Emergency Condition in order to (i) preserve public health and safety; (ii) preserve the reliability of the Facility; (iii) limit or prevent damage; and (iv) expedite restoration of service. Generator shall use Reasonable Efforts to minimize the effect of such actions or inaction on the Transmission System. The Transmission Provider and Transmission Owner shall use Reasonable Efforts to assist Generator in such actions.

7.6 **Changes in Real Power and Reactive Power Production.** During an Emergency Condition as declared by the Transmission Provider on the Transmission System or on an adjacent transmission system, the Transmission Provider, in order to maintain Transmission System security consistent with the provisions of this Article 7, shall have the authority to direct Generator to increase or decrease real power production (measured in MW) and/or reactive power production (measured in MVAR), within the manufacturer's design and operational limitations of the Facility's equipment in service in accordance with Good Utility Practice, provided that the Facility is physically available for operation at the time. In the event of such a declaration of an Emergency Condition, determinations (i) that Transmission System security is in jeopardy, and (ii) that there is a need to increase or decrease reactive power production, even if real power production is adversely affected, shall be made solely by the Transmission Provider or its designated representative in accordance with Good Utility Practice on a non-discriminatory basis. Generator shall honor all of the Transmission Provider's orders and directives concerning Facility real power and/or reactive power output within the manufacturer's design limitations of the Facility's equipment in service and physically available for operation at the time, such that the security of the Transmission System is maintained. If the Transmission Provider determines that the operation of the Facility in accordance with its directive is not necessary to alleviate the Emergency Condition, Generator shall be permitted to resume prior operating levels if consistent with Good Utility Practice. The Transmission Provider shall restore Transmission System conditions to normal as quickly as possible to alleviate any such Emergency Condition. The Transmission Provider shall take all reasonable steps to equitably allocate among all generating units and other reactive compensation resources the responsibility to provide reactive power support to the Transmission System. The Transmission Provider's efforts to allocate such responsibility among all generators

and other reactive compensation resources capable of such support shall be subject to the audit provisions of Section 7.9. Additionally, to the extent practical, the Transmission Provider has the right to request unit commitment and decommitment, and alteration of unit outage schedules. For purposes of this Section 7.6, physical availability of equipment or the Facility shall not be based on economic considerations.

7.6.1 **Generator Compensation for Emergency Condition.** Generator shall be compensated for its provision of real and reactive power, and any unavoidable costs related to changes in maintenance and outage schedules directed by Transmission Provider or Transmission Owner for Emergency Condition purposes and other Emergency Condition services needed to support the Transmission System during an Emergency Condition in accordance with Generator's FERC rate schedule then in effect and specifically applicable to an Emergency Condition under this Agreement, provided, however, that the failure to have any such rates shall not be a basis for Generator to refuse or deny such control to the Transmission Provider or designated representative.

7.7 **Interruption for Emergency Condition.** If at any time, in the Transmission Provider's reasonable judgment exercised in accordance with Good Utility Practice, the continued operation of the Facility would cause an Emergency Condition, the Transmission Provider may curtail, interrupt, or reduce energy delivered from the Facility to the Transmission System subject to Section 4.14 until the condition which would cause the Emergency Condition is corrected and, where practicable, allow suitable time for Generator to remove or remedy such condition before any such curtailment, interruption, or reduction commences.

7.8 **Disconnection in Event of Emergency Condition.** Subject to the provisions of Section 7.7, the Transmission Provider, Transmission Owner, or Generator shall have the right to disconnect the Facility without notice if, in the Transmission Provider's, Transmission Owner's or Generator's judgment, an Emergency Condition exists and immediate disconnection is necessary to protect persons or property from damage or interference caused by Generator's interconnection or lack of proper or properly operating System Protection Facilities. All Parties to this Agreement shall be notified of such disconnection. For purposes of this Section 7.8, System Protection Facilities may be deemed by the Transmission Provider to be not properly operating if the Transmission Provider's review under Article 6 discloses irregular or otherwise insufficient maintenance on the System Protection Facilities or that maintenance records do not exist or are otherwise insufficient to demonstrate that adequate maintenance has been and is being performed. If such maintenance records do not exist or are otherwise insufficient to demonstrate that adequate maintenance has been and is being performed, Generator shall have a reasonable opportunity to demonstrate to the Transmission Provider that the System Protection Facilities are operating properly through alternative documentation or by physical demonstration, provided that such alternative documentation or

physical demonstration shall be subject to acceptance by the Transmission Provider in the exercise of its reasonable judgment.

7.9 **Audit Rights.** Each Party shall keep and maintain record of actions taken during an Emergency Condition that may reasonably be expected to impact the other Party's facilities and make such records available for audit in accordance with Section 21.2.

7.10 **Limited Liability.** No Party shall be liable to any other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and consistent with Good Utility Practice.

ARTICLE 8
SAFETY

8.1 **General.** All work performed by either Party that may reasonably be expected to affect the other Party shall be performed in accordance with Good Utility Practice and all Applicable Laws and Regulations pertaining to the safety of persons or property. A Party performing work within the boundaries of the other Party's facilities must abide by the safety rules applicable to the site.

8.2 **Environmental Releases.** Each Party shall notify the other Party, 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 Facility, 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 possible; (ii) make a good faith effort to provide the notice within twenty-four (24) hours after the Party becomes aware of the occurrence; and (iii) promptly furnish to the other Parties copies of any publicly available reports filed with any governmental agencies addressing such events.

ARTICLE 9
CONSTRUCTION AND MODIFICATION OF INTERCONNECTION FACILITIES AND INTERCONNECTION SYSTEM UPGRADES

9.1 **Construction.**

9.1.1 **Generator Obligations.** Generator shall, at its expense, design, procure, construct, and install the Facility and the Generator Interconnection Facilities in accordance with the Interconnection Evaluation Study, the Interconnection Facilities Study and Good Utility Practice. The Generator Interconnection Facilities shall satisfy all requirements of applicable safety and/or engineering codes, including the Transmission Owner's, and further, shall satisfy Applicable Laws and Regulations.

9.1.2 **Generator Specifications.** Generator shall submit all final specifications for Generator Interconnection Facilities, including System Protection Facilities,

to the Transmission Provider and Transmission Owner for review at least ninety (90) days prior to interconnecting Generator Interconnection Facilities with the Transmission System in order to insure that such interconnection is consistent with operational control, reliability and/or safety standards or requirements of the Transmission Provider and Transmission Owner. The Transmission Provider and Transmission Owner shall review and comment on such specifications within thirty (30) days.

9.1.3 **Transmission Provider and Transmission Owner Review.** The Transmission Provider's and Transmission Owner's review of Generator's specifications shall be construed neither as confirming nor as endorsing the design, nor as any warranty as to fitness, safety, durability or reliability of the Generator Interconnection Facilities. Neither Transmission Owner nor the Transmission Provider shall, by reason of such review or failure to review, be responsible for strength, details of design, adequacy or capacity of Generator Interconnection Facilities, nor shall the Transmission Provider's or Transmission Owner's acceptance be deemed to be an endorsement of all or any part of the Generator Interconnection Facilities. Generator shall make changes to the Generator Interconnection Facilities as may be required by the Transmission Provider or Transmission Owner in accordance with Good Utility Practice. The cost of such changes shall be borne in accordance with Section 9.5.3.

9.1.4 **Transmission Owner Obligations.** The Transmission Owner shall design, procure, construct and install, and Generator shall pay, consistent with Section 9.2, the cost of, all Transmission Owner Interconnection Facilities and Interconnection System Upgrades identified in Appendix A. All Transmission Owner Interconnection Facilities and Interconnection System Upgrades designed, procured, constructed, installed and maintained by the Transmission Owner pursuant to this Agreement shall satisfy all requirements of applicable safety and/or engineering codes, including those of the Transmission Owner, and comply with Good Utility Practice, and further, shall satisfy all Applicable Laws and Regulations.

9.1.5 **Suspension of Work.**

9.1.5.1 **Right to Suspend.** Generator reserves the right, upon written notice to the Transmission Provider, to suspend, at any time, all work by the Transmission Owner associated with the construction and installation of the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades. In such event, Generator shall be responsible for the costs which the Transmission Owner incurs (i) in accordance with this Agreement prior to the suspension, and (ii) in suspending such work, including any costs incurred in order to perform such work as may be necessary to ensure the safety of persons and property and the

integrity of the Transmission System and, if applicable, any costs incurred in connection with the cancellation of contracts and orders for material which the Transmission Owner cannot reasonably avoid; provided, however, that, prior to canceling any such contracts or orders, the Transmission Owner shall obtain Generator's authorization. The Transmission Owner shall invoice Generator pursuant to Article 13 and use Reasonable Efforts to minimize its costs.

9.1.5.2 **Recommencing of Work.** If Generator requests the Transmission Owner to recommence such work, the Transmission Owner shall have no obligation to afford such work the priority it would have had but for the prior actions of Generator to suspend the work. In such event, Generator shall be responsible for any costs incurred in recommencing the work. Once work has been recommenced, if Generator attempts to suspend the work a second time, this Agreement shall terminate.

9.1.5.3 **Termination.** In the event Generator suspends the performance of work by the Transmission Owner pursuant to this Section 9.1.5 and has not requested resumption of such work required hereunder by written request to the Transmission Provider on or before the three years after such requested suspension, this Agreement shall be deemed terminated.

9.1.5.4 **Right to Suspend Due to Default.** Transmission Owner reserves the right, upon written notice to Generator, to suspend, at any time, work by the Transmission Owner and the incurrence of additional expenses associated with the construction and installation of the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades upon the occurrence of either a Breach that Generator is unable to cure pursuant to Article 17 or an Event of Default pursuant to Article 17. Any form of suspension by Transmission Owner shall not be barred by Section 2.2.2, nor shall it affect Transmission Owner's right to terminate the work or this Agreement pursuant to Article 18. In such events, Generator shall be responsible for costs which the Transmission Owner incurs as set forth in Section 9.1.5.1.

9.1.6 **Construction Status.** The Transmission Owner shall inform Generator on a regular basis, and at such other times as Generator reasonably requests, of the status of the construction and installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades, including, but not limited to, the following information: (i) progress to date; (ii) a description of scheduled activities for the next period; (iii) the delivery status of all equipment ordered; and (iv) the identification of any event

which the Transmission Owner reasonably expects may delay construction of, or may increase the cost by ten percent (10%) or more of, the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades.

9.1.7 **Land Rights.** Upon reasonable notice and supervision by a Party, a Party ("Granting Party") shall furnish at no cost to the other Party ("Access Party") any necessary access for ingress and egress across lands owned or controlled by the Granting Party and/or its affiliates for the construction, operation and maintenance of necessary lines, substations, and other equipment to accomplish and operate interconnection of the Facility with the Transmission System under this Agreement and shall, at all reasonable times, give the Access Party, or its agents, free access for ingress and egress to such lines, substations, and equipment, for the purpose of implementing the provisions of this Agreement, and subject to the following provisions of this Section 9.1.7 and Subsections 9.1.7.1 and 9.1.7.2; provided, however, that, in exercising such access rights, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business, shall act in a manner consistent with Good Utility Practice, and adhere to the safety rules and procedures established by the Granting Party. An accessible, protected and satisfactory site selected upon mutual agreement by the Parties and located on Generator's premises shall be provided by and at Generator's expense for installation of metering devices, unless the Transmission Owner elects to install meters on poles or other locations controlled by it. Generator grants to the Transmission Owner at all reasonable times and with reasonable supervision, the right of free ingress and egress to Generator's premises for the purpose of installing, testing, reading, inspecting, repairing, operating, altering or removing any of the Transmission Owner's property located on Generator's premises.

9.1.7.1 **Other Property Owners.** If any part of the Transmission Owner Interconnection Facilities are to be installed on property owned by someone other than Generator, Generator shall procure from the owners thereof any necessary rights of use, licenses, rights of way and easements, in a form reasonably satisfactory to the Transmission Owner, for the construction, operation, maintenance and replacement of the Transmission Owner Interconnection Facilities upon such property. In the event Generator is unable to secure them (i) by condemnation proceedings or (ii) by other means, the Transmission Provider, indirectly through the Transmission Owner, or Transmission Owner directly, may make Reasonable Efforts to secure them to the extent permitted by Applicable Laws and Regulations, and provided that Generator shall reimburse the Transmission Provider or Transmission Owner, for all reasonable and documented costs incurred by the

Transmission Provider or Transmission Owner in securing such rights.

9.1.7.2 **Safety.** In connection with the Access Party's exercise of rights under Section 9.1.7, while on the Granting Party's premises, the Access Party's personnel and agents shall comply with all applicable safety rules or regulations of the Granting Party that are communicated by the Granting Party to the Access Party. Further, the Access Party shall indemnify and hold harmless the Granting Party in accordance with the provisions of Article 16 from and against any claims or damages resulting from such access.

9.1.8 **Timely Completion.**

9.1.8.1 **Generator Obligations.** Generator shall use Reasonable Efforts to design, procure, construct, install, and test the Generator Interconnection Facilities in accordance with the schedule set forth in Appendix A which schedule may be revised from time to time by mutual agreement of the Parties. As specified in Appendix A, the Transmission Owner, at its discretion, may permit Generator to design, procure and/or install all or a portion of the Transmission Owner Interconnection Facilities.

9.1.8.2 **Transmission Provider and Transmission Owner Obligations.** The Transmission Owner shall use Reasonable Efforts to design, procure, construct, install, and test the Transmission Owner Interconnection Facilities and Interconnection System Upgrades in accordance with the schedule set forth in Appendix A, which schedule may be revised from time to time by mutual agreement of the Parties. If any event occurs that will affect the time for completion of the Transmission Owner Interconnection Facilities or the Interconnection System Upgrades, or the ability to complete any of them, the Transmission Provider shall promptly notify Generator. In such circumstances, the Transmission Provider shall, within fifteen (15) days after notifying Generator of such an event and corresponding delay, convene a technical meeting with Generator and Transmission Owner to evaluate the alternatives available to Generator. The Transmission Provider shall also make available to Generator all studies and work papers related to the event and corresponding delay, including all information that is in the possession of the Transmission Provider or Transmission Owner that is reasonably needed by Generator to evaluate alternatives. The Transmission Owner shall, at Generator's request and expense, use Reasonable Efforts to accelerate its work under this Agreement in order to meet the schedule set forth in Appendix A, provided that Generator authorizes such actions and the costs associated therewith in advance.

9.1.9 **Limited Operation.** If any of the Interconnection System Upgrades are not reasonably expected to be completed prior to the commercial operation date of the Facility, Generator may, at its option, have operating studies performed at its expense to determine the maximum allowable output of the Facility and, subject to Applicable Laws and Regulations and applicable Transmission Provider, Transmission Owner, and NERC criteria and requirements, Generator shall be permitted to operate the Facility, provided such limited operation of the Facility does not adversely affect the safety and reliability of the Transmission System.

9.1.10 **Outage Costs.** If an outage of any part of the Transmission System is necessary to complete the process of constructing and installing the Interconnection Facilities or Interconnection System Upgrades, Generator shall be responsible for any costs or penalties associated with any redispatch or market-related costs arising from such an outage. The estimated cost, including penalties of such redispatch or market-related costs arising from such outage is set forth in Appendix A.

9.1.11 **Pre-Commercial Testing.** Prior to the interconnection and operation of the Facility in parallel with the Transmission System, the Interconnection Facilities and Interconnection System Upgrades shall be tested to ensure their safe and reliable operation in accordance with Good Utility Practice, any applicable Transmission Provider, Transmission Owner, NERC and Applicable Reliability Council criteria and requirements and any applicable Laws and Regulations ("Pre-Commercial Testing"). Similar testing may be required after initial operation as required by the above-mentioned organizations. The cost of all such testing shall be borne by Generator. In generating test energy, Generator shall be responsible for complying with all Transmission Provider OATT provisions as well as any applicable generator imbalance provisions.

9.1.12 **Modifications after Pre-Commercial Testing.** Based upon the Pre-Commercial Testing, Generator shall be responsible for making any modifications necessary to ensure the safe and reliable operation of the Facility and Generator Interconnection Facilities in accordance with Good Utility Practice, all applicable Transmission Provider, Transmission Owner, NERC and Applicable Reliability Council criteria and requirements, and all Applicable Laws and Regulations, and the Transmission Owner is responsible for making any modifications necessary to ensure the safe and reliable operation of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades in accordance with Good Utility Practice and all applicable Transmission Provider, Transmission Owner, NERC and Applicable Reliability Council criteria and requirements, and all Applicable Laws and Regulations. The costs of all such modifications are to be borne by Generator.

9.2 Interconnection Costs and Credits.

9.2.1 Costs. In addition to Operating Expenses under Section 4.10 and other expenses covered by this Agreement, Generator shall pay to the Transmission Owner costs (including taxes and financing costs) associated with seeking and obtaining all necessary approvals and of designing, engineering, constructing, and testing the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades ("Construction Expenditures"), as identified in Appendix A, in accordance with any cost recovery method that the Transmission Owner files and the FERC accepts as applicable under the Transmission Provider OATT.

9.2.2 Credits. Credits to Generator (or a third-party designated by Generator), if any, for amounts previously paid by Generator under Section 9.2.1, will be provided in accordance with any cost recovery method that the Transmission Owner files and the FERC accepts as applicable under the Transmission Provider OATT.

9.3 Drawings. Subject to the requirements of Article 20, upon completion of any construction or modification to the Facility and/or the Generator Interconnection Facilities that may reasonably be expected to affect the Transmission System, but not later than ninety (90) days thereafter, Generator shall issue "as built" drawings to the Transmission Provider and Transmission Owner, unless the Parties reasonably agree that such drawings are not necessary.

9.4 Taxes.

9.4.1 Indemnification for Contributions in Aid of Construction. The Parties intend that all payments made by Generator to Transmission Owner for the installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades shall be non-taxable contributions to capital in accordance with the Internal Revenue Code and any applicable state tax laws and shall not be taxable as contributions in aid of construction under the Internal Revenue Code and any applicable state tax laws. With regard only to such contributions, Transmission Owner shall not include a gross-up for income taxes in the amounts it charges Generator for the installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades. Notwithstanding the foregoing provisions of this Section 9.3.1, to the extent that the receipt of such payments by the Transmission Owner is determined by any Governmental Authority to constitute income by a Transmission Owner subject to taxation, Generator shall protect, indemnify and hold harmless Transmission Owner and its affiliated and associated companies, from all claims by any such Governmental Authority for any tax, interest and/or penalties associated with such determination. Upon receiving written notification of such

determination from the Governmental Authority, Transmission Owner shall provide Generator with written notification within thirty (30) days of such determination and notification. Transmission Owner, upon the timely written request by Generator and at Generator's expense, shall appeal, protest, seek abatement of, or otherwise oppose such 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 compromise or settlement of the claim; provided that Transmission Owner shall cooperate and consult in good faith with Generator regarding the conduct of such contest. Generator shall advance to Transmission Owner on a periodic basis as requested by Transmission Owner the estimated cost of prosecuting such appeal, protest, abatement or other contest. Generator shall not be required to pay Transmission Owner for the tax, interest and/or penalties prior to the seventh (7th) day before the date on which Transmission Owner (i) is required to pay the tax, interest and/or penalties or other amount in lieu thereof pursuant to a compromise or settlement of the appeal, protest, abatement or other contest; (ii) is required to pay the tax, interest and/or penalties as the result of a final, non-appealable order by a Governmental Authority; or (iii) is required to pay the tax, interest and/or penalties as a prerequisite to an appeal, protest, abatement or other contest. In the event such appeal, protest, abatement or other contest results in a determination that Transmission Owner is not liable for any portion of any tax, interest and/or penalties for which Generator has already made payment to Transmission Owner, Transmission Owner shall promptly refund to Generator any payment attributable to the amount determined to be non-taxable, plus any interest or other payments Transmission Owner receives or which Transmission Owner may be entitled with respect to such payment. In accordance with Article 13, Generator shall provide Transmission Owner with credit assurances sufficient to meet Generator's estimated liability for reimbursement of Transmission Owner for taxes, interest and/or penalties under this Section 9.4.1. Such estimated liability shall be stated in Appendix A.

9.4.2 **Private Letter Ruling.** The Transmission Owner shall, at Generator's request and expense, file with the Internal Revenue Service a request for a Private Letter Ruling as to whether any of the sums paid, or to be paid, by Generator to Transmission Owner under the terms of this Agreement are subject to federal income taxation. Transmission Owner and Generator shall cooperate in good faith with respect to such request for a Private Letter Ruling and all costs associated with obtaining a Private Letter Ruling under this Agreement shall be the responsibility of Generator. If the Private Letter Ruling issued to Transmission Owner concludes that such sums are not subject to federal income taxation, Generator's obligations under Article 13 shall be reduced accordingly.

9.4.3 **Other Taxes.** The Transmission Provider and Generator shall cooperate in good faith to appeal, protest, seek abatement of, or otherwise contest any tax (other than federal income tax) asserted or assessed against the Transmission Provider for which Generator may be required to reimburse the Transmission Provider under the terms of this Agreement.

9.5 Modifications.

9.5.1 **General.** Either Party may undertake modifications to its facilities. In the event a Party plans to undertake a modification that reasonably may be expected to impact the other Party's facilities, that Party, in accordance with Good Utility Practice, shall provide the other Party with sufficient information regarding such modification, so that the other Party may evaluate the potential impact of such modification prior to commencement of the work, including information regarding when such additions, modifications or replacements are expected to be made; how long such additions, modifications or replacements are expected to take; whether such additions, modifications or replacements are expected to interrupt the flow of electricity from the Facility; and any other information that will enable the other Party to evaluate the impact of the proposed additions, modifications, or replacements on its facilities and/or operations prior to the commencement of work. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) days in advance of the beginning of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld or delayed.

9.5.2 **Standards.** Any additions, modifications, or replacements made to a Party's facilities shall be constructed and operated in accordance with this Agreement, Good Utility Practice, Applicable Laws and Regulations, NERC and Applicable Reliability Council guidelines, and Transmission Provider and Transmission Owner guidelines.

9.5.3 **Modification Costs.** Unless required by Applicable Laws and Regulations or this Agreement, Generator shall not be responsible for the costs of any additions, modifications, or replacements made to the Transmission Owner Interconnection Facilities or the Transmission System by the Transmission Owner in its discretion or in order to facilitate the interconnection of a third-party to the Transmission Owner Interconnection Facilities or the Transmission System, or the provision of the delivery component transmission service under the Transmission Provider OATT for such third-party. Generator shall, however, be responsible for the costs of (i) any additions, modifications, or replacements made to the Transmission Owner Interconnection Facilities or the Transmission System as a result of any additions, modifications, or replacements made by Generator to the Facility or (ii) additions, modifications, or replacements reasonably necessary to

maintain or update the Generator Interconnection Facilities for reliability and safety purposes to the extent required by Good Utility Practice or to comply with changes in Applicable Laws and Regulations.

ARTICLE 10
METERING

10.1 **General.** Unless otherwise agreed by the Parties, the Transmission Owner shall provide, install, operate, maintain, own and/or control suitable Metering Equipment at the Point of Interconnection prior to any operation of the Facility. Power flows to and from the Facility shall be measured at or, at the Transmission Owner 's option, compensated to the Point of Interconnection. Metering quantities, in analog and/or digital form, shall be provided to Generator upon request. All costs associated with the administration of Metering Equipment and the provision of metering data to Generator shall be born by Generator. The costs of administration and of providing metering data shall be separately itemized on the Transmission Owner 's invoice to Generator. All reasonable costs associated with either the initial installation of metering or any changes to Metering Equipment, shall be borne by Generator. Generator shall be responsible for making all appropriate arrangements for station service requirements, including the delivery component of transmission service, if applicable. If Generator supplies its station service, the station service loads shall be netted against Generator's output.

10.2 **Standards.** Revenue quality Metering Equipment shall be installed, calibrated, and tested in accordance with applicable ANSI standards. To the extent this Article 10 conflicts with the manuals, standards or guidelines of the Applicable Reliability Council regarding interchange metering and transactions, the manuals, standards and guidelines of such Applicable Reliability Council shall control.

10.3 **Testing of Metering Equipment.** The Transmission Owner shall, at Generator's expense, 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 Generator, the Transmission Owner shall inspect or test Metering Equipment more frequently than every two (2) years, at the expense of Generator. The Transmission Owner shall give reasonable notice of the time when any inspection or test shall take place, and Generator may have representatives present at the test or inspection. If Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Generator's expense, in order to provide accurate metering. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than one percent (1%) from the measurement made by the standard meter used in the test, adjustment shall be made correcting all measurements made by the inaccurate meter for (i) the actual period during which inaccurate measurements were made, if the period can be determined, or if not, (ii) 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; provided that the period covered by the correction shall not exceed six months.

10.4 Metering Data. If the Parties have not made other arrangements, if hourly and/or daily energy readings are available and if such data are requested by the Transmission Provider, Generator shall report same to the Transmission Provider's representatives as indicated in Appendix E, by telephone or electronically or as the Parties otherwise agree, on a schedule to be agreed upon. At Generator's expense, Generator's metered data shall be telemetered to a location designated by the Transmission Provider and one or more locations designated by Generator.

10.5 Communications.

10.5.1 Generator Obligations. At Generator's expense, Generator shall maintain satisfactory operating communications with the Transmission Provider's system dispatcher or representative, as designated by the Transmission Provider or the Transmission Owner, as applicable. Generator shall provide standard voice line, dedicated voice line and facsimile communications at its Facility control room through use of the public telephone system. Generator shall also provide the dedicated data circuit(s) necessary to provide necessary generator data to the Transmission Provider as set forth in Appendix E. The data circuit(s) shall extend from the Facility to a location(s) specified by the Transmission Provider or its designate. Any required maintenance of such communications equipment shall be performed at Generator's expense, and may be performed by Generator or by the Transmission Owner. Operational communications shall be activated and maintained under, but not be limited to, the following events: (i) system paralleling or separation; (ii) scheduled and unscheduled shutdowns; (iii) equipment clearances; and (iv) hourly and daily load data.

10.5.2 Remote Terminal Unit. Prior to any operation of the Facility, a Remote Terminal Unit ("RTU") or equivalent data collection and transfer equipment acceptable to all Parties shall be installed by Generator, or by the Transmission Owner at Generator's expense, to gather accumulated and instantaneous data to be telemetered to a location(s) designated by the Transmission Owner through use of a dedicated point-to-point data circuit(s) as indicated in Section 10.5.1. The communication protocol for this data circuit(s) shall be specified by the Transmission Owner. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by the Transmission Provider.

ARTICLE 11
FORCE MAJEURE

11.1 **Notice.** The Party unable to carry out an obligation imposed on it by this Agreement due to Force Majeure shall notify the other Party in writing or by telephone within a reasonable time after the occurrence of the cause relied on.

11.2 **Duration of Force Majeure.** Except as set forth in Section 11.3, no Party will be considered in Default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure. A Party shall not be responsible for any non-performance or be considered in Breach or Default under this Agreement due to Force Majeure whether occurring on the Transmission System, the Facility, the Interconnection Facilities or any connecting electric generating, transmission or distribution system affecting the Party's operations. A Party shall be excused from whatever performance is affected only for the duration of the Force Majeure and while the Party exercises Reasonable Efforts to alleviate such situation. As soon as the non-performing Party is able to resume performance of its obligations excused as a result of the occurrence of Force Majeure, such Party shall give prompt notice thereof to the other Parties.

11.3 **Obligation to Make Payments.** Any Party's obligation to make payments for services incurred shall not be suspended by Force Majeure.

ARTICLE 12
INFORMATION REPORTING

12.1 **Information Reporting Obligations.** Each Party shall, in accordance with Good Utility Practice, promptly provide to the other Parties all relevant information, documents, or data regarding the Party's facilities and equipment which may reasonably be expected to pertain to the reliability of the other Party's facilities and equipment and which has been reasonably requested by the other Party.

ARTICLE 13
CREDITWORTHINESS, BILLING AND PAYMENTS

13.1 **Creditworthiness.** By the earlier of (i) thirty (30) days prior to the due date for Generator's first payment under the payment schedule specified in Appendix A or (ii) the first date specified in Appendix A for the ordering of equipment by Transmission Owner for installing the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades, Generator shall provide the Transmission Owner, at Transmission Owner's option, with a form of adequate assurance of creditworthiness satisfactory to Transmission Owner. If the adequate assurance is a parental guarantee or surety bond, it must be made by an entity that meets the creditworthiness requirements of the Transmission Owner, have terms and conditions reasonably acceptable to the Transmission Owner and guarantee payment of the entire estimated amount that will be due under this Agreement during its term.

If the adequate assurance is a letter of credit, it must be issued by a bank reasonably acceptable to the Transmission Owner, specify a reasonable expiration date and may provide that the maximum amount available to be drawn under the letter shall reduce on a monthly basis in accordance with the monthly payment schedule. The surety bond must be issued by an insurer reasonably acceptable to the Transmission Owner, specify a reasonable expiration date and may provide that the maximum amount assured under the bond shall reduce on a monthly basis in accordance with the monthly payment schedule. After the interconnection has been placed in service, Generator shall, subject to the standards of this Section 13.1, maintain a parental guarantee, surety bond, letter of credit, or some other credit assurance sufficient to meet its monthly payment obligation under Section 4.10 and its obligations under Section 9.4.1. At least sixty (60) days prior to the date on which the interconnection is anticipated to be placed in service and at least annually thereafter, the Transmission Owner shall notify Generator of the estimated monthly payment obligation under Section 4.10. Generator's estimated liability under Section 9.4.1 is stated in Appendix A.

13.2 **Generator's Continuing Creditworthiness.** In the event Generator's creditworthiness becomes unsatisfactory to Transmission Owner in its reasonably exercised discretion for amounts for which payment is not otherwise assured, Transmission Owner may demand that Generator provide, at Generator's option (but subject to Transmission Owner's acceptance based upon reasonably exercised discretion), either (i) the posting of a letter of credit; (ii) a cash prepayment; (iii) the posting of other acceptable collateral or security by the Generator; (iv) a guarantee agreement executed by a creditworthy entity; or (v) some other mutually agreeable method of providing assurance of payment satisfying Transmission Owner. Failure of Generator to provide such reasonably satisfactory assurances of its ability to make payment under this Agreement within seven (7) days of demand therefore shall be an event of Default under Article 17 of this Agreement and Transmission Owner shall have the right to exercise any of the remedies provided for in Article 17.

13.3 **Invoice.** Each invoice shall (i) delineate the month in which the services will be provided; (ii) fully describe the services to be rendered; and (iii) itemize the services to be performed or provided.

13.4 **Payment.** The invoice shall be paid within thirty (30) 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.

13.5 **Final Invoice.** Within six (6) months after completion of the construction of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades, the Transmission Owner shall provide an invoice of the final cost of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades and shall set forth such costs in sufficient detail to enable Generator to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. To the extent that the final, actual costs that Generator is

obligated to pay hereunder for the construction of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades exceeds the estimated costs already paid by Generator hereunder for such purposes, Generator shall reimburse the Transmission Owner for the amount of such difference within thirty (30) days after receipt of an invoice for such amount in accordance with the billing provisions of this Agreement. To the extent that the estimated costs already paid by Generator hereunder for such purposes exceed the final, actual costs that Generator is obligated to pay hereunder for such purposes, the Transmission Owner shall refund to Generator an amount equal to the difference within thirty (30) days of the issuance of such final cost invoice. The Transmission Owner shall use Reasonable Efforts to minimize its costs.

13.6 **Disputes.** All invoiced amounts shall be paid on or before the invoice payment due date. In the event of a billing dispute between the Transmission Provider, Transmission Owner, and/or Generator, the Transmission Provider shall continue to provide interconnection service under the Interconnect Agreement as long as Generator pays disputed amounts on or before the due date. In the event the dispute is resolved in favor of the Generator, the Transmission Provider or Transmission Owner shall, within thirty (30) days of the resolution, make payment to the Generator with interest calculated in accordance with Section 13.8. If Generator fails to meet this requirement for continuation of service, then the Transmission Provider may provide notice to Generator of a Breach pursuant to Articles 17 and 18.

13.7 **Waiver.** Payment of an invoice shall not relieve the paying Party from any other responsibilities or obligations it has under this Agreement, nor shall such payment constitute a waiver of any claims arising hereunder.

13.8 **Interest.** Interest on any unpaid amounts shall be calculated daily at the then current prime interest rate per annum as published in the Federal Reserve Statistical Release H.15, or its successor publication, plus two percent (2%) per annum, or the maximum rate permitted by law, whichever is less, from the date due until the date upon which payment is made.

13.9 **Payment During Dispute.** In the event of a billing dispute between the Transmission Provider, Transmission Owner, and/or Generator, each Party shall continue to provide services and pay all invoices.

13.10 **Collection Expenses.** No Party shall be responsible for the other Parties' costs of collecting amounts due under this Agreement, including attorney fees and expenses and the expenses of arbitration.

ARTICLE 14
ASSIGNMENT

14.1 General. No Party shall voluntarily assign its rights nor delegate its duties under this Agreement, or any part of such rights or duties, without the written consent of the other Parties, which consent shall not be unreasonably withheld or delayed, except in connection with the sale, merger, or transfer of a substantial portion or all of its properties including the Interconnection Facilities which it owns so long as the assignee in such a sale, merger, or transfer directly assumes in writing all rights, duties and obligations arising under this Agreement. Prior to the effective date of any assignment pursuant to this Section 14.1 by Generator, the assignee shall demonstrate to the Transmission Provider and the Transmission Owner that the assignee will comply with the requirements of Article 13 on the effective date of the assignment, and such assignor shall be, without further action, released from its obligation hereunder. Any such assignment or delegation made without such written consent shall be null and void. In addition, the Transmission Provider shall be entitled to assign this Agreement to any wholly-owned direct or indirect subsidiary of the Transmission Provider.

14.2 Assignment. Notwithstanding the provisions of Section 14.1, Generator may assign this Agreement, including the right to receive transmission service credits under Section 9.2, and shall be, without further action and to the extent of the assignment, released from the obligations of this Agreement, without the Transmission Provider's or Transmission Owner's prior consent to any future owner that purchases or otherwise acquires, directly or indirectly, all or a portion of the Facility provided that prior to the effective date of any such assignment, the assignee demonstrates to Transmission Owner that the assignee will comply with the provisions of Article 13 on the effective date of the assignment and assumes all other rights, duties, and obligations arising under this Agreement in a writing provided to the Transmission Provider and Transmission Owner. In addition and also notwithstanding the provisions of Section 14.1, Generator or its assignee may assign this Agreement to the persons, entities or institutions providing financing or refinancing for the development, design, construction or operation of the Facility and Generator Interconnection Facilities, provided that such assignment does not affect compliance with Article 13 and with all other rights, duties and obligations arising under this Agreement. If Generator provides notice thereof to the Transmission Provider and Transmission Owner, the Transmission Provider and Transmission Owner shall provide notice and reasonable opportunity for such lenders to cure any Default under this Agreement. The Transmission Provider and Transmission Owner shall, if requested by such lenders, execute its standard documents and certificates as may be requested with respect to the assignment and status of this Agreement, provided such documents do not change the rights of the Transmission Provider or Transmission Owner under this Agreement except with respect to providing notice and reasonable opportunity to cure. Such standard documents and certificates shall include, if true at the time the statement is to be made, statements that (i) this Agreement is in full force and effect and that neither Generator, the Transmission Provider, nor

Transmission Owner are in Default; (ii) all representations made by the Transmission Provider and Transmission Owner in this Agreement are true and complete as of the specified date; and (iii) all conditions to be satisfied by the Transmission Provider and Transmission Owner on or prior to the specified date have been satisfied. In the event of any foreclosure by such lenders, the purchasers at such foreclosure or any subsequent purchaser, shall upon request, be entitled to the rights and benefits of (and be bound by) this Agreement so long as it is an entity entitled to interconnect with the Transmission System. The Transmission Provider and Transmission Owner may bill Generator for the cost of providing such standard documents and certificates.

ARTICLE 15
INSURANCE

15.1 **Generator Insurance.** Without limiting any obligations or liabilities under this Agreement, Generator shall, at its expense, provide and maintain in effect for the life of this Agreement, minimum insurance coverage (in any combination of primary and excess layers) as follows:

15.1.1 **Workers' Compensation.** Workers' compensation insurance in accordance with all applicable state, federal, and maritime laws, including employer's liability insurance in the amount of one million dollars ($1,000,000) per accident. The policy shall be endorsed to include a waiver of subrogation in favor of the Transmission Provider and Transmission Owner, and their affiliated and associated companies.

15.1.2 **Commercial General Liability.** Commercial general liability insurance, including contractual liability coverage, for liabilities assumed under this Agreement and personal injury coverage in the amount of twenty-five million dollars ($25,000,000) per occurrence for bodily injury and property damage. The policy shall be endorsed to include the Transmission Provider, Transmission Owner, and their affiliated and associated companies as additional insureds with a provision substantially in the form of the following:

> In consideration of the premium charged, the Transmission Provider, Transmission Owner, and their affiliated and associated companies are named as additional insureds with respect to liabilities arising out of the Transmission Provider's and Transmission Owner's use and ownership of the Transmission System and/or the Transmission Owner Interconnection Facilities and the Transmission Provider's and Transmission Owner's use of the Generator Interconnection Facilities. The inclusion of more than one insured under this policy shall not operate to impair the rights of one insured against another insured and the coverages afforded by this policy will apply as though separate policies had been issued to each insured. The

inclusion of more than one insured will not, however, operate to increase the limits of the carrier's liability. The Transmission Provider and Transmission Owner will not, by reason of their inclusion under this policy, incur liability to the insurance carrier for payment of premium for this policy.

15.2 **Generator Self-Insurance.** Generator, at its option, may, with adequate credit assurance provided to Transmission Owner, self-insure all or part of the insurance required in this Article 15; provided, however, that all other provisions of this Article 15, including, but not limited to, waiver of subrogation, waiver of rights of recourse, and additional insured status, which provide or are intended to provide protection for the Transmission Provider, Transmission Owner, and their affiliated and associated companies under this Agreement, shall remain enforceable. Generator's election to self-insure shall not impair, limit, or in any manner result in a reduction of rights and/or benefits otherwise available to the Transmission Provider, Transmission Owner, and their affiliated and associated companies through formal insurance policies and endorsements as specified in the above paragraphs of this Article 15. All amounts of self-insurance, retentions and/or deductibles are the responsibility of and shall be borne by Generator.

15.3 **Transmission Owner Insurance.** Without limiting any obligations or liabilities under this Agreement, the Transmission Owner shall, at its expense, provide and maintain in effect for the life of this Agreement, minimum insurance coverage (in any combination of primary and excess layers) as follows:

15.3.1 **Workers' Compensation.** Workers' compensation insurance in accordance with all applicable state, federal, and maritime laws, including employer's liability insurance in the amount of one million dollars ($1,000,000) per accident. The policy shall be endorsed to include a waiver of subrogation in favor of Generator and its affiliated and associated companies.

15.3.2 **Commercial General Liability.** Commercial general liability insurance, including contractual liability coverage for liabilities assumed under this Agreement, and personal injury coverage in the amount of twenty-five million dollars ($25,000,000) per occurrence for bodily injury and property damage. The policy shall be endorsed to include Transmission Provider and Generator and their affiliated and associated companies as additional insureds with a provision substantially in the form of the following:

In consideration of the premium charged, Transmission Provider and Generator and their affiliated and associated companies are named as additional insureds with respect to liabilities arising out of Generator's use and ownership of the Facility and/or the Generator Interconnection Facilities and Generator's use of the Transmission System and/or the

Transmission Owner Interconnection Facilities. The inclusion of more than one insured under this policy shall not operate to impair the rights of one insured against another insured and the coverages afforded by this policy will apply as though separate policies had been issued to each insured. The inclusion of more than one insured will not, however, operate to increase the limits of the carrier's liability. Generator will not, by reason of its inclusion under this policy, incur liability to the insurance carrier for payment of premium for this policy.

15.4 **Transmission Owner Self-Insurance.** The Transmission Owner, at its option, may, with adequate credit assurance provided to Generator, self-insure all or part of the insurance required in this Article 15; provided, however, that all other provisions of this Article 15, including, but not limited to, waiver of subrogation, waiver of rights of recourse, and additional insured status, which provide or are intended to provide protection for Generator and its affiliated and associated companies under this Agreement, shall remain enforceable. The Transmission Owner 's election to self-insure shall not impair, limit, or in any manner result in a reduction of rights and/or benefits otherwise available to Generator and its affiliated and associated companies through formal insurance policies and endorsements as specified in the above paragraphs of this Article 15. All amounts of self-insurance, retentions and/or deductibles are the responsibility of and shall be borne by the Transmission Owner.

15.5 **Notices and Certificates of Insurance.** All policies of insurance shall provide for thirty (30) days prior written notice of cancellation or material adverse change. Prior to the date the Facility is first operated in parallel with the Transmission System and annually thereafter during the term of this Agreement, certificates of insurance shall be furnished by the Transmission Owner to Generator.

ARTICLE 16
INDEMNITY

16.1 **General.** Each Party shall indemnify and hold harmless the other Parties, and the other Parties' respective officers, shareholders, stakeholders, managers, representatives, directors, agents and employees, and affiliated and associated companies, from and against any and all loss, liability, damage, cost or expense, including damage and liability for bodily injury to or death of persons, or damage to property of persons (including reasonable attorney's fees and expenses, litigation costs, consultant fees, investigation fees and sums paid in settlements of claims and any such fees and expenses incurred in enforcing this indemnity or collecting any sums due hereunder) (collectively, "Loss") to the extent arising out of, in connection with or resulting from (i) the indemnifying Party's breach of any of the representations or warranties made in, or failure to perform any of its obligations under, this Agreement; or (ii) the negligence or willful misconduct of the indemnifying Party or its contractors and regardless whether arising under

Applicable Laws and Regulations or otherwise; *provided*, however, that no Party shall have any indemnification obligations under this Section 16.1 with respect to any Loss to the extent the Loss results from the negligence or willful misconduct of the Party seeking indemnity.

16.2 **Notice and Defense.** Promptly after receipt by a person entitled to indemnity ("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 Section 16.1 may apply, the Indemnified Person shall notify the indemnifying Party of such fact, but any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay shall be 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 reasonable satisfaction to the Indemnified Person; *provided*, however, that if the defendants in any such action include one or more Indemnified Persons and the indemnifying Party and the Indemnified Person shall have reasonably concluded 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 behalf of such Indemnified Person; provided, further that the indemnifying Party shall only be required to pay the fees and expenses of one additional law firm 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 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, and in such event the indemnifying Party shall pay the reasonable expenses of the Indemnified Person in such defense, 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 unreasonably withheld or delayed.

16.3 **Indemnified Person.** If an Indemnified Person is entitled to indemnification under this Article 16 as a result of a claim by a third party, and the indemnifying Party fails to assume the defense of such claim, such Indemnified Person may at the expense of the indemnifying Party contest, settle, consent to the entry of any judgment with respect to, or pay in full, such claim.

16.4 **Amount Owing.** If an indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 16, the amount owing to the

Indemnified Person shall be the amount of such Indemnified Person's actual Loss, not of any insurance or other recovery.

16.5 **Limitation on Damages.** Notwithstanding any other provision of this Agreement, liability of all Parties shall be limited to direct actual damages, and all other damages at law or in equity are waived. Under no circumstances shall any Party or its affiliates, directors, officers, employees and agents, or any of them, be liable to the other Parties, whether in tort, contract or other basis in law or equity for any special, indirect, punitive, exemplary or consequential damages, including lost profits. The limitations on damages specified in this Section 16.5 are without regard to the cause or causes related thereto, including the negligence of any Party, whether such negligence be sole, joint or concurrent, or active or passive. The provisions of this Section 16.5 shall survive the termination or expiration of this Agreement. This Section 16.5 shall not be interpreted in any way to override the provisions of Sections 16.1 through 16.4.

ARTICLE 17
BREACH, CURE AND DEFAULT

17.1 **Events of Breach.** A Breach of this Agreement shall include:

(a) The failure to pay any amount when due;

(b) The failure to comply with any material term or condition of this Agreement, including but not limited to any material Breach of a representation, warranty or covenant made in this Agreement;

(c) If a Party (i) is adjudicated bankrupt; (ii) files a voluntary petition in bankruptcy under any provision of any federal or state bankruptcy law or shall consent to the filing of any bankruptcy or reorganization petition against it under any similar law; (iii) makes a general assignment for the benefit of its creditors; or (iv) consents to the appointment of a receiver, trustee or liquidator;

(d) Assignment of this Agreement in a manner inconsistent with the terms of this Agreement;

(e) Failure of a Party to provide such access rights, or a Party's attempt to revoke or terminate such access rights, as provided under this Agreement; or

(f) Failure of a Party to provide information or data to another Party as required under this Agreement, provided the Party entitled to the information or data under this Agreement requires such information or data to satisfy its obligations under this Agreement.

17.2 **Continued Operation.** In the event of a Breach or Default by a Party, the Parties shall continue to operate and maintain, as applicable, such DC power systems, protection and Metering Equipment, telemetering equipment, SCADA equipment, transformers, Secondary Systems, communications equipment, building facilities, software, documentation, structural components, and other facilities and appurtenances that are reasonably necessary for the Transmission Provider and Transmission Owner to operate and maintain the Transmission System, or for Generator to operate and maintain the Facility, in a safe and reliable manner.

17.3 **Cure and Default.** Upon the occurrence of an event of Breach, the Party not in Breach, when it becomes aware of the Breach, shall give written notice of the Breach to the Breaching Party and to any other person a Party to this Agreement identified in writing to the other Party in advance. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach. Upon the occurrence described in part (c) of Section 17.1, the Party experiencing such occurrence shall notify the other Party in writing within seven (7) days after the commencement of such occurrence. Upon receiving written notice of the Breach hereunder, the Breaching Party shall have thirty (30) days to cure such Breach unless such Breach is due to an occurrence under Section 17.1(a) or (c) in which case the cure period will be five (5) days. If the Breach is such that it cannot be cured within thirty (30) days, the Breaching Party will commence in good faith all steps as are reasonable and appropriate to cure the Breach within such thirty (30) day time period and thereafter diligently pursue such action to completion. In the event the Breaching Party fails to cure the Breach, or to commence reasonable and appropriate steps to cure the Breach, within thirty (30) days of becoming aware of the Breach, the Breaching Party will be in Default of this Agreement.

17.4 **Right to Compel Performance.** Notwithstanding the foregoing, upon the occurrence of an event of Default, the non-Defaulting Party shall be entitled to (i) commence an action to require the Defaulting Party to remedy such Default and specifically perform its duties and obligations hereunder in accordance with the terms and conditions hereof, and (ii) exercise such other rights and remedies as it may have in equity or at law.

ARTICLE 18
TERMINATION OF INTERCONNECTION SERVICE

18.1 **Expiration of Term.** Except as otherwise specified in this Article 18, Interconnection Service for the Facility shall terminate at the conclusion of the term of this Agreement.

18.2 **Termination.** In addition to the termination provisions set forth in Section 2.2, Party may terminate this Agreement upon the Default of another Party in accordance with this Agreement. Subject to the limitations set forth in Section 18.3, in the event of a Default, a non-Defaulting Party may terminate this Agreement only upon the

later of (i) its giving of written notice of termination to the other Parties; and (ii) the filing at FERC of a notice of termination for this Agreement, which filing must be accepted for filing by FERC.

18.3 Disposition of Facilities Upon Termination of Agreement.

18.3.1 Transmission Provider and Transmission Owner Obligations. Upon termination of this Agreement, unless otherwise agreed by the Parties in writing, Transmission Owner shall:

(a) prior to the construction and installation of any portion of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades and to the extent possible, cancel any pending orders of, or return, such facilities to the extent that such orders or facilities are not required to provide Interconnection Service to a Subsequent Generator;

(b) keep in place any portion of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades already constructed and installed, provided that Transmission Owner may, in its discretion, remove the Transmission Owner Interconnection Facilities; and

(c) perform such work as may be necessary to ensure the safety of persons and property and to preserve the integrity of the Transmission System (*e.g.*, construction demobilization, wind-up work).

18.3.2 Generator Obligations. Upon billing by Transmission Owner, Generator shall reimburse Transmission Owner for any costs incurred by Transmission Owner in performance of the actions required or permitted by Section 18.3.1 and for the cost of any Transmission Owner Interconnection Facilities and Interconnection System Upgrades described in Appendix A, including any study or redesign costs associated therewith, that are necessary for the provision of Interconnection Service to a Subsequent Generator that has entered into an Interconnection and Operating Agreement with Transmission Provider and/or Transmission Owner on or before the date of the termination of this Agreement. The Transmission Owner and the Transmission Provider shall use Reasonable Efforts to minimize costs and shall offset the amounts owed by any salvage value of facilities, if applicable. Generator shall pay these costs pursuant to §13.4 of this Agreement. If the cost of any Transmission Owner Interconnection Facilities and Interconnection System Upgrades described in Appendix A, including any study or redesign costs associated therewith are necessary for the provision of Interconnection Service to such Subsequent Generator, Generator may seek recovery of such costs from

the Subsequent Generator in accordance with Section 3.6 to the extent that Generator has paid such costs to Transmission Owner.

18.3.3 **Pre-construction or Installation.** Upon termination of this Agreement and prior to the construction and installation of any portion of the Transmission Owner Interconnection Facilities or Interconnection System Upgrades, Transmission Owner may, at its option, retain any portion of such facilities not cancelled or returned in accordance with Section 18.3.1(a), in which case Transmission Owner shall be responsible for all costs associated with procuring such facilities. To the extent that Generator has already paid Transmission Owner for any or all of such costs, Transmission Owner shall refund such amounts to Generator. If Transmission Owner elects to not retain any portion of such facilities, Transmission Owner shall convey and make available to Generator such facilities as soon as practicable after Generator's payment for such facilities.

18.4 **Survival of Rights.** Termination of this Agreement shall not relieve any Party of any of its liabilities and obligations arising hereunder prior to the date termination becomes effective, and each Party may take whatever judicial or administrative actions as appear necessary or desirable to enforce its rights hereunder.

ARTICLE 19
SUBCONTRACTORS

19.1 **Subcontractors.** Nothing in this Agreement shall prevent a Party from utilizing the services of subcontractors, 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.

19.1.1 **Responsibility of Principal.** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. In accordance with the provisions of this Agreement, each Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any applicable obligation imposed by this Agreement upon a Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

19.1.2 **No Third-Party Beneficiary.** Except as may be specifically set forth to the contrary herein, no subcontractor or any other party is intended to be, nor will it be deemed to be, a third-party beneficiary of this Agreement.

19.1.3 **No Limitation by Insurance.** The obligations under this Article 19 will not be limited in any way by any limitation of subcontractor's insurance.

ARTICLE 20
CONFIDENTIALITY

20.1 Term. During the term of this Agreement, and for a period of three (3) years after the expiration or termination of this Agreement, except as otherwise provided in this Article 20, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

20.2 Scope. Confidential Information shall not include information that the receiving Party can demonstrate (i) is generally available to the public other than as a result of a disclosure by the receiving Party; (ii) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (iii) 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 other Party to keep such information confidential; (iv) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (v) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or breach of this Agreement; or (vi) is required, in accordance with Section 20.7 of this Agreement, to be disclosed to any Governmental Authority as long as such information is made available to the public, is otherwise required to be disclosed by Applicable Laws and Regulations or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Agreement. Information designated as Confidential Information shall no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

20.3 Release of Confidential Information. No Party shall release or disclose Confidential Information to any other person, except on a need-to-know basis, to its employees, consultants or to parties who may be or considering providing financing to or equity participation with Generator in connection with this Agreement, unless such person has first been advised of the confidentiality provisions of this Article 20 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person receiving the initial Confidential Information shall remain primarily responsible for any release of Confidential Information in contravention of this Article 20.

20.4 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 either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

20.5 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 another Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

20.6 **Standard of Care.** Each Party shall use at least the same standard of care to protect Confidential Information it receives as that 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 other Parties under this Agreement or to comply with Applicable Laws and Regulations.

20.7 **Order of Disclosure.** If a Governmental Authority 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, data request, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt prior written notice to the extent possible of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or agreement, or waive compliance with the terms of this Agreement. Notwithstanding the absence of a protective order or agreement, 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 shall use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

20.8 **Termination of Agreement.** Upon termination of this Agreement for any reason, each Party shall, at the Party's option, within ten (10) days after 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 the other Parties) or return to the other Parties, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Parties.

20.9 **Remedies.** The Parties expressly agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article 20. Each Party accordingly expressly 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 20, 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 to be an exclusive remedy for the breach of this Article 20, 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 20.

ARTICLE 21
INFORMATION ACCESS AND AUDIT RIGHTS

21.1 Information Access. Each Party shall make available to the other Parties information necessary to verify the costs incurred by the other Parties for which the requesting Party is responsible under this Agreement and carry out obligations and responsibilities under this Agreement, provided that the Parties shall not use such information for purposes other than to operate and maintain their respective facilities and equipment for the purposes set forth in this Section 21.1 and to enforce their rights under this Agreement.

21.2 Audit Rights. Subject to the requirements of confidentiality under Article 20, a Party at its expense shall have the right, during normal business hours, and upon prior reasonable notice to another Party, to audit each other's accounts and records pertaining to a Party's performance and/or satisfaction of obligations arising under this Agreement during the twenty-four (24) month period prior to commencement of the audit, other than the performance and/or satisfaction of the Transmission Provider under Section 4.7, which shall be subject to the audit provisions of such Section. Any audit authorized by this Section 21.2 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 obligations under this Agreement.

ARTICLE 22
DISPUTES

22.1 Submission. Any claim or dispute, which a Party may have against others, arising out of this Agreement shall be submitted for resolution in accordance with the dispute resolution provisions of the Transmission Provider OATT.

22.2 Rights under the Federal Power Act. Nothing in this Article 22 shall restrict the rights of any Party to file a complaint with FERC under relevant provisions of the Federal Power Act.

22.3 Equitable Remedies. Nothing in this Article shall prevent either Party from pursuing or seeking any equitable remedy available to it under Applicable Laws and Regulations, at any time, before a Governmental Authority.

ARTICLE 23
NOTICES

23.1 General. Any notice, demand or request required or permitted to be given by a Party to others and any instrument required or permitted to be tendered or delivered by a Party in writing to the other may be so given, tendered or delivered, as the case may be, by depositing the same with the United States Postal Service with postage

prepaid, for transmission by certified or registered mail, addressed to the Parties, or personally delivered to the Parties, at the address set out below:

To the Transmission Provider:

Manager, Interconnection Planning
Midwest ISO
701 City Center Drive
Carmel, IN 46032

To Transmission Owner:

Mark S. Johnson, Director, Transmission
LG&E Energy Services, Inc.
220 West Main Street
P. O. Box 32030
Louisville, KY 40232

To Generator:

Charlie Freibert, Director, Energy Marketing
LG&E Energy Services Inc.
220 West Main Street
P. O. Box 32030
Louisville, KY 40232

23.2 **Billings and Payments.** Billings and payments shall be sent to the addresses shown in Section 23.1.

23.3 **Alternative Forms of Notice.** Any notice or request required or permitted to be given by either Party to the other 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 below:

To the Transmission Provider:

Voice telephone – (317) 249-5759
Facsimile telephone – (317) 249-5703
Email address – jfohey@midwestiso.org

To Transmission Owner:

Phone: (502) 627-2824
Fax: (502) 627-4716
Email: mark.johnson@lgeenergy.com

To Generator:

Phone: (502) 627-3673
Fax: (502) 627-3613
Email: charlie.freibert@lgeenergy.com

23.4 **DUNS #.** If the Transmission Owner and Generator have not obtained DUNS numbers by the time this Agreement is executed, the Transmission Owner and Generator will forward their DUNS numbers within five (5) business days of having obtained such numbers to the Transmission Provider by facsimile or email to the fax number or email set out below:

To the Transmission Provider:

Facsimile telephone – (317) 249-5703
Email address – jfohey@midwestiso.org

23.5 **Notification of In-Service Date.** Transmission Owner will serve to the Transmission Provider a copy of Appendix C - Operation Date as forwarded to Generator on the same day to the address shown in Section 23.1, and by facsimile to the numbers set out below:

To the Transmission Provider:

Facsimile telephone – (317) 249-5703

ARTICLE 24
MISCELLANEOUS

24.1 **No Ownership Control.** Generator represents and warrants as of the effective date of this Agreement, that it does not own more than five percent (5%) of the voting shares of the Transmission Provider, nor has contractual rights permitting it to direct the voting of such percentage of shares, and further agrees that this representation shall remain true during the term of this Agreement.

24.2 **Waiver.** Any waiver at any time by a Party of its rights with respect to a Default under this Agreement, or with respect to any other matters arising in connection with

this Agreement, shall not be deemed a waiver or continuing waiver with respect to any subsequent Default or other matter.

24.3 **Governing Law.** The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the laws of the State of Indiana without regard to the conflicts of law provisions.

24.4 **Headings Not to Affect Meaning.** The descriptive headings of the various Sections and Articles of this Agreement have been inserted for convenience of reference only and shall in no way modify or restrict any of the terms and provisions hereof.

24.5 **Amendments and Rights Under the Federal Power Act.** This Agreement may be amended by and only by a written instrument duly executed by all Parties. Upon satisfaction of all Applicable Laws and Regulations, an amendment to this Agreement shall become effective and a part of this Agreement. Notwithstanding the foregoing, nothing contained herein shall be construed as affecting in any way the rights of the Transmission Provider, Transmission Owner, or Generator under Sections 205 and 206 of the Federal Power Act and pursuant to FERC's rules and regulations promulgated thereunder. The Transmission Provider reserves the right to file rate schedules with FERC concerning any services the Transmission Provider deems necessary for reliable and orderly bulk power system management, including but not limited to any standby or related services that may arise from a failure by Generator to meet its schedule of deliveries across the Transmission System.

24.6 **Entire Agreement.** This Agreement constitutes the entire agreement among the Parties hereto with reference to the subject matter hereof and no change or modification as to any of the provisions hereof shall be binding on any Party unless reduced to writing and approved by the duly authorized officer or agent of Generator, Transmission Owner, and the Transmission Provider. The terms and conditions of this Agreement and every appendix referred to herein shall be amended, as mutually agreed to by the Parties, to comply with changes or alterations made necessary by a valid applicable order of any Governmental Authority having jurisdiction hereof.

24.7 **Counterparts.** This Agreement may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument.

24.8 **Binding Effect.** This Agreement 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.

24.9 **Conflicts.** In the event of a conflict between the body of this Agreement and any attachment, appendix or exhibit hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed to be the final intent of the Parties.

24.10 Regulatory Requirements. Each Party's obligations under this Agreement 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 receiving 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 these other approvals as soon as is reasonably practicable.

ARTICLE 25
REPRESENTATIONS AND WARRANTIES

25.1 General. Each Party hereby represents, warrants and covenants as follows with these representations, warranties, and covenants effective as to the Party during the full time this Agreement is effective:

25.1.1 Good Standing. Such Party is duly organized or formed, as applicable, validity existing and in good standing under the laws of its state of organization or formation, and is in good standing under the laws of the respective state(s) of their organization as stated in the preamble of this Agreement.

25.1.2 Authority. Such Party has the right, power and authority to enter into this Agreement, to become a party hereto and to perform its obligations hereunder, and this Agreement is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms.

25.1.3 No Conflict. The execution, delivery and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of either Party, or any judgment, license, permit or order or material agreement or instrument applicable to or binding upon either Party or any of its assets.

25.1.4 Consent and Approval. That it has sought or obtained, or, in accordance with this Agreement will seek or obtain, each consent, approval, authorization or order of, or acceptance of a filing with, or notice to, any Governmental Authority with jurisdiction concerning this Agreement, in connection with the execution, delivery and performance of this Agreement.

25.1.5 Solvency. That each Party is financially solvent.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

Midwest Independent Transmission System Operator, Inc.

By: Roger C. Harsey
Name: Roger C. Harsey
Title: Ex. Director, Engineering

Louisville Gas and Electric Company/ Kentucky Utilities Company
DUNS # 006945505/006944938

By: John N. Voyles Jr.
Name: John N. Voyles Jr.
Title: Vice President, Regulated Generation

Louisville Gas and Electric Company
DUNS #006945505

By:
Name: MARK S. JOHNSON
Title: DIRECTOR, TRANSMISSION

MISO Project G218 Queue 37356-01
APPENDIX A

POINT OF INTERCONNECTION, TRANSMISSION OWNER INTERCONNECTION FACILITIES, INTERCONNECTION SYSTEM UPGRADES, COST ESTIMATES AND RESPONSIBILITY, TRANSMISSION CREDITS, CONSTRUCTION SCHEDULE, AND MONTHLY PAYMENT SCHEDULE

This Appendix A is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

1.1 **Point of Interconnection.** The Point of Interconnection shall be at the point where Generator connects to the Transmission System at LG&E (Transmission)'s Trimble County 345 kV substation. See Exhibit 1 which drawing is attached hereto and made a part hereof.

1.2 **Transmission Owner Interconnection Facilities (including metering equipment) to be constructed by the Transmission Owner.** The Transmission Owner shall construct an interconnection at Trimble County 345 kV substation comprising of breakers, switches, system protection and metering as shown in Exhibit 1.

1.3 **Transmission Owner Interconnection Facilities (including metering equipment) to be constructed by Generator.** None

1.4 **Interconnection System Upgrades to be installed by the Transmission Owner.** The Transmission Owner shall construct a new 345 kV connection to Speed 345 kV substation by looping Speed to Ghent 345 kV line through Trimble County 345 kV substation. This construction will comprise of all breakers, switches, system protection and metering as shown in Exhibit 1.

1.5 **Cost Estimates and Responsibility.** Generator and the Transmission Owner hereby acknowledge and agree that the cost indicated below is only an estimate and that Generator hereby agrees to and shall reimburse the Transmission Owner for all actual costs, as determined pursuant to Section 9.4 herein associated with the construction and installation by the Transmission Owner and/or Generator of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades.

1.5.1 The cost for the Transmission Owner Interconnection Facilities to be constructed by the Transmission Owner is estimated at **$ 0.00**.

1.5.2 The cost for the Transmission Owner Interconnection Facilities to be constructed by Generator is estimated at **$ 0.00**.

1.5.3 The cost for the Interconnection System Upgrades is estimated at **$ 8,571,563** as provided in Exhibit 2.

1.5.4 The cost, including penalties, of redispatch or market-related costs arising from outages described in Section 9.1.10 of the Agreement is estimated at **$ 0.00**.

1.5.5 The total cost for the Transmission Owner Interconnection Facilities and Interconnection System Upgrades is estimated at **$ 8,571,563.**

1.5.6 Generator's liability for reimbursement of Transmission Owner for taxes, interest and/or penalties under Section 9.4.1 is estimated at **$ 0.00**. This amount is not included in the total cost for Transmission Owner Interconnection Facilities and Interconnection System Upgrades stated in Section 1.5.5 of this Appendix A.

1.6 **First Equipment Order.** The first date for the ordering of equipment by Transmission Owner for installing Transmission Owner Interconnection Facilities and/or Interconnection System Upgrade is expected to be 30 months prior to completion date in Section 1.8.

1.7 **Transmission Credits.** The portion of the Interconnection System Upgrades that is subject to the transmission service credits described in Section 9.2 of this Agreement is estimated to be **$ 8,571,563** as shown in Section 1.5.3. Transmission credits will be based on the final, actual cost of completing the Interconnection System Upgrades as provided by the final invoice prepared by Transmission Owner pursuant to Section 13.5 of this Agreement. Any reimbursement due Generator will include (i) the final, actual cost after any true-up amounts have been paid pursuant to Section 13.5, and (ii) interest at the rate calculated in accordance with section 35.19a(a)(2)(iii) of FERC's regulations applied to the amount remaining to be reimbursed from the date of collection from Generator until fully reimbursed.

Transmission Owner shall reimburse Generator as directed by the Transmission Provider on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges on the Transmission System, as payments are made under the Transmission Provider OATT using either of the following options:

_____ Credits against transmission service – Generator shall provide the Transmission Provider with a monthly record of the various transmission services that the Generator has taken from the Transmission Provider originating from the Facility. Transmission Provider will verify the records, calculate the total cost of the monthly transmission service, and provide Transmission Owner the amount Transmission Owner is to reimburse Generator pursuant to Section 9.2.1 of this Agreement. If the Transmission Customer for the Facility's generation obtains Transmission Service under the Transmission Provider OATT, then in the absence of a mutually agreeable payment schedule, refunds to Generator shall be based on the Midwest ISO's OATT firm and non-firm point-to-point transmission service rate for the pricing zone corresponding to the Transmission Customer's Point of Delivery, multiplied by either the amount of Facility generation designated as a Network Resource if Network Integration Transmission Service is taken, or the Transmission Customer's reservation if Point-to-Point Transmission Service is taken, as applicable.

__X__ Cash repayment, with payment schedule as follows:

__X__ Immediate repayment to be made not later than one-hundred and twenty (120) days following notice as provided in Appendix C, or

_____ Sixty (60) equal monthly payments over five years.

Such reimbursement will begin the second calendar month after the later of Transmission Owner's final invoice pursuant to Section 13.5 or Generator's demonstration of commercial operation of the Facility, with full reimbursement achieved within five years of the initial credit or cash repayment hereunder. Beginning with the first payment through either credits against transmission service or cash repayment, Transmission Owner will send Generator a statement, by the 15th day of each month, that will provide the amount of credit or reimbursement and interest paid for the current month, year-to-date and total-to-date, and remaining credit balance.

The Parties may adopt any alternative payment schedule that is mutually agreeable that otherwise accelerates reimbursement of amounts paid previously by Generator. Transmission Owner shall notify the Transmission Provider upon initiation, completion and any alteration of the payment schedule herein described and shall provide the Transmission Provider what information the Transmission Provider may request to verify such payments are made and their amount.

The Parties' agreement to a crediting mechanism herein, whether credits apply to transmission service obtained by Generator or its assignee, or through regular payments or accelerated payment, shall not serve as precedent regarding any Party's future agreement to a crediting mechanism.

1.8 **Construction Schedule.** Construction of the Facility, Generator Interconnection Facilities, the Transmission Owner Interconnection Facilities and Interconnection System Upgrades is scheduled as follows:

Trimble County 345 kV substation line terminal connecting to the Generator Interconnection Facilities will be reasonably coordinated to be completed 6 months prior to the Generator's service date.

1.9 **Monthly Payment Schedule.** Generator shall pay the Transmission Owner for the installation of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades in accordance with the following schedule:

Payment in full for the amount listed in Exhibit 2 shall be due 31 months prior to the date in Appendix A, Section 1.8. Generator shall make any additional payment or receive refund within 30 days of receipt of invoice by the Transmission Owner. Generator shall provide notice of payments' amount and date as they are provided to the Transmission Owner. The Transmission Owner shall notify the Transmission Provider when payments are received. The Transmission Provider will authorize the Transmission Owner to procure and construct the facilities invoiced.

1.10 **Permits, Licenses and Authorizations.** The Transmission Provider and/or Transmission Owner shall obtain all necessary permits, licenses and authorizations for the facilities in this Appendix A..

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APPENDIX B

FACILITY AND GENERATOR INTERCONNECTION FACILITIES

This Appendix B is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

1.1 **Facility.** Generator intends to own and operate an 750 MW electric generating facility located in Trimble County, Kentucky, and more specifically described as follows

The Faciltiy will operate in synchronism with the grid and will have a generating capacity of up to 750 MW. The Facility will operate with +/- 0.95 power factor at the Point of Interconnection. The generator will operated in inductive power factor mode (absorb MVAR from the network) unless it is an Emergency Condition.

1.2 **Generator Interconnection Facilities to be constructed by Generator.** Generator shall construct a take off tower at the high kV end of the transformers and connect to the take-off tower at Trimble County 345 kV substation. The Generator Interconnection Facilities will be constructed six months prior to the Generator's service date.

1.3 **Permits, Licenses and Authorizations.** Generator shall obtain the following permits, licenses and authorizations:

Generator shall obtain the necessary permits, licenses and authorizations as required for the Facility and Generator Interconnection Facilities (associated transmission line) to reach the Point of Interconnection. Such authorizations may be required from the following Governmental Authorities:

Federal agencies including the Army Corps of Engineers, the Federal Energy Regulatory Commission and the Environmental Protection Agency,

Kentucky agencies including the Kentucky Public Service Commission,

Trimble County and other local agencies including those regulating planning and zoning.

It shall be the Generator's responsibility to ensure all necessary authorizations are obtained related to the construction and operation of the Facility.

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APPENDIX C - OPERATION DATE

This Appendix C is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

[Date]

[Generator, as specified in Section 23.1]
[Address]
[Address]
[Address]

Re: Trimble County Generating Station, Unit 2

Dear _____ [as specified in section 23.1]

On [Date], the Transmission Owner, Louisville Gas & Electric Company, and the Generator, Louisville Gas & Electric Company and Kentucky Utilities Company, completed to their mutual satisfaction all work on Trimble County Generating Station, Unit 2, the "Facility" and associated interconnection facilities and related equipment required to interconnect the Facility with the Transmission Owner's transmission system and have energized the Facility in parallel operation with the Transmission Owner's transmission system. This letter confirms that the Generator may commence commercial operation of the Facility and associated interconnection facilities effective as of [Date plus one day].

Thank you.

[Signature]
[Transmission Owner Representative]

cc: Midwest ISO

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APPENDIX D - INTERCONNECTION GUIDELINES

This Appendix D is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

The unique requirements of each generation interconnection will dictate the establishment of mutually agreeable Interconnection Guidelines that further define the requirements of this Interconnection and Operating Agreement. The Interconnection Guidelines address, but are not limited to, the following:

(a) **System Protection Facilities:** Transmission Owner will construct a protective relaying scheme to protect the Transmission Owner's transmission system from faults on the Generator Interconnection Facilities. If a differential relaying scheme is used on the Generator Interconnection Facilities, *i.e.*, the Generator-owned transmission line, differential relaying equipment must be installed at the Facility. Generator will be responsible for providing protection for its generators and associated equipment from faults on the Generator Interconnection Facilities and for faults on the Transmission Owner's transmission system.

(b) **Communication requirements:** Generator shall provide a standard telephone number for communication to the facility controlling the generators. Generator shall provide backup voice communications either by establishing a dedicated telephone line or by utilizing wireless phone service. Facsimile communication shall also be available at the Facility control room. If the Facility control room is not staffed at any time when the Facility is not synchronized, then Generator shall provide a 24-hour contact telephone number for contacting those personnel responsible for operatingthe Facility.

(c) **Metering requirement**: Transmission Owner shall construct and/or install as part of the Transmission Owner Interconnection Facilities that metering and telemetry equipment required to provide MW, MVar, MWh, and MVarH, and that telemetry necessary to provide data to the Transmission Owner's transmission system control center and through the Transmission Owner energy management system to the Transmission Provider. Transmission Owner shall make available to Generator access to the metering and telemetry equipment so that Generator can electronically connect to such equipment and transmit all data to Generator or Generator's designee.

(d) **Grounding requirements:** Generator will tie the ground for its transmission line to the ground grid of the Trimble County 345 kV substation at a point provided by the Transmission Owner.

(e) **Transmission Line and Substation Connection configurations:** Transmission Owner will designate a physical interconnection point at the Trimble County 345 kV substation that shall be at the point where Generator's transmission line connects (*i.e.*, the Point of Interconnection) to the dead end bells on the substation as soon as the engineering and design for the Transmission Owner Interconnection Facilities are complete.

(f) **Short Circuit requirements:** Transmission Owner will provide short circuit requirements associated with its transmission system for the Generator-owned equipment as soon as the engineering and design for the Transmission Owner Interconnection Facilities are complete.

(g) **Synchronizing requirements:** Generator will synchronize the Facility at the Point of Interconnection.

(h) **Reactive Power Control requirements:** Generator is expected to provide its own reactive power needs. Upon request from the Transmission Owner's transmission system control center, the Facility shall provide reactive power, dynamically, over a range of 0.90 leading to 0.90 lagging power factor at the Point of Interconnection.

(i) **Data provisions**: Generator will provide line disconnect position and 345 kV breaker status. Transmission Owner will provide MW, MVar, MWh and MVarH data, as measured at the Point of Interconnection, to Generator.

(j) **Energization inspection and testing requirements:** Transmission Owner shall have the right to inspect the Generator-owned 345 kV transmission line and terminal equipment at the Facility before electrically connecting to the Trimble County 345 kV substation.

(k) **Auxiliary Power:** Generator will arrange for auxiliary power from the local electric distribution utility in Kentucky for periods when the Facility is not generating. Generator will design the auxiliary power system of the Facility such that an electrical connection between the Transmission Owner's transmission system and the local electric distribution utility cannot occur.

MISO Project G218 Queue 37356-01
APPENDIX E - OPERATING GUIDELINES

This Appendix E is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

The unique requirements of each generation interconnection will dictate the establishment of mutually agreeable Operational Guidelines that further define the requirements of this Interconnection and Operating Agreement. These guidelines address, but are not limited to, the following:

(a) **System Protection Facilities (relaying):** Generator and Transmission Owner agree to operate the protective relays associated with the Transmission Owner Interconnection Facilities under Generator's and Transmission Owner's respective operational control in compliance with Transmission Owner's approved settings. To ensure such protective relays are in good operational order and properly adjusted, Generator and Transmission Owner agree to test such protective schemes within their respective control at least once every five (5) years or as agreed by Generator and Transmission Owner or as required by the rules and procedures of the Transmission Provider, if applicable, which rules and procedures shall govern in the event of a conflict under this Paragraph (a). Generator and Transmission Owner shall provide the other sufficient notice so that the other Parties may have a representative(s) present to witness such test of protective schemes. Upon completion of such testing, Generator and Transmission Owner, as appropriate, shall provide the other Parties the test results. Generator or Transmission Owner shall notify the other Parties in writing as soon as practicable of any failures in, and/or setting or design changes to, such protective relay schemes.

(b) **Switching and tagging:** The electrical clearance procedures for the Transmission Owner Interconnection Facilities are specified in APPENDIX E(b).

(c) **Communication requirements:** The communications requirements and procedures are specified in APPENDIX E(c).

(d) **Metering requirements:** On a daily basis, Generator or Generator's designee will checkout scheduled and actual generation meter readings (*i.e.*, MWh and MVarH) with the Transmission Owner transmission system control center. Additionally, in the event of telemetry failure, Generator shall provide by telephone hourly generation meter readings (*i.e.*, MWh and MVarH) for the Facility to the Transmission Owner transmission system control center.

(e) **Data reporting requirements:** [None]

(f) **Training:** [None]

(g) **Capacity determination and verification (including ancillary services and certification):** Before Generator provides any Ancillary Services, Generator will obtain certification pursuant to Transmission Provider requirements and procedures.

(h) **Emergency operations, including system restoration and black start arrangements:** Emergency operations shall be performed per Article 7.

(i) **Identified must-run conditions:** [None]

(j) **Provision of ancillary services:** Transmission Owner is not obligated to provide Ancillary Services to Generator under this Agreement. Notwithstanding, Generator shall be entitled to Ancillary Services from the Transmission Owner's transmission system but only to the extent that such Ancillary Services are available and requested. If applicable, Generator shall purchase or otherwise provide what Ancillary Services it requires, if any, to deliver the energy produced by the Facility pursuant to the Transmission Provider OATT.

(k) **Specific transmission requirements of nuclear units to abide by all NRC requirements and regulations:** [Not applicable]

(l) **Stability requirements, including generation short circuit ratio considerations:** [None]

(m) **Limitations of operations in support of emergency response:** In accordance with Section 4.13.5.2, as frequency drops, the Facility is expected to stay on line and "ride through" until frequency drops below certain set points as described in ECAR DOCUMENT NO. 3 EMERGENCY OPERATIONS, Revised June 16, 1998 - APPENDIX I ISOLATION OF GENERATING UNITS, page 6 and 7, as excerpted below:

If a generating unit is removed from the Control Area at a frequency higher than or a time less than that shown in the following table, an amount of load equal to the generation being removed from the Control Area must also be shed simultaneously.

Frequency Time before Generation Unit Isolation

60.0 to 59.5 Hz Unlimited

59.5 to 58.5 Hz 30.0 minutes before unit isolation can be expected

58.5 to 58.2 Hz 7.0 minutes before unit isolation can be expected

Below 58.2 Hz Unit isolation without time delay can be expected

The above operating time periods and frequencies may be adjusted for specific units for the cumulative effect of blade fatigue over the life of the turbine.

If generating units are isolated from the system, every effort should be made by the power plant operators to maintain unit auxiliaries and, if possible, a local load. This will allow rapid resynchronizing of the unit to the main network and aid in restoration of the system.

(n) **Maintenance and Testing:** Transmission Owner will provide Generator notice per Transmission Provider requirements of any planned maintenance and testing that will affect the ability of the Facility to remain interconnected with Transmission Owner's transmission system. For unplanned maintenance and testing, Transmission Owner will provide notice to Transmission Provider per Transmission Provider requirements and to Generator as soon after Transmission Owner becomes

aware of the need for such unplanned maintenance and testing as reasonably possible. Generator will provide Transmission Provider per Transmission Provider requirements and Transmission Owner, Generator's long-term maintenance schedule for generators of greater size than 18 MW (one module) for a minimum of a rolling one-year period (Type I). Generator will submit to Transmission Provider updated maintenance schedules on a quarterly basis. All such planned maintenance outages will be submitted to Transmission Provider and Transmission Owner at least two weeks in advance for review (Type II); this notice shall advise whether Generator requires electrical clearance at the Transmission Owner Interconnection Facilities.

For emergency outages of the Facility, Generator will provide notice to Transmission Owner as soon after Generator becomes aware of the need for electrical clearance in connection with the outage as reasonably possible. Nothing in this Paragraph prohibits Transmission Owner or Generator from opening its respective transmission facilities without notice to the other should such action avoid injury to personnel or property or to the public.

(o) **Generation and operation control:** Generator will notify Transmission Owner and the Transmission Provider when the Facility is synchronized with the Transmission System and when the Facility is taken off-line. Generator will be solely responsible for regulating to its scheduled obligation and will within 10 minutes adjust the electronic tag to the actual output.

(p) **Reactive Control:** Generator is expected to provide its own reactive power needs. Upon request from the Transmission Owner's transmission system control center, the Facility is required to provide reactive power, dynamically, over a range of 0.90 leading to 0.90 lagging power factor at the Point of Interconnection.

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APPENDIX E(b)

SWITCHING AND TAGGING PROCEDURES

1. Definitions

1.1. CLEARANCE - The process of removing and holding a transmission line, section of bus or piece of equipment from service so that work may be safely performed.

1.2. HOLD CARD - The formal registered card in the LG&E and KU Electrical Operating Card system. It is applied at the switches and disconnects through which electrical energy may be supplied to the section of line or equipment at which safety CLEARANCE is desired. It may be used with proper authority and registration at all voltage levels. A HOLD CARD is NEVER used to hold circuits or equipment IN service.

2. Planned Clearance Request originated by Generator

2.1. If the switching on the generating facility impacts the operation of the Transmission Owner Interconnection Facilities, then Generator will send a Clearance Request to the LG&E and KU transmission system control center to facilitate the switching.

3. Planned Clearance Request in the Trimble County 345 kV substation originated by Generator

3.1. Any planned switching in the Trimble County 345 kV substation originated by Generator will be coordinated with a Clearance Request through the LG&E and KU transmission system control center with a minimum of 24 hours' notice except in emergency situations (notices of between 24 hours and five days may be required depending on the impact of the outage on the transmission grid). The LG&E and KU transmission system control center will accommodate the request as soon as practicable. Personnel availability and system conditions may prevent a Clearance Request from being completed at the time requested by Generator. LG&E and KU personnel will perform all switching and apply all HOLD CARDS in the LG&E and KU Trimble County 345 KV substation. Generator's personnel may observe the switching if desired. Once the LG&E and KU transmission system control center has received assurance from LG&E and KU personnel that all devices are properly opened and carded, the LG&E and KU transmission system control center will provide CLEARANCE to Generator.

4. Planned Clearance Request on Generator Interconnection Facilities originated by Transmission Owner

4.1. All planned Clearance Requests on Generator Interconnection Facilities originated by Transmission Owner will be coordinated with Generator's personnel by a Clearance Request submitted by LG&E and KU personnel with a minimum of 48 hours' notice except in emergency situations. Generator will accommodate the request as soon as practicable. Generator's personnel will perform all switching and apply all HOLD CARDS in Generator's facilities. LG&E and KU personnel may observe all switching if desired.

Once Generator is assured that all devices are properly opened and carded, Generator's personnel will provide CLEARANCE to the LG&E and KU transmission system control center.

5. Planned Clearance Request in the Trimble County 345 kV substation originated by Transmission Owner

5.1. Generator will be notified for informational purposes only of any planned Clearance Request in the Trimble County 345 kV substation originated by Transmission Owner that do not require total isolation of the Generator Interconnection Facilities from the Transmission Owner's transmission system.

5.2. Any planned Clearance Requests that would result in the isolation of the Generator Interconnection Facilities from Transmission Owner's transmission system will be coordinated with Generator.

6. Unplanned requests to isolate Generator Interconnection Facilities by remote breaker operation

6.1. Generator may request the Transmission Owner's transmission system control center to isolate the Generator Interconnection Facilities from the transmission system by the remote operation of breakers in the Trimble County 345 kV substation. The transmission system control center will accommodate the request as soon as practicable. Personnel availability and system conditions may prevent a request from being completed at the time requested by Generator. CLEARANCE will not be given and Generator's personnel must isolate Generator's facilities before performing work. If CLEARANCE is required then a request must be made under the procedures of Section 3.1 above.

7. Unplanned outages

7.1. If an unplanned interruption occurs in either Generator Interconnection Facilities or the Trimble County 345 kV substation, then both Transmission Owner's transmission system control center and Generator's personnel will provide the other with all pertinent information as soon as practicable. This information will include, but not limited to:

1. Devices involved,
2. Status of devices in question,
3. Time stamps,
4. Cause of interruption (if available),
5. Relay targets (if available),
6. Any information helpful in determining cause and/or useful in the restoration process

8. Procedures for re-energizing Generator Interconnection Facilities after isolation from transmission system

   8.1. Generator's personnel must request Transmission Owner's transmission system control center to re-energize the Generator Interconnection Facilities after such Facilities have become isolated.

9. Emergency switching to isolate Generator Interconnection Facilities from LG&E and KU transmission system

   9.1 During emergency situations, when LG&E and KU personnel are unable to isolate Generator Interconnection Facilities from the Trimble County 345 kV substation, LG&E and KU may request Generator's personnel to open the 138 kV line breaker/switch at the Facility.

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APPENDIX E(c)

COMMUNICATIONS REQUIREMENTS

1. Generator's personnel will notify Transmission Owner's transmission system control center:

   1.1. Prior to synchronization of the first generator;
   1.2. Prior to the planned separation of the last generator;
   1.3. As soon as possible after an unplanned separation of all generators;
   1.4. For Clearance Requests for Generator Interconnection Facilities requiring switching on the Trimble County 345 kV substation; and
   1.5. When abnormal system conditions are affecting the operation of the Generator Interconnection Facilities.

2. Transmission Owner's transmission system control center will notify Generator's personnel:

   2.1. When conditions may prevent Facility synchronization;
   2.2. When conditions may require Facility separation;
   2.3. On a requirement for Facility separation;
   2.4. On the requirement for redispatch during a system emergency; and
   2.5. For a Clearance Request for Transmission Owner-operated equipment requiring switching on the Generator Interconnection Facilities.

3. In the event of telemetry failure from the Transmission Owner Interconnection Facilities, Generator's personnel will be required to provide hourly meter readings (*i.e.*, MWh and MVarH) to Transmission Owner's transmission system control center.

4. The Parties anticipate that their respective operating personnel will communicate beyond the requirements of notice above as necessary and appropriate, in accordance with Good Utility Practice, to provide reliable and efficient operation of both Transmission Owner's transmission system and Generator Interconnection Facilities.

EXHIBIT 1

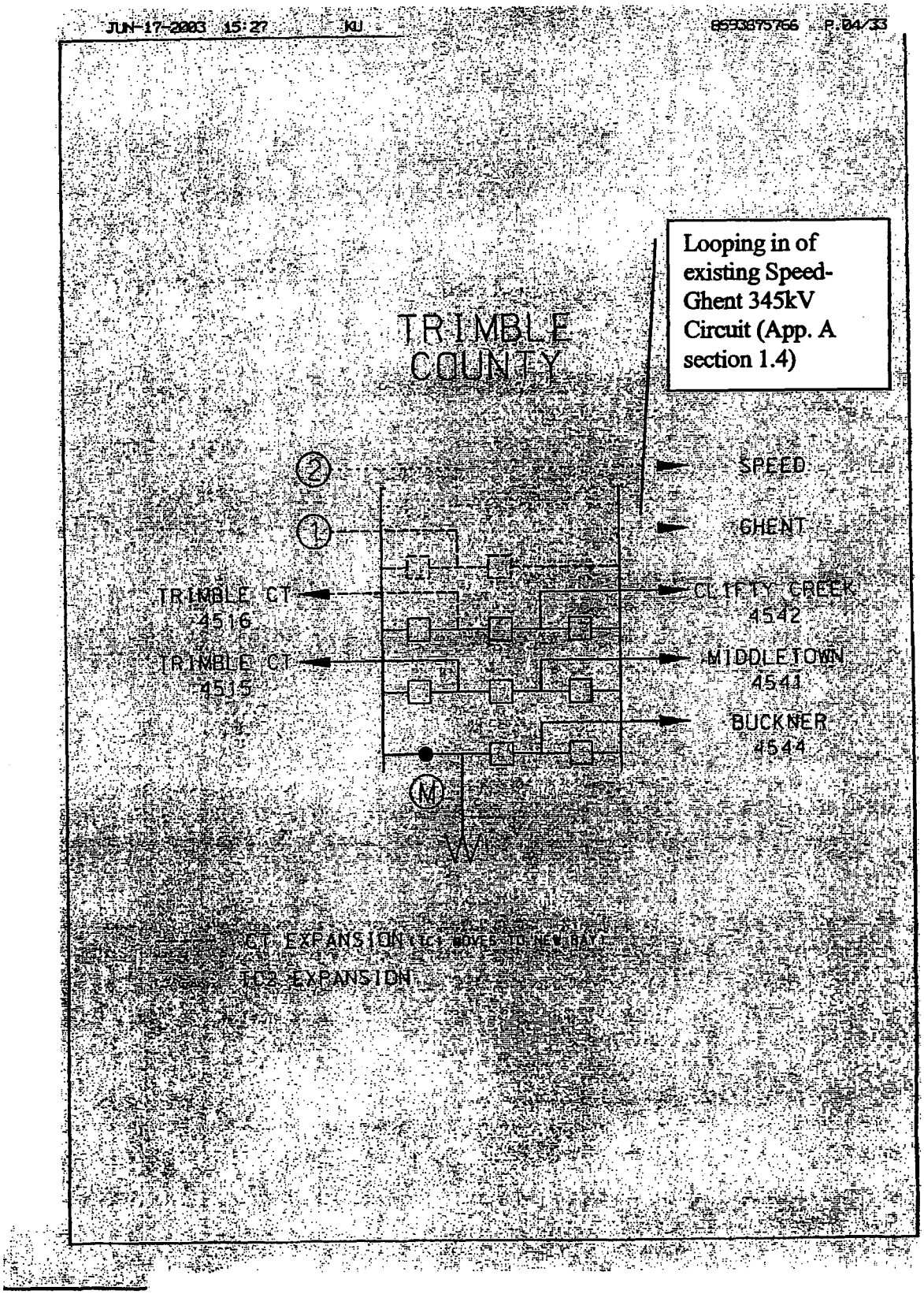
JUN-17-2003 15:27 KU 8593875766 P.04/33
TRIMBLE COUNTY
Looping in of existing Speed-Ghent 345kV Circuit (App. A section 1.4)
SPEED
GHENT
CLIFTY CREEK 4542
MIDDLETOWN 4541
BUCKNER 4544
TRIMBLE CT 4516
TRIMBLE CT 4515
CT EXPANSION (CT MOVED TO NEW BAY)
HC2 EXPANSION

EXHIBIT 2

Construction Cost

Task	Cost in 2003 Dollars	Cost in 2007 Dollars
Trimble County 345 kV substation cost without take-off structure	$3,940,275	$4,486,708
Cost of the interconnection take-off structure at the Trimble County 345 kV substation	$110,000	$125,255
Transmission line from Trimble 345 kV substation to the new tap on Speed – Ghent 345 kV transmission line Material – Cables; steel structures, etc Dead-end structure at the new tap New line from Trimble County 345 kV substation to the new tap on Speed – Ghent 345 kV line	$3,475,210	$3,957,149
Total	$7,525,485	$8,569,112

LG&E and KU estimates do not include any cost for construction of transmission facilities between the Facility and the Point of Interconnection at the take-off structure in the Trimble County 345kV substation.

Cinergy has estimated that $304,384 (in 2007 dollars) will be required to replace equipment at the Speed 345 kV substation to match the new equipment installed at the Trimble County 345 kV substation. LG&E and KU will relocate the existing protective equipment at Ghent-to-Trimble County as part of this project. Therefore, no significant work will be needed at the Speed 345 kV substation and the Ghent 345 kV substation.

All of the identified facilities must be completed 6 months before the Facility's commercial operation date of January 1, 2007 to facilitate testing of the new unit. Therefore, all the transmission work must be finished by July 1, 2006. A schedule of the key tasks are given below -

Start Date	Task/Item
October 1, 2003	Looping of Ghent – Speed 345 kV transmission line through Trimble County 345 kV substation –

	Engineering Design
July 1, 2004	Looping of Ghent – Speed 345 kV transmission line through Trimble County 345 kV substation – Right-of-way acquisition
April 1, 2005	Looping of Ghent – Speed 345 kV transmission line through Trimble County 345 kV substation – New Line Material Acquisition
July 1, 2005	TRIMBLE 345 KV SUBSTATION Order all substation materials
January 1, 2006	Looping of Ghent – Speed 345 kV transmission line through Trimble 345 kV substation – New Line Construction

TAB 2

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc.	))	Docket No. ER04-_____-000

NOTICE OF FILING
(_____, 2004)

Take notice that on _____, 2004, pursuant to Section 205 of the Federal Power Act and Section 35.12 of the Commission's regulations, 18 C.F.R. §35.12 (2002), the Midwest Independent Transmission System Operator, Inc. ("Midwest ISO") submitted for filing an Interconnection and Operating Agreement among Louisville Gas & Electric Company and Kentucky Utilities, the Midwest ISO and Louisville Gas & Electric Company.

A copy of this filing was served on all parties.

Any person desiring to intervene or to protest this filing should file with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. All such motions or protests should be filed on or before the comment date, and, to the extent applicable, must be served on the applicant and on any other person designated on the official service list. This filing is available for review at the Commission or may be viewed on the Commission's web site at http://www.ferc.gov, using the "FERRIS" link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll-free at (866) 208-3676, or for TTY, contact (202) 502-8659. Protests and interventions may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's web site under the "e-Filing" link. The Commission strongly encourages electronic filings.

Comment Date: _____

Magalie Roman Salas
Secretary

Project G218 Queue 37356-01 I&O Agreement

INTERCONNECTION AND OPERATING AGREEMENT

entered into by the

Midwest Independent Transmission System Operator, Inc.

Louisville Gas & Electric Company

and

Louisville Gas & Electric Company and Kentucky Utilities Company

entered into on the 27th day of January 2004

INTERCONNECTION AND OPERATING AGREEMENT

THIS AGREEMENT is made and entered into this 27th day of January 2004 by and among **Louisville Gas & Electric Company**, a Kentucky Corporation, and **Kentucky Utilities Company**, a Kentucky corporation, (hereinafter referred to as "LG&E and KU"), sometimes hereinafter referred to as "Generator," the **Midwest Independent Transmission System Operator, Inc.**, a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware, sometimes hereinafter referred to as the "Transmission Provider," and **Louisville Gas & Electric Company** (hereinafter referred to as "LG&E") existing under the laws of the State of Kentucky, sometimes hereinafter referred to as "Transmission Owner." Generator, Transmission Owner, or Transmission Provider each may be referred to individually as a "Party" or collectively as the "Parties."

RECITALS

WHEREAS, Generator intends to own and operate the Facility identified in Appendix B; and,

WHEREAS, the Facility is located adjacent to the Transmission System owned by Transmission Owner and subject to functional control of the Transmission Provider; and,

WHEREAS, Generator has requested, and the Transmission Provider and Transmission Owner have agreed to enter into this Interconnection and Operating Agreement with Generator for the purposes of interconnecting the Facility with the Transmission System;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

ARTICLE 1
DEFINITIONS

Wherever used in this Agreement with initial capitalization, the following terms shall have the meanings specified or referred to in this Article 1. Terms used in this Agreement with initial capitalization not defined in this Article 1 shall have the meanings specified in the Transmission Provider OATT:

1.1 "Applicable Laws and Regulations" shall mean all applicable federal, state and local laws, ordinances, rules and regulations, and all duly promulgated orders and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.

1.2 "Applicable Reliability Council" shall mean any of the regional reliability councils of NERC in which the Facility is located.

1.3 "Breach" shall mean the failure of a Party to perform or observe any material term or condition of this Agreement and shall include, but not be limited to, the events described in Section 17.1.

1.4 "Breaching Party" shall mean a Party that is in Breach of this Agreement.

1.5 "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, and 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 Agreement. Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, whether provided electronically or in hard copy, 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.

1.6 "Default" shall mean the failure of a Party in Breach of this Agreement to cure such Breach in accordance with the provisions of Article 17.

1.7 "Effective Date" shall mean the date on which this Agreement becomes effective in accordance with Section 2.1.

1.8 "Emergency Condition" shall mean a condition or situation (i) that in the judgment of any Party is imminently likely to endanger life or property; or (ii) that in the judgment of the Transmission Provider or Transmission Owner is imminently likely to cause a material adverse effect on the security of, or damage to the Transmission System or the electrical or transmission systems of others to which the Transmission System is directly or indirectly connected; or (iii) that in the judgment of Generator is imminently likely to cause damage to the Facility. System restoration and black start shall be considered Emergency Conditions. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one of the enumerated conditions or situations identified in this definition also exists.

1.9 "Facility" shall mean Generator's electric generating facility identified in the "as built" drawings provided to the Transmission Provider in accordance with Section 9.3 and in Appendix B, but shall not include Generator Interconnection Facilities.

1.10 "FERC" shall mean the Federal Energy Regulatory Commission, or its successor.

1.11 "Force Majeure" shall mean any cause beyond the control of the Party affected, including but not restricted to, acts of God, flood, drought, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance or disobedience, labor dispute, labor or material shortage, sabotage, acts of public enemy, explosions, orders, regulations or restrictions imposed by governmental, military, or lawfully established civilian authorities, which, in any of the foregoing cases, by exercise of due diligence such Party could not reasonably have been expected to avoid, and which, by the exercise of due diligence, it has been unable to overcome. No Party shall be relieved of liability for failure of performance to the extent that such failure is due to causes arising out of its own negligence or due to removable or remediable causes which it fails to remove or remedy within a reasonable time. Nothing contained in this Agreement shall be construed to require a Party to settle any strike or labor dispute. Mere economic hardship of a Party does not constitute Force Majeure. A Force Majeure event does not include an act of negligence or intentional wrongdoing.

1.12 "Generator Interconnection Facilities" shall mean all facilities and equipment owned and/or controlled, operated and maintained by Generator on Generator's side of the Point of Interconnection as identified in Appendix B, including any modifications, additions, or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Facility to the Transmission System.

1.13 "Good Utility Practice" shall have the same meaning as assigned to such term in the Transmission Provider OATT.

1.14 "Governmental Authority" means any federal, state, local or other governmental, regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, arbitrating body, or other governmental authority having jurisdiction over either Party.

1.15 "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," "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. For purposes of this Agreement, the term "Environmental Law" shall mean Federal, state, and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders relating to pollution or protection of the environment, natural resources or human health and safety.

1.16 "Interconnection Facilities" shall mean the Transmission Owner Interconnection Facilities and the Generator Interconnection Facilities identified in Appendices A and B.

1.17 "Interconnection Guidelines" shall mean the technical guidelines identified in Appendix D.

1.18 "Interconnection Request" shall mean the information and other requirements prescribed by Attachment R-1 of the Transmission Provider OATT.

1.19 "Interconnection Service" shall mean the interconnection component of transmission service under the Transmission Provider OATT and the services provided by the Transmission Provider to interconnect the Facility with the Transmission System pursuant to the terms of this Agreement. Interconnection Service does not include the right to obtain the delivery component of transmission service on the Transmission System, which service shall be obtained in accordance with the provisions of the Transmission Provider OATT.

1.20 "Interconnection System Upgrades" shall mean the minimum necessary upgrades to the Transmission System that would not have been required but for an Interconnection Request, including (i) upgrades necessary to remove overloads and voltage criteria violations, and (ii) upgrades necessary to remedy short-circuit and/or stability problems resulting from the connection of the Facility to the Transmission System. Interconnection System Upgrades shall not include upgrades to the Transmission System that may be required to move power from the Point of Interconnection to load and shall not include Transmission Owner Interconnection Facilities. Interconnection System Upgrades are identified in Appendix A.

1.21 "Metering Equipment" shall mean all metering equipment installed at the metering points designated in Appendix A.

1.22 "NERC" shall mean the North American Electric Reliability Council, or its successor agency assuming or charged with similar responsibilities related to the operation and reliability of the North American electric interconnected transmission grid.

1.23 "Non-Breaching Party" shall mean a Party that is not in Breach of this Agreement with regard to a specific event of Breach by another Party.

1.24 "Operation Date" shall mean the day commencing at 00:01 hours on the day following the day during which all necessary Interconnection Facilities, any necessary Interconnection System Upgrades, and the Facility have been completed as required by this Agreement and energized in parallel operation with Transmission System as confirmed in a writing substantially in the form shown in Appendix C.

1.25 "Operating Guidelines" shall mean the operating guidelines identified in Appendix E.

1.26 "Point of Interconnection" shall mean the point or points, shown in Appendix A, where the Generator Interconnection Facilities interconnect with the Transmission Owner Interconnection Facilities.

1.27 "Prior Generator" shall mean any person or persons, other than Generator, who has entered into (i) an Interconnection and Operating Agreement with the Transmission Provider on or after the date on which the Transmission Provider commences to provide transmission service or (ii) a similar agreement with a Transmission Owner prior to the date on which the Transmission Provider commences to provide transmission service.

1.28 "Reasonable Efforts" shall mean, with respect to any action required to be made, attempted, or taken by a Party under this Agreement in the exercise of "Reasonable Efforts," such efforts as are timely and consistent with Good Utility Practices that would be undertaken for the protection of its own interests under the conditions affecting such action, including but not limited to the amount of notice of the need to take such action and the duration and type of such action.

1.29 "Secondary Systems" shall mean 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.

1.30 "Subsequent Generator" shall mean any person or persons, other than Generator, that enters into an Interconnection and Operating Agreement with the Transmission Provider on or after the date of this Agreement.

1.31 "Switching and Tagging Rules" shall mean the switching and tagging procedures of Transmission Owners and Generator, as set forth in Appendix E, and as they may be amended from time to time.

1.32 "System Protection Facilities" shall mean the equipment required to protect (i) the Transmission System, other delivery systems and/or other generating systems connected to the Transmission System from faults or other electrical disturbance occurring at the Facility, and (ii) the Facility from faults or other electrical system disturbance occurring on the Transmission System or on other delivery systems and/or other generating systems to which the Transmission System is directly or indirectly connected. System Protection Facilities shall include such protective and regulating devices as are identified in the Interconnection Guidelines or that are required by Applicable Law and Regulations or as are otherwise necessary to protect personnel and equipment and to minimize deleterious effects to the Transmission System arising from the Facility.

1.33 "Transmission Owner" shall have the same meaning as assigned to such term in the Transmission Provider OATT.

1.34 "Transmission Owner Interconnection Facilities" shall mean all facilities and equipment owned and/or controlled, operated and maintained by the Transmission Owner on the Transmission Owner's side of the Point of Interconnection as identified in Appendix A, including any modifications, additions or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Facility to the Transmission System. Transmission Owner Interconnection Facilities do not include Interconnection System Upgrades, which are separately identified in Appendix A.

1.35 "Transmission Provider OATT" shall mean the open access transmission tariff of Transmission Provider, on file with FERC, and in effect, as amended or superceded from time to time, under which transmission service is provided on the Transmission System.

1.36 "Transmission System" shall mean the facilities controlled or operated by the Transmission Provider that are used to provide transmission service under Part II and Part III of the Transmission Provider OATT. The Transmission System includes facilities, the operational control of which has been transferred to the Transmission Provider.

ARTICLE 2
TERM OF AGREEMENT

2.1 **Effective Date.** Subject to required regulatory authorizations, including, without limitation, acceptance by FERC under Section 205 of the Federal Power Act, this Agreement shall become effective on the date on which this Agreement is made and entered into by the Parties.

2.2 **Term.**

2.2.1 **General.** This Agreement shall become effective as provided in Section 2.1 and shall continue in full force and effect until (i) the Parties agree to mutually terminate this Agreement; (ii) the date on which the Facility permanently ceases commercial operations; (iii) earlier termination is permitted or provided for under this Agreement; or (iv) Generator terminates this Agreement after providing the Transmission Provider with written notice at least sixty (60) days prior to the proposed termination date, provided that Generator has no outstanding contractual obligations to the Transmission Provider or Transmission Owner under this Agreement. No termination of this Agreement shall be effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination.

2.2.2 **Termination Upon Default.** In the event of a Default by a Party, the Non-Breaching Party or Parties shall have the termination rights described in Articles 17 and 18; provided, however, if an event described in part (c) of

Section 17.1 has not occurred, and the Default does not pose a threat to the reliability of the Transmission System, neither the Transmission Provider nor the Transmission Owner may terminate this Agreement if Generator is the Breaching Party and Generator (i) has undertaken, in accordance with Section 17.3, to cure the Breach that lead to the Default and has failed to cure the Breach for reasons other than Generator's failure to diligently commence reasonable and appropriate steps to cure the Breach within the thirty (30) days allowed by Section 17.3, and (ii) compensates the Transmission Provider or the Transmission Owner within thirty (30) days for the amount of damage billed to Generator by the Transmission Provider or the Transmission Owner for any damages incurred by the Transmission Provider or the Transmission Owner as a result of such Default. In the event of an occurrence described in part (c) of Section 17.1, and providing the Default does not pose a threat to the reliability of the Transmission System, the Non-Breaching Party or Parties shall not terminate this Agreement provided that the Breaching Party provided an assurance of payment acceptable to the Non-Breaching Party, and pays any applicable damages.

2.2.3 **Material Adverse Change.** In the event of a material change in law or regulation that adversely affects, or may reasonably be expected to adversely affect a Party's rights and/or obligations under this Agreement, the Parties shall negotiate in good faith any amendments to this Agreement necessary to adapt the terms of this Agreement to such change in law or regulation, and the Transmission Provider shall file such amendments with FERC. If, within sixty (60) days after the occurrence of any event described in this Section 2.2.3, the Parties are unable to reach agreement as to any necessary amendments, the Parties may proceed under Article 22 to resolve any disputes related thereto; and, the Transmission Provider and/or Transmission Owner shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Generator shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to Section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that a 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. If a Party is unable to fully perform this Agreement due to the occurrence of an event described in this Section 2.2.3 and such inability is not based on economic reasons, such Party shall not be deemed to be in default of its obligations under this Agreement, provided that such Party is seeking dispute resolution under Article 22 or before FERC, to the extent that (i) such Party is unable to perform as a result of such an event and (ii) such Party acts in accordance with its obligations under this Section 2.2.3.

2.3 **Regulatory Filing.** In accordance with Applicable Laws and Regulations, the Transmission Provider shall file this Agreement, and any amendment to this Agreement with FERC as a service Agreement under the Transmission Provider OATT. If Generator has executed this Agreement or any amendment to this Agreement, Generator shall not protest this Agreement or the amendment, shall reasonably cooperate with the Transmission Provider with respect to such filing and shall provide any information, including the rendering of testimony reasonably requested by the Transmission Provider to the extent reasonably needed to comply with applicable regulatory requirements.

2.4 **Survival.** The applicable provisions of this Agreement shall continue in effect after expiration, cancellation, or termination hereof to the extent necessary to provide for final billings, billing adjustments, and the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect.

2.5 **Termination Obligations.** Upon any termination pursuant to this Agreement, Generator shall be responsible for the payment of all costs or other contractual obligations incurred prior to the termination date including any incurred operating expenses, previously incurred capital costs, penalties for early termination, costs of removal and site restoration. Such outstanding contractual obligations may include the payment of costs associated with the construction of the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades under this Agreement that would have been beneficial to a Subsequent Generator.

ARTICLE 3
INTERCONNECTION SERVICE

3.1 **Service.** Under this Agreement, the Transmission Provider shall provide Generator with Interconnection Service for the Facility for the term of this Agreement.

3.2 **Scope of Service.** The Transmission Provider shall provide Interconnection Service for the Facility at the Point of Interconnection. In the event of an increase in the output of the Facility or other material change or modification to the configuration and/or operation of the Facility, the Parties shall negotiate appropriate revisions to this Agreement, including as necessary the specifications or requirements set forth in the Appendices to this Agreement, necessary to permit the Transmission Provider to provide Interconnection Service to the Facility under this Agreement in a secure and reliable manner.

3.2.1 **Limitations on Scope.** Except as otherwise provided under this Agreement, neither Transmission Owner nor the Transmission Provider shall have any obligation under this Agreement (i) to pay Generator any wheeling or other charges for electric power and/or energy transferred through the Facility and/or the Generator Interconnection Facilities or for power or ancillary services provided by Generator; (ii) to make arrangements or pay under

applicable tariffs for transmission and ancillary services associated with the delivery of electricity and ancillary electrical products produced by the Facility; (iii) to procure electricity and ancillary electrical products to satisfy Generator's station service or other requirements; or (iv) to make arrangements under applicable tariffs for transmission, losses, and ancillary services associated with the use of the Transmission System for the delivery of electricity and ancillary electrical products to the Facility.

3.2.2 **No Transmission Service.** Neither the Transmission Provider nor Transmission Owner make any representations to Generator regarding the availability of transmission service on the Transmission System, and Generator agrees that the availability of transmission service on the Transmission System may not be inferred or implied from the Transmission Provider's or Transmission Owner's execution of this Agreement. If Generator wishes to obtain transmission service on the Transmission System, Generator must request such service in accordance with the provisions of the Transmission Provider OATT.

3.3 **Non-Force Majeure Reporting.** A Party shall notify the other Parties when it becomes aware of its inability to comply with the provisions of this Agreement for a reason other than Force Majeure. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including, but not limited to, 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. In the event of Force Majeure, a Party unable to comply with the provisions of this Agreement shall notify the other Parties in accordance with the provisions of Article 11.

3.4 **Third-Party Actions.** Generator acknowledges and agrees that from time to time during the term of this Agreement other persons may develop, construct and operate, or acquire and operate generating facilities located in the Control Areas of the Transmission Provider, and construction or acquisition and operation of any such facilities, and reservations by any such other persons of transmission service under the Transmission Provider OATT may adversely affect the availability of the delivery component of transmission service for the Facility's electric output. Generator acknowledges and agrees that the Transmission Provider and Transmission Owner have no obligation under this Agreement to disclose to Generator any information with respect to third-party developments or circumstances, including the identity or existence of any such person or other facilities, except as otherwise provided under Article 4 and elsewhere in this Agreement. Generator, Transmission Owner, and the Transmission Provider make no guarantees to each other under this Agreement with respect to transmission service that is available under the Transmission Provider OATT or any other tariff under which transmission service may be available in the region.

3.5 **Ancillary Services.** Until the existence of a suitable ancillary services market approved by FERC for use by the Transmission Provider, Generator is obligated to provide ancillary services, within its manufacturer's design limitations, to the Transmission Provider at rates, terms and conditions established by FERC; provided, however, that the failure to have any such rates shall not be a basis for Generator to refuse to provide such services. The Transmission Provider will select ancillary services from generators in a comparable manner so as to not unduly burden any one generator. This will apply on a case-by-case basis for each ancillary service. During the existence of an ancillary services market approved by FERC for use by the Transmission Provider, Generator specifically reserves unto itself, its successors and assigns, the right and option, but not the obligation, to provide ancillary services into an ancillary services market, whether or not such ancillary services are addressed in this Agreement. Ancillary services required to satisfy OATT requirements, either directly via contract or indirectly to satisfy self-provision requirements, shall be provided by Generator at the direction of the Transmission Provider.

3.6 **Cost Sharing with Subsequent Generators.** Within the twelve (12)-month period after the date of this Agreement, the Transmission Provider shall notify Generator of any Interconnection and Operating Agreement entered into by the Transmission Provider after the date of this Agreement with a Subsequent Generator providing for Interconnection Service that, in the judgment of the Transmission Provider, may benefit from the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades installed and operation and maintenance expenses incurred pursuant to this Agreement. Within twenty-four (24) months after the date of this Agreement, but in no event later than twelve (12) months after termination of this Agreement, Generator may request the Transmission Provider to conduct a study, at Generator's expense, to determine whether the Subsequent Generator should share costs with Generator for the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades required to be installed pursuant to this Agreement, including Generator's obligation to reimburse Transmission Owner for actual operation and maintenance costs pursuant to Section 4.10, that are beneficial, or may be beneficial, to provide Interconnection Service to the Subsequent Generator. Cost sharing between Generator and the Subsequent Generator shall not be authorized under this Section 3.6 unless this Agreement and the Interconnection and Operating Agreement of the Subsequent Generator were executed within one (1) year of one another. The Transmission Owner Interconnection Facilities and Interconnection System Upgrades, including Generator's obligation to reimburse Transmission Owner for actual operation and maintenance costs pursuant to Section 4.10, shall be considered beneficial to the provision of Interconnection Service to Generator as required by this Agreement and the Subsequent Generator when the provision of Interconnection Service to the Facility and each of the generating facilities of the Subsequent Generator, independent of the other, would have required the installation of the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades to receive Interconnection Service. If the study finds that the Transmission Owner

Interconnection Facilities and/or the Interconnection System Upgrades installed pursuant to this Agreement, including Generator's obligation to reimburse Transmission Owner for actual operation and maintenance costs pursuant to Section 4.10, are beneficial to the Interconnection Service provided to the Subsequent Generator, Generator shall be responsible for negotiating with the Subsequent Generator to arrive at an agreement between Generator and the Subsequent Generator that, unless otherwise agreed by Generator and the Subsequent Generator, provides for the sharing of costs in proportion to the maximum capability of the Facility and the generating facilities of the Subsequent Generator. The Transmission Provider and Transmission Owner shall not be parties to such agreement and shall not be responsible for the negotiation of such agreement. Nothing in such agreement shall be deemed to relieve Generator of any obligations under this Agreement or Subsequent Generator of any obligation under its Interconnection and Operating Agreement or similar agreement including, but not limited to, payment to the Transmission Owner for the cost of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades and reimbursement to Transmission Owner for actual operation and maintenance costs associated with the Transmission Owner Interconnection Facilities.

3.7 **Cost Sharing with Prior Generators.** Generator acknowledges that a Prior Generator may have the right to request the Transmission Provider to conduct a study, at the Prior Generator's expense, to determine whether Generator should share costs with the Prior Generator for the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades installed or required to be installed pursuant to the Interconnection and Operating Agreement or similar agreement of the Prior Generator, including Prior Generator's obligation to reimburse Transmission Owners for actual operation and maintenance costs associated with the Transmission Owners Interconnection Facilities, that are beneficial, or may be beneficial, to provide Interconnection Service to Generator under this Agreement. Cost sharing shall not be required under this Section 3.7 unless this Agreement and the Interconnection and Operating Agreement or similar agreement of the Prior Generator were executed within one (1) year of one another. The Transmission Owner Interconnection Facilities and Interconnection System Upgrades and Prior Generator's operation and maintenance cost reimbursement obligation shall be considered beneficial to the provision of Interconnection Service to Generator and the Prior Generator when the provision of Interconnection Service to the Facility and each of the generating facilities of the Prior Generator, independent of the other, would have required the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades to receive Interconnection Service. If the study finds that the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades installed or required to be installed pursuant to the Interconnection and Operating Agreement or similar agreement of the Prior Generator are beneficial to the Interconnection Service provided to Generator under this Agreement, Generator shall negotiate in good faith with the Prior Generator to arrive at an agreement between Generator and the Prior Generator that, unless otherwise agreed by Generator and the Prior

Generator, provides for the sharing of costs in proportion to the maximum capability of the Facility and the generating facilities of the Prior Generator. The Transmission Provider and Transmission Owner shall not be parties to such agreement and shall not be responsible for the negotiation of such agreement. Nothing in such agreement shall be deemed to relieve Generator of any obligations under this Agreement or Prior Generator of any obligations under its Interconnection and Operating Agreement or similar agreement including, but not limited to, payment to the Transmission Owner for the cost of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades and reimbursement to Transmission Owner for actual operation and maintenance costs associated with the Transmission Owner Interconnection Facilities.

ARTICLE 4
OPERATIONS

4.1 **General.** The respective performances of the Transmission Provider, Transmission Owner, and Generator under this Agreement shall comply with the Interconnection Guidelines attached hereto in Appendix D and the requirements, directions, manuals, standards, and guidelines of NERC, the Applicable Reliability Council and the Control Area in which the Facility is electrically located. To the extent that this Agreement does not specifically address or provide the mechanisms necessary to comply with such Interconnection Guidelines and NERC, the Applicable Reliability Council and Control Area requirements, directions, manuals, standards, or guidelines, each Party shall provide to the other Party all such information available or reasonably obtainable as may reasonably be required to comply with such requirements, directions, manuals, standards, or guidelines and shall operate, or cause to be operated, their respective facilities in accordance with such requirements, directions, manuals, standards, or guidelines. To the extent that the Transmission Provider or the Transmission Owner is assessed any penalties or other costs by NERC, the Applicable Reliability Council or such Control Area and such penalties or other costs are due to Generator's action or inaction, Generator shall reimburse the Transmission Provider and/or Transmission Owner for such penalties or other costs.

4.2 **Coordination Contact.** The Parties shall each identify one representative to serve as a "Coordination Contact" to be the initial point of contact and coordinate the communication between the Parties in implementing this Agreement. Each Party shall notify the other Parties in writing of the personnel that it has appointed as its Coordination Contact.

4.3 **Transmission Provider and Transmission Owner Obligations.** The Transmission Provider and the Transmission Owner shall cause the Transmission System and the Transmission Owner Interconnection Facilities to be operated, maintained and controlled (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including

those of the Applicable Reliability Council; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement. The Transmission Provider shall have the responsibility to provide functional control and direction of the Transmission System, and the Transmission Owner shall have direct control of the Transmission System. This responsibility and control will require that, from time to time, the Transmission Provider or Transmission Owner will provide operating instructions to Generator consistent with this Agreement, Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of the NERC, the Applicable Reliability Council and Applicable Laws and Regulations. Normal operating procedures and protocols to be observed by the Transmission Provider, the Transmission Owner, and the Generator shall be established in advance. Generator shall inform the Transmission Provider and Transmission Owner of any consequential, negative impacts on Generator of the direction provided by the Transmission Provider or Transmission Owner to Generator. The Transmission Provider and Transmission Owner shall factor these impacts into the direction it then provides to Generator. Any direction provided to Generator shall follow Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, the Applicable Reliability Council and Applicable Laws and Regulations, and shall consider the machine limitations of the Facility and will be consistent with this Agreement. To the extent that the direction ultimately provided to Generator by the Transmission Provider or Transmission Owner has a consequential, negative impact or impacts on Generator, the Transmission Provider or Transmission Owner shall compensate Generator in accordance with Generator's FERC tariff then in effect or rates negotiated in advance with the Transmission Provider, as applicable, except that if such direction is required due to non-compliance, Default or Breach by the Generator under this Agreement, no compensation shall be paid by the Transmission Provider or Transmission Owner.

4.4 **Generator Obligations.** Generator shall operate and control the Facility and the Generator Interconnection Facilities (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Council, the Transmission Provider, and Transmission Owner; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement. Nothing in this Agreement should be construed as creating any obligation that Generator operate the Facility and the Generator Interconnection Facilities as part of any Control Area operated by a Transmission Owner or the Transmission Provider. The Generator shall operate the Facility and the Generator Interconnection Facilities in accordance with the requirements of the Control Area of which it is part and in accordance with all directives of its Control Area operator and security coordinator, provided that such requirements and directives are not inconsistent with this Agreement, the Transmission Provider OATT, Good Utility Practice and NERC policies and standards and the directives of the Transmission Provider in accordance therewith.

4.5 **Access Rights.** Consistent with the provisions of Sections 6.3 and 9.1.7, the Parties shall provide each other with access rights as permissible to the property of the providing party as may be necessary for a Party's performance of their respective operational obligations under this Agreement; provided that, notwithstanding anything stated herein, a Party performing operational work within the boundaries of the other Party's facilities must abide by the rules applicable to that site.

4.6 **Switching and Tagging Rules.** The Parties shall abide by their respective Switching and Tagging Rules for obtaining clearances for work or for switching operations on equipment. Such Switching and Tagging Rules shall be developed in accordance with OSHA standards codified at 29 CFR Part 1910, or successor standards.

4.7 **Reactive Power.**

4.7.1 **Obligation to Supply Reactive Power.** Generator shall supply reactive power to the Transmission System in accordance with Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, the Applicable Reliability Council, Applicable Laws and Regulations and this Agreement. Generator shall respond to requests from the Transmission Provider to increase or decrease generator reactive power output in a manner consistent with Generator's obligation to operate and control the Facility as set forth in Section 4.4. The Transmission Provider shall exercise Reasonable Efforts under current operating circumstances to provide Generator with such schedules or levels at least one (1) day in advance, provided the Transmission Provider shall have the right to make changes to such schedule or levels in a manner consistent with the second sentence of this Section 4.7.1. The Facility shall generate such reactive power from the Facility's equipment connected to, and operating in parallel with, the Transmission System and within the manufacturer's design limitations of the Facility, provided that a schedule shall be provided to Generator in advance. Such limitation shall be in accordance with Section 4.7.2. If Generator supplies any reactive power or voltage control service to the Transmission System, the Transmission Provider shall arrange for payment to Generator in accordance with Generator's FERC tariff in effect at such time until a Transmission Provider rate becomes effective.

4.7.2 **Reactive Power Standards.** The Facility power factor design limitation minimum requirement shall be a reactive power capability sufficient to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor between 0.95 leading and 0.90 lagging. Under normal operating conditions, Generator shall operate the Facility to maintain a voltage schedule at the Point of Interconnection as prescribed by the Transmission Provider and within the manufacturer's

power factor design limitations for the Facility. In the event that the voltage schedule at the Point of Interconnection cannot be or is not maintained within this requirement, the Transmission Provider may request Generator to operate the Facility (within the manufacturer's design limitation of the equipment in service that is physically available for operation at the time) to produce increased or decreased, as appropriate, available reactive power output (measured in MVAR) in order to achieve the prescribed voltage schedule, provided that the Transmission Provider has requested other generating facilities and other reactive compensation resources in the affected area to produce increased available reactive power output (measured in MVAR) in order to achieve the prescribed voltage schedule. Generator shall promptly comply with such requests made by the Transmission Provider. In the event that under normal Transmission System operating conditions the Facility is unable to consistently maintain a voltage schedule, a reactive schedule or power factor schedule, whichever is applicable, at the Point of Interconnection as specified in the Interconnection Guidelines, Generator shall take such steps as are appropriate, within Generator's judgment and the manufacturer's design limitations of the Facility, to reconfigure and/or operate the Facility to meet the standards specified by this Section 4.7.2, provided Generator is compensated for such action pursuant to a FERC tariff then in effect.

Records of requests made by the Transmission Provider, and records indicating actual responses to these requests, shall be maintained by the Transmission Provider and subject to a third-party independent audit at Generator's request and expense. Any such request for an audit shall be presented to the Transmission Provider by Generator no later than twenty-four (24) months following a request by the Transmission Provider request for reactive power in accordance with this Section 4.7.2. For purposes of this Section 4.7.2, physical availability of equipment or the Facility shall not be based on economic considerations.

4.8 **Scheduling.** Generator shall submit schedules, either directly or through an agent, to the Transmission Provider in accordance with the Transmission Provider OATT.

4.9 **Redispatch for Congestion Management.** Generator shall comply with the FERC-authorized congestion management policies and procedures of Transmission Provider.

4.10 **Operating Expenses.** Generator shall be responsible for all expenses associated with operating the Facility and the Generator Interconnection Facilities. Generator shall reimburse the Transmission Owner for the actual cost of operating and maintaining the Transmission Owner Interconnection Facilities incurred by the Transmission Owner, including, but not limited to, the cost of ordinary and extraordinary replacements of equipment, taxes, insurance and applicable administrative and general overheads. Such "Operating Expenses" shall be the type

of expenses that would be classified to the following accounts in the FERC's Uniform System of Accounts, 18 CFR Part 101:

Transmission Expenses - Operation

FERC Accounts	Description
560	Operation supervision and engineering
561	Load dispatching
562	Station expenses
563	Overhead line expenses
564	Underground line expenses
565	Transmission of electricity by others
566	Miscellaneous transmission expenses
567	Rents
567.1	Operation supplies and expenses

Transmission Expenses - Maintenance

FERC Accounts	Description
568	Maintenance supervision and engineering
569	Maintenance of structures
570	Maintenance of station equipment
571	Maintenance of overhead lines
572	Maintenance of underground line expenses
573	Maintenance of miscellaneous transmission plant
574	Maintenance of transmission plant

In addition, an allocation of applicable Administrative and General Expenses FERC Accounts 920 through 935 would apply.

4.11 **Protection and System Quality.** Generator shall, at its expense, install, maintain, and operate System Protection Facilities as a part of the Facility and the Generator Interconnection Facilities. Any System Protection Facilities that may be required on the Transmission Owner Interconnection Facilities or the Transmission System in connection with the operation of the Facility shall be installed by the Transmission Owner at Generator's expense.

4.11.1 **Requirements for Protection.** In compliance with applicable Interconnection Guidelines, and NERC and Applicable Reliability Council requirements, Generator shall provide, install, own, and maintain relays, circuit breakers, and all other devices necessary to promptly remove any fault contribution of the Facility to any short circuit occurring on the Transmission System not otherwise isolated by the Transmission Owner equipment. Such protective equipment shall include, without limitation, a disconnecting device or switch with load interrupting capability to be

located between the Facility and the Transmission System at an accessible, protected, and satisfactory site selected upon mutual agreement of the Parties. Generator shall be responsible for protection of the Facility and Generator's other equipment from such conditions as negative sequence currents, over-or under-frequency, sudden load rejection, over-or under-voltage, and generator loss-of-field. Generator shall be solely responsible for provisions to disconnect the Facility and Generator's other equipment when conditions on the Transmission System could adversely affect the Facility.

4.11.2 **System Quality.** The design and operation of the Facility shall not cause excessive voltage excursions nor cause the voltage to drop below or rise above the range specified in the planning criteria defined in the Interconnection Guidelines and consistent with Generator's obligation to meet the voltage schedule specified by the Transmission Provider. The Facility and Generator Interconnection Facilities shall not 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 including the Interconnection Guidelines. In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric industry standard and the Interconnection Guidelines, ANSI Standard C84.1-1989 or the applicable superseding electric industry standard, shall control.

4.11.3 **Transmission Provider and Transmission Owner Right to Inspect.** The Transmission Provider and Transmission Owner shall have the right, but shall have no obligation or responsibility to (i) observe Generator's tests and/or inspection of any of Generator's System Protection Facilities and other protective equipment; (ii) review the settings of Generator's System Protection Facilities and other protective equipment; and (iii) review Generator's maintenance records relative to the Facility, Generator Interconnection Facilities and/or Generator's System Protection Facilities and other protective equipment. The foregoing rights may be exercised by the Transmission Provider and/or Transmission Owner from time to time as deemed necessary by the Transmission Provider and/or Transmission Owner upon reasonable notice to Generator. However, the exercise or non-exercise by the Transmission Provider or Transmission Owner of any of the foregoing rights of observation, review or inspection shall be construed neither as an endorsement or confirmation of any aspect, feature, element, or condition of the Facility, the Generator Interconnection Facilities or Generator's System Protection Facilities or other protective equipment or the operation thereof, nor as a warranty as to the fitness, safety, desirability, or reliability of same. Any information obtained by the Transmission Provider or Transmission Owner through the exercise

of any of its rights under this Section 4.11.3 shall be deemed to be Confidential Information.

4.11.4 **Generator Right to Inspect.** Generator shall have the right, but shall have no obligation or responsibility to (i) observe Transmission Owner's tests and/or inspection of any of Transmission Owner Interconnection Facilities and associated protective equipment; (ii) review the settings of such Transmission Owner's protective equipment; and (iii) review Transmission Owner's maintenance records relative to the Transmission Owner Interconnection Facilities and associated protective equipment. The foregoing rights may be exercised by Generator from time to time as deemed necessary by the Generator upon reasonable notice to Transmission Owner. However, the exercise or non-exercise by Generator of any of the foregoing rights of observation, review or inspection shall be construed neither as an endorsement or confirmation of any aspect, feature, element, or condition of the Transmission Owner Interconnection Facilities and associated protective equipment or the operation thereof, nor as a warranty as to the fitness, safety, desirability, or reliability of same.

4.12 **Nuclear Regulatory Commission.** To the extent required by Applicable Law and Regulations, the Transmission Provider shall abide by all Nuclear Regulatory Commission regulations associated with operating and scheduling transmission facilities associated with nuclear generating units to ensure the safety and reliability of such facilities. These requirements shall be documented in Appendix E.

4.13 **Outages, Interruptions, and Disconnection.**

4.13.1 **Outage Authority and Coordination.** Absent the existence or imminence of an Emergency Condition, each Party may, after notifying the other Parties in accordance with Good Utility Practice, and in cooperation with each other, remove from service its facilities that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. The Party scheduling a removal of a facility from service shall use Reasonable Efforts to schedule such removal on a date mutually acceptable to all Parties, in accordance with Good Utility Practice.

4.13.2 **Outage Planning.** Generator shall submit its planned generating unit maintenance schedules to the Transmission Provider and Transmission Owner for a minimum of a rolling twelve (12)-month period. The planned maintenance schedules shall be updated as necessary.

4.13.2.1 **Voluntary Changes.** If Generator voluntarily accepts a change to the maintenance schedule submitted to the Transmission Provider to support a Transmission Provider request, Generator shall be compensated for any unavoidable

costs of rescheduling such maintenance. To the extent practicable, these costs shall be determined by negotiation between the Transmission Provider and Generator prior to implementation of the voluntary change in maintenance schedules and shall not reflect costs recovered in accordance with Section 7.6.1.

4.13.3 Nuclear Generating Facilities. The Transmission Provider shall enter into written agreements with operators of nuclear generating facilities which define planned transmission and generating unit maintenance scheduling criteria, limitations and restrictions based on Nuclear Regulatory Commission requirements and necessary to ensure the safety and reliability of the nuclear generating facility operations.

4.13.4 Outage Restoration.

4.13.4.1 Unplanned Outage. In the event of an unplanned outage of a Party's facility that adversely affects the other Party's facilities, the Party that owns or controls the facility out of service shall use Reasonable Efforts to promptly restore that facility to service.

4.13.4.2 Planned Outage. In the event of a planned outage of a Party's facility that adversely affects the other Party's facilities, the Party that owns or controls the facility out of service shall use Reasonable Efforts to promptly restore that facility to service, in accordance with the notice given pursuant to Section 4.13.1.

4.13.5 Disconnection.

4.13.5.1 Disconnection after Agreement Terminates. Upon termination of this Agreement by its terms, the Transmission Owner may disconnect the Facility from the Transmission System in accordance with a plan for disconnection upon which the Parties agree.

4.13.5.2 Disconnection after Under-Frequency Load Shed Event. In the event of an under-frequency system disturbance, the Transmission System is designed to automatically activate a load shed program as described in the Interconnection Guidelines. To ensure "ride through" capability of the Transmission System, Generator shall implement an under-frequency relay set point for the Facility as described in the Interconnection Guidelines.

4.14 **Continuity of Service.** Subject to the provisions of this Section 4.14, if required by Good Utility Practice to do so, the Transmission Provider may require Generator to curtail, interrupt or reduce deliveries of electricity if such delivery of electricity adversely affects the Transmission Provider's or Transmission Owner's ability to perform such activities as are necessary to safely and reliably operate the Transmission System or interconnected sub-transmission or distribution system. The following provisions shall apply to any curtailment, interruption or reduction permitted under this Section 4.14:

(a) The curtailment, interruption, or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

(b) Any such curtailment, interruption, or reduction shall be made on an equitable, non-discriminatory basis with respect to all generators directly connected to the Transmission System;

(c) When the curtailment, interruption, or reduction must be made under circumstances which do not allow for advance notice, the Transmission Provider shall notify Generator 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;

(d) Except during the existence of an Emergency Condition, when the curtailment, interruption, or reduction can be scheduled, the Transmission Provider shall notify Generator in advance regarding the timing of such scheduling and further notify Generator of the expected duration. The Transmission Provider shall use Good Utility Practices to schedule the curtailment or interruption to coincide with the scheduled outages of the Facility, and if not possible, the Transmission Provider shall use Good Utility Practice to schedule the curtailment or interruption during non-peak load periods;

(e) The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Facility, Interconnection Facilities, and the Transmission System to their normal operating state, consistent with system conditions and Good Utility Practice; and

(f) Notwithstanding any other provision of this Agreement, neither the Transmission Provider nor Transmission Owner shall be obligated to accept, and the Transmission Provider or Transmission Owner may require Generator to curtail, interrupt or reduce, deliveries of energy if such delivery of energy impairs the ability of the Transmission Owner to construct, install, repair, replace or remove any of its equipment or any part of its system or if the Transmission Provider or Transmission Owner determine that curtailment, interruption or reduction is necessary because of an Emergency Condition, forced outages, operating conditions on its system, or any reason

otherwise required by Applicable Laws and Regulations. Prior to any such curtailment, interruption or reduction, the Transmission Provider or Transmission Owner shall exercise good faith efforts under the circumstances to provide Generator with reasonable notice thereof.

ARTICLE 5
GENERATOR IMBALANCE SERVICE

5.1 **General.** Generator shall comply with the generation imbalance service provisions of the Transmission Provider OATT.

ARTICLE 6
MAINTENANCE

6.1 **Transmission Owner Obligations.** Transmission Owner shall maintain the Transmission Owner Interconnection Facilities and Interconnection System Upgrades to the extent they might reasonably be expected to have an impact on the operation of the Facility and Generator Interconnection Facilities (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Council; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement.

6.2 **Generator Obligations.** Generator shall maintain the Facility and the Generator Interconnection Facilities, to the extent they might reasonably be expected to have a material adverse impact on the operation of the Transmission System and other systems and generating facilities directly or indirectly interconnected to the Transmission System (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Council; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement.

6.3 **Access Rights.** Consistent with the provisions of Sections 4.5 and 9.1.7, the Parties shall provide each other such easements and/or access rights as permissible to the property of the providing party as may be necessary for a Party's performance of their respective maintenance obligations under this Agreement; provided that notwithstanding anything stated herein, a Party performing maintenance work within the boundaries of the other Party's facilities must abide by the rules applicable to that site.

6.4 **Maintenance Expenses.** Generator shall be responsible for all expenses associated with maintaining the Facility and the Generator Interconnection Facilities. The expense incurred by the Transmission Owner in maintaining the Transmission

Owner Interconnection Facilities shall be included in the actual cost of operation and maintenance reimbursed to Transmission Owner as set forth in to Section 4.10.

6.5 **Coordination.** The Parties agree to confer regularly to coordinate the planning and scheduling of preventative and corrective maintenance. Each Party shall conduct preventive and corrective maintenance activities as planned and scheduled in accordance with this Section.

6.6 **Inspections and Testing.** Each Party shall 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 Facility with the Transmission System in a safe and reliable manner.

6.7 **Right to Observe Testing.** Each Party shall, at its own expense, have the right to observe the testing of any of the other Party's Interconnection Facilities whose performance may reasonably be expected to affect the reliability of the observing Party's facilities and equipment. Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities, and the other Party may have a representative attend and be present during such testing.

6.8 **Cooperation.** Each Party agrees to cooperate with the other in the inspection, maintenance, and testing of those Secondary Systems directly affecting 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 in these areas, especially in electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

6.9 **Observation of Deficiencies.** If a Party observes any deficiencies or defects on, or becomes aware of a lack of scheduled maintenance and testing with respect to, the other Party's facilities and equipment that might reasonably be expected to adversely affect the observing Party's facilities and equipment, the observing Party shall provide notice to the other Party that is prompt under the circumstance, and the other Party shall make any corrections required in accordance with Good Utility Practice. Any Party's review, inspection, and approval related to the other Party's facilities and equipment shall be limited to the purpose of assessing the safety, reliability, protection and control of the Transmission System and shall not be construed as confirming or endorsing the design of such facilities and equipment, or as a warranty of any type, including safety, durability or reliability thereof. Notwithstanding the foregoing, the inspecting Party shall have no liability whatsoever for failure to give a deficiency notice to the other Party and the Party owning the Interconnection Facilities shall remain fully liable for its failure to determine and correct deficiencies and defects in its facilities and equipment.

ARTICLE 7
EMERGENCIES

7.1 **Obligations.** Each Party agrees to comply with the Emergency Condition procedures of NERC, the Applicable Reliability Council, the Transmission Provider, Transmission Owner, and of Generator.

7.2 **Notice.** The Transmission Provider shall provide Generator with prompt notification of an Emergency Condition regarding the Transmission Owner Interconnection Facilities and/or the Transmission System that may reasonably be expected to affect Generator's operation of the Facility, to the extent the Transmission Provider is aware of the Emergency Condition. Generator shall provide the Transmission Provider with prompt notification of an Emergency Condition regarding the Facility and/or the Generator Interconnection Facilities which may reasonably be expected to affect the Transmission System or the Transmission Owner Interconnection Facilities, to the extent Generator is aware of the Emergency Condition. To the extent the Party becoming aware of an Emergency Condition is aware of the facts of the Emergency Condition, such notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Generator's or the Transmission Owner's facilities and operations, its anticipated duration, and the corrective action taken and/or to be taken, and shall be followed as soon as practicable with written notice.

7.3 **Immediate Action.** In the event of an Emergency Condition, the Party becoming aware of the Emergency Condition may, in accordance with Good Utility Practice and using its reasonable judgment, take such action as is reasonable and necessary to prevent, avoid, or mitigate injury and danger to, or loss of, life or property. In the event Generator has identified an Emergency Condition involving the Transmission System, Generator shall obtain the consent of the Transmission Owner personnel prior to performing any manual switching operations at the Facility unless, in Generator's reasonable judgment, immediate action is required.

7.4 **Transmission Provider and Transmission Owner Authority.** The Transmission Provider or Transmission Owner may, consistent with Good Utility Practice, take whatever actions or inactions with regard to the Transmission System it deems necessary during an Emergency Condition in order to (i) preserve public health and safety; (ii) preserve the reliability of the Transmission System and interconnected sub-transmission and distribution system; (iii) limit or prevent damage; and (iv) expedite restoration of service. The Transmission Provider and Transmission Owner shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Facility. An Emergency Condition may be declared on a day ahead basis by the Transmission Provider to ensure a secure and reliable Transmission System under expected normal operating and first contingency conditions. Notwithstanding any other provision of this Agreement, the Facility may be called upon by the Transmission Provider or Transmission Owner during a potential or an

actual Emergency Condition to mitigate such Emergency Condition by, but not limited to, requesting Generator to start-up, shut-down, and increase or decrease the real or reactive power output of the Facility consistent with the provisions of Sections 7.6 and 7.6.1. As requested by the Transmission Provider or Transmission Owner, Generator shall assist the Transmission Provider or Transmission Owner with any black start or restoration efforts of the Transmission System resulting from an Emergency Condition with compensation to be paid in accordance with Section 7.6.1, provided that such assistance does not require the installation of any equipment.

7.5 **Generator Authority.** Generator may, consistent with Good Utility Practice, take whatever actions or inactions with regard to the Facility it deems necessary during an Emergency Condition in order to (i) preserve public health and safety; (ii) preserve the reliability of the Facility; (iii) limit or prevent damage; and (iv) expedite restoration of service. Generator shall use Reasonable Efforts to minimize the effect of such actions or inaction on the Transmission System. The Transmission Provider and Transmission Owner shall use Reasonable Efforts to assist Generator in such actions.

7.6 **Changes in Real Power and Reactive Power Production.** During an Emergency Condition as declared by the Transmission Provider on the Transmission System or on an adjacent transmission system, the Transmission Provider, in order to maintain Transmission System security consistent with the provisions of this Article 7, shall have the authority to direct Generator to increase or decrease real power production (measured in MW) and/or reactive power production (measured in MVAR), within the manufacturer's design and operational limitations of the Facility's equipment in service in accordance with Good Utility Practice, provided that the Facility is physically available for operation at the time. In the event of such a declaration of an Emergency Condition, determinations (i) that Transmission System security is in jeopardy, and (ii) that there is a need to increase or decrease reactive power production, even if real power production is adversely affected, shall be made solely by the Transmission Provider or its designated representative in accordance with Good Utility Practice on a non-discriminatory basis. Generator shall honor all of the Transmission Provider's orders and directives concerning Facility real power and/or reactive power output within the manufacturer's design limitations of the Facility's equipment in service and physically available for operation at the time, such that the security of the Transmission System is maintained. If the Transmission Provider determines that the operation of the Facility in accordance with its directive is not necessary to alleviate the Emergency Condition, Generator shall be permitted to resume prior operating levels if consistent with Good Utility Practice. The Transmission Provider shall restore Transmission System conditions to normal as quickly as possible to alleviate any such Emergency Condition. The Transmission Provider shall take all reasonable steps to equitably allocate among all generating units and other reactive compensation resources the responsibility to provide reactive power support to the Transmission System. The Transmission Provider's efforts to allocate such responsibility among all generators

and other reactive compensation resources capable of such support shall be subject to the audit provisions of Section 7.9. Additionally, to the extent practical, the Transmission Provider has the right to request unit commitment and decommitment, and alteration of unit outage schedules. For purposes of this Section 7.6, physical availability of equipment or the Facility shall not be based on economic considerations.

7.6.1 **Generator Compensation for Emergency Condition.** Generator shall be compensated for its provision of real and reactive power, and any unavoidable costs related to changes in maintenance and outage schedules directed by Transmission Provider or Transmission Owner for Emergency Condition purposes and other Emergency Condition services needed to support the Transmission System during an Emergency Condition in accordance with Generator's FERC rate schedule then in effect and specifically applicable to an Emergency Condition under this Agreement, provided, however, that the failure to have any such rates shall not be a basis for Generator to refuse or deny such control to the Transmission Provider or designated representative.

7.7 **Interruption for Emergency Condition.** If at any time, in the Transmission Provider's reasonable judgment exercised in accordance with Good Utility Practice, the continued operation of the Facility would cause an Emergency Condition, the Transmission Provider may curtail, interrupt, or reduce energy delivered from the Facility to the Transmission System subject to Section 4.14 until the condition which would cause the Emergency Condition is corrected and, where practicable, allow suitable time for Generator to remove or remedy such condition before any such curtailment, interruption, or reduction commences.

7.8 **Disconnection in Event of Emergency Condition.** Subject to the provisions of Section 7.7, the Transmission Provider, Transmission Owner, or Generator shall have the right to disconnect the Facility without notice if, in the Transmission Provider's, Transmission Owner's or Generator's judgment, an Emergency Condition exists and immediate disconnection is necessary to protect persons or property from damage or interference caused by Generator's interconnection or lack of proper or properly operating System Protection Facilities. All Parties to this Agreement shall be notified of such disconnection. For purposes of this Section 7.8, System Protection Facilities may be deemed by the Transmission Provider to be not properly operating if the Transmission Provider's review under Article 6 discloses irregular or otherwise insufficient maintenance on the System Protection Facilities or that maintenance records do not exist or are otherwise insufficient to demonstrate that adequate maintenance has been and is being performed. If such maintenance records do not exist or are otherwise insufficient to demonstrate that adequate maintenance has been and is being performed, Generator shall have a reasonable opportunity to demonstrate to the Transmission Provider that the System Protection Facilities are operating properly through alternative documentation or by physical demonstration, provided that such alternative documentation or

physical demonstration shall be subject to acceptance by the Transmission Provider in the exercise of its reasonable judgment.

7.9 **Audit Rights.** Each Party shall keep and maintain record of actions taken during an Emergency Condition that may reasonably be expected to impact the other Party's facilities and make such records available for audit in accordance with Section 21.2.

7.10 **Limited Liability.** No Party shall be liable to any other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and consistent with Good Utility Practice.

ARTICLE 8
SAFETY

8.1 **General.** All work performed by either Party that may reasonably be expected to affect the other Party shall be performed in accordance with Good Utility Practice and all Applicable Laws and Regulations pertaining to the safety of persons or property. A Party performing work within the boundaries of the other Party's facilities must abide by the safety rules applicable to the site.

8.2 **Environmental Releases.** Each Party shall notify the other Party, 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 Facility, 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 possible; (ii) make a good faith effort to provide the notice within twenty-four (24) hours after the Party becomes aware of the occurrence; and (iii) promptly furnish to the other Parties copies of any publicly available reports filed with any governmental agencies addressing such events.

ARTICLE 9
CONSTRUCTION AND MODIFICATION OF INTERCONNECTION FACILITIES AND INTERCONNECTION SYSTEM UPGRADES

9.1 **Construction.**

9.1.1 **Generator Obligations.** Generator shall, at its expense, design, procure, construct, and install the Facility and the Generator Interconnection Facilities in accordance with the Interconnection Evaluation Study, the Interconnection Facilities Study and Good Utility Practice. The Generator Interconnection Facilities shall satisfy all requirements of applicable safety and/or engineering codes, including the Transmission Owner's, and further, shall satisfy Applicable Laws and Regulations.

9.1.2 **Generator Specifications.** Generator shall submit all final specifications for Generator Interconnection Facilities, including System Protection Facilities,

to the Transmission Provider and Transmission Owner for review at least ninety (90) days prior to interconnecting Generator Interconnection Facilities with the Transmission System in order to insure that such interconnection is consistent with operational control, reliability and/or safety standards or requirements of the Transmission Provider and Transmission Owner. The Transmission Provider and Transmission Owner shall review and comment on such specifications within thirty (30) days.

9.1.3 **Transmission Provider and Transmission Owner Review.** The Transmission Provider's and Transmission Owner's review of Generator's specifications shall be construed neither as confirming nor as endorsing the design, nor as any warranty as to fitness, safety, durability or reliability of the Generator Interconnection Facilities. Neither Transmission Owner nor the Transmission Provider shall, by reason of such review or failure to review, be responsible for strength, details of design, adequacy or capacity of Generator Interconnection Facilities, nor shall the Transmission Provider's or Transmission Owner's acceptance be deemed to be an endorsement of all or any part of the Generator Interconnection Facilities. Generator shall make changes to the Generator Interconnection Facilities as may be required by the Transmission Provider or Transmission Owner in accordance with Good Utility Practice. The cost of such changes shall be borne in accordance with Section 9.5.3.

9.1.4 **Transmission Owner Obligations.** The Transmission Owner shall design, procure, construct and install, and Generator shall pay, consistent with Section 9.2, the cost of, all Transmission Owner Interconnection Facilities and Interconnection System Upgrades identified in Appendix A. All Transmission Owner Interconnection Facilities and Interconnection System Upgrades designed, procured, constructed, installed and maintained by the Transmission Owner pursuant to this Agreement shall satisfy all requirements of applicable safety and/or engineering codes, including those of the Transmission Owner, and comply with Good Utility Practice, and further, shall satisfy all Applicable Laws and Regulations.

9.1.5 **Suspension of Work.**

9.1.5.1 **Right to Suspend.** Generator reserves the right, upon written notice to the Transmission Provider, to suspend, at any time, all work by the Transmission Owner associated with the construction and installation of the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades. In such event, Generator shall be responsible for the costs which the Transmission Owner incurs (i) in accordance with this Agreement prior to the suspension, and (ii) in suspending such work, including any costs incurred in order to perform such work as may be necessary to ensure the safety of persons and property and the

integrity of the Transmission System and, if applicable, any costs incurred in connection with the cancellation of contracts and orders for material which the Transmission Owner cannot reasonably avoid; provided, however, that, prior to canceling any such contracts or orders, the Transmission Owner shall obtain Generator's authorization. The Transmission Owner shall invoice Generator pursuant to Article 13 and use Reasonable Efforts to minimize its costs.

9.1.5.2 **Recommencing of Work.** If Generator requests the Transmission Owner to recommence such work, the Transmission Owner shall have no obligation to afford such work the priority it would have had but for the prior actions of Generator to suspend the work. In such event, Generator shall be responsible for any costs incurred in recommencing the work. Once work has been recommenced, if Generator attempts to suspend the work a second time, this Agreement shall terminate.

9.1.5.3 **Termination.** In the event Generator suspends the performance of work by the Transmission Owner pursuant to this Section 9.1.5 and has not requested resumption of such work required hereunder by written request to the Transmission Provider on or before the three years after such requested suspension, this Agreement shall be deemed terminated.

9.1.5.4 **Right to Suspend Due to Default.** Transmission Owner reserves the right, upon written notice to Generator, to suspend, at any time, work by the Transmission Owner and the incurrence of additional expenses associated with the construction and installation of the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades upon the occurrence of either a Breach that Generator is unable to cure pursuant to Article 17 or an Event of Default pursuant to Article 17. Any form of suspension by Transmission Owner shall not be barred by Section 2.2.2, nor shall it affect Transmission Owner's right to terminate the work or this Agreement pursuant to Article 18. In such events, Generator shall be responsible for costs which the Transmission Owner incurs as set forth in Section 9.1.5.1.

9.1.6 **Construction Status.** The Transmission Owner shall inform Generator on a regular basis, and at such other times as Generator reasonably requests, of the status of the construction and installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades, including, but not limited to, the following information: (i) progress to date; (ii) a description of scheduled activities for the next period; (iii) the delivery status of all equipment ordered; and (iv) the identification of any event

which the Transmission Owner reasonably expects may delay construction of, or may increase the cost by ten percent (10%) or more of, the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades.

9.1.7 **Land Rights.** Upon reasonable notice and supervision by a Party, a Party ("Granting Party") shall furnish at no cost to the other Party ("Access Party") any necessary access for ingress and egress across lands owned or controlled by the Granting Party and/or its affiliates for the construction, operation and maintenance of necessary lines, substations, and other equipment to accomplish and operate interconnection of the Facility with the Transmission System under this Agreement and shall, at all reasonable times, give the Access Party, or its agents, free access for ingress and egress to such lines, substations, and equipment, for the purpose of implementing the provisions of this Agreement, and subject to the following provisions of this Section 9.1.7 and Subsections 9.1.7.1 and 9.1.7.2; provided, however, that, in exercising such access rights, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business, shall act in a manner consistent with Good Utility Practice, and adhere to the safety rules and procedures established by the Granting Party. An accessible, protected and satisfactory site selected upon mutual agreement by the Parties and located on Generator's premises shall be provided by and at Generator's expense for installation of metering devices, unless the Transmission Owner elects to install meters on poles or other locations controlled by it. Generator grants to the Transmission Owner at all reasonable times and with reasonable supervision, the right of free ingress and egress to Generator's premises for the purpose of installing, testing, reading, inspecting, repairing, operating, altering or removing any of the Transmission Owner's property located on Generator's premises.

9.1.7.1 **Other Property Owners.** If any part of the Transmission Owner Interconnection Facilities are to be installed on property owned by someone other than Generator, Generator shall procure from the owners thereof any necessary rights of use, licenses, rights of way and easements, in a form reasonably satisfactory to the Transmission Owner, for the construction, operation, maintenance and replacement of the Transmission Owner Interconnection Facilities upon such property. In the event Generator is unable to secure them (i) by condemnation proceedings or (ii) by other means, the Transmission Provider, indirectly through the Transmission Owner, or Transmission Owner directly, may make Reasonable Efforts to secure them to the extent permitted by Applicable Laws and Regulations, and provided that Generator shall reimburse the Transmission Provider or Transmission Owner, for all reasonable and documented costs incurred by the

Transmission Provider or Transmission Owner in securing such rights.

9.1.7.2 **Safety.** In connection with the Access Party's exercise of rights under Section 9.1.7, while on the Granting Party's premises, the Access Party's personnel and agents shall comply with all applicable safety rules or regulations of the Granting Party that are communicated by the Granting Party to the Access Party. Further, the Access Party shall indemnify and hold harmless the Granting Party in accordance with the provisions of Article 16 from and against any claims or damages resulting from such access.

9.1.8 Timely Completion.

9.1.8.1 **Generator Obligations.** Generator shall use Reasonable Efforts to design, procure, construct, install, and test the Generator Interconnection Facilities in accordance with the schedule set forth in Appendix A which schedule may be revised from time to time by mutual agreement of the Parties. As specified in Appendix A, the Transmission Owner, at its discretion, may permit Generator to design, procure and/or install all or a portion of the Transmission Owner Interconnection Facilities.

9.1.8.2 **Transmission Provider and Transmission Owner Obligations.** The Transmission Owner shall use Reasonable Efforts to design, procure, construct, install, and test the Transmission Owner Interconnection Facilities and Interconnection System Upgrades in accordance with the schedule set forth in Appendix A, which schedule may be revised from time to time by mutual agreement of the Parties. If any event occurs that will affect the time for completion of the Transmission Owner Interconnection Facilities or the Interconnection System Upgrades, or the ability to complete any of them, the Transmission Provider shall promptly notify Generator. In such circumstances, the Transmission Provider shall, within fifteen (15) days after notifying Generator of such an event and corresponding delay, convene a technical meeting with Generator and Transmission Owner to evaluate the alternatives available to Generator. The Transmission Provider shall also make available to Generator all studies and work papers related to the event and corresponding delay, including all information that is in the possession of the Transmission Provider or Transmission Owner that is reasonably needed by Generator to evaluate alternatives. The Transmission Owner shall, at Generator's request and expense, use Reasonable Efforts to accelerate its work under this Agreement in order to meet the schedule set forth in Appendix A, provided that Generator authorizes such actions and the costs associated therewith in advance.

9.1.9 **Limited Operation.** If any of the Interconnection System Upgrades are not reasonably expected to be completed prior to the commercial operation date of the Facility, Generator may, at its option, have operating studies performed at its expense to determine the maximum allowable output of the Facility and, subject to Applicable Laws and Regulations and applicable Transmission Provider, Transmission Owner, and NERC criteria and requirements, Generator shall be permitted to operate the Facility, provided such limited operation of the Facility does not adversely affect the safety and reliability of the Transmission System.

9.1.10 **Outage Costs.** If an outage of any part of the Transmission System is necessary to complete the process of constructing and installing the Interconnection Facilities or Interconnection System Upgrades, Generator shall be responsible for any costs or penalties associated with any redispatch or market-related costs arising from such an outage. The estimated cost, including penalties of such redispatch or market-related costs arising from such outage is set forth in Appendix A.

9.1.11 **Pre-Commercial Testing.** Prior to the interconnection and operation of the Facility in parallel with the Transmission System, the Interconnection Facilities and Interconnection System Upgrades shall be tested to ensure their safe and reliable operation in accordance with Good Utility Practice, any applicable Transmission Provider, Transmission Owner, NERC and Applicable Reliability Council criteria and requirements and any applicable Laws and Regulations ("Pre-Commercial Testing"). Similar testing may be required after initial operation as required by the above-mentioned organizations. The cost of all such testing shall be borne by Generator. In generating test energy, Generator shall be responsible for complying with all Transmission Provider OATT provisions as well as any applicable generator imbalance provisions.

9.1.12 **Modifications after Pre-Commercial Testing.** Based upon the Pre-Commercial Testing, Generator shall be responsible for making any modifications necessary to ensure the safe and reliable operation of the Facility and Generator Interconnection Facilities in accordance with Good Utility Practice, all applicable Transmission Provider, Transmission Owner, NERC and Applicable Reliability Council criteria and requirements, and all Applicable Laws and Regulations, and the Transmission Owner is responsible for making any modifications necessary to ensure the safe and reliable operation of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades in accordance with Good Utility Practice and all applicable Transmission Provider, Transmission Owner, NERC and Applicable Reliability Council criteria and requirements, and all Applicable Laws and Regulations. The costs of all such modifications are to be borne by Generator.

9.2 Interconnection Costs and Credits.

9.2.1 Costs. In addition to Operating Expenses under Section 4.10 and other expenses covered by this Agreement, Generator shall pay to the Transmission Owner costs (including taxes and financing costs) associated with seeking and obtaining all necessary approvals and of designing, engineering, constructing, and testing the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades ("Construction Expenditures"), as identified in Appendix A, in accordance with any cost recovery method that the Transmission Owner files and the FERC accepts as applicable under the Transmission Provider OATT.

9.2.2 Credits. Credits to Generator (or a third-party designated by Generator), if any, for amounts previously paid by Generator under Section 9.2.1, will be provided in accordance with any cost recovery method that the Transmission Owner files and the FERC accepts as applicable under the Transmission Provider OATT.

9.3 Drawings. Subject to the requirements of Article 20, upon completion of any construction or modification to the Facility and/or the Generator Interconnection Facilities that may reasonably be expected to affect the Transmission System, but not later than ninety (90) days thereafter, Generator shall issue "as built" drawings to the Transmission Provider and Transmission Owner, unless the Parties reasonably agree that such drawings are not necessary.

9.4 Taxes.

9.4.1 Indemnification for Contributions in Aid of Construction. The Parties intend that all payments made by Generator to Transmission Owner for the installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades shall be non-taxable contributions to capital in accordance with the Internal Revenue Code and any applicable state tax laws and shall not be taxable as contributions in aid of construction under the Internal Revenue Code and any applicable state tax laws. With regard only to such contributions, Transmission Owner shall not include a gross-up for income taxes in the amounts it charges Generator for the installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades. Notwithstanding the foregoing provisions of this Section 9.3.1, to the extent that the receipt of such payments by the Transmission Owner is determined by any Governmental Authority to constitute income by a Transmission Owner subject to taxation, Generator shall protect, indemnify and hold harmless Transmission Owner and its affiliated and associated companies, from all claims by any such Governmental Authority for any tax, interest and/or penalties associated with such determination. Upon receiving written notification of such

determination from the Governmental Authority, Transmission Owner shall provide Generator with written notification within thirty (30) days of such determination and notification. Transmission Owner, upon the timely written request by Generator and at Generator's expense, shall appeal, protest, seek abatement of, or otherwise oppose such 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 compromise or settlement of the claim; provided that Transmission Owner shall cooperate and consult in good faith with Generator regarding the conduct of such contest. Generator shall advance to Transmission Owner on a periodic basis as requested by Transmission Owner the estimated cost of prosecuting such appeal, protest, abatement or other contest. Generator shall not be required to pay Transmission Owner for the tax, interest and/or penalties prior to the seventh (7th) day before the date on which Transmission Owner (i) is required to pay the tax, interest and/or penalties or other amount in lieu thereof pursuant to a compromise or settlement of the appeal, protest, abatement or other contest; (ii) is required to pay the tax, interest and/or penalties as the result of a final, non-appealable order by a Governmental Authority; or (iii) is required to pay the tax, interest and/or penalties as a prerequisite to an appeal, protest, abatement or other contest. In the event such appeal, protest, abatement or other contest results in a determination that Transmission Owner is not liable for any portion of any tax, interest and/or penalties for which Generator has already made payment to Transmission Owner, Transmission Owner shall promptly refund to Generator any payment attributable to the amount determined to be non-taxable, plus any interest or other payments Transmission Owner receives or which Transmission Owner may be entitled with respect to such payment. In accordance with Article 13, Generator shall provide Transmission Owner with credit assurances sufficient to meet Generator's estimated liability for reimbursement of Transmission Owner for taxes, interest and/or penalties under this Section 9.4.1. Such estimated liability shall be stated in Appendix A.

9.4.2 **Private Letter Ruling.** The Transmission Owner shall, at Generator's request and expense, file with the Internal Revenue Service a request for a Private Letter Ruling as to whether any of the sums paid, or to be paid, by Generator to Transmission Owner under the terms of this Agreement are subject to federal income taxation. Transmission Owner and Generator shall cooperate in good faith with respect to such request for a Private Letter Ruling and all costs associated with obtaining a Private Letter Ruling under this Agreement shall be the responsibility of Generator. If the Private Letter Ruling issued to Transmission Owner concludes that such sums are not subject to federal income taxation, Generator's obligations under Article 13 shall be reduced accordingly.

9.4.3 **Other Taxes.** The Transmission Provider and Generator shall cooperate in good faith to appeal, protest, seek abatement of, or otherwise contest any tax (other than federal income tax) asserted or assessed against the Transmission Provider for which Generator may be required to reimburse the Transmission Provider under the terms of this Agreement.

9.5 Modifications.

9.5.1 **General.** Either Party may undertake modifications to its facilities. In the event a Party plans to undertake a modification that reasonably may be expected to impact the other Party's facilities, that Party, in accordance with Good Utility Practice, shall provide the other Party with sufficient information regarding such modification, so that the other Party may evaluate the potential impact of such modification prior to commencement of the work, including information regarding when such additions, modifications or replacements are expected to be made; how long such additions, modifications or replacements are expected to take; whether such additions, modifications or replacements are expected to interrupt the flow of electricity from the Facility; and any other information that will enable the other Party to evaluate the impact of the proposed additions, modifications, or replacements on its facilities and/or operations prior to the commencement of work. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) days in advance of the beginning of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld or delayed.

9.5.2 **Standards.** Any additions, modifications, or replacements made to a Party's facilities shall be constructed and operated in accordance with this Agreement, Good Utility Practice, Applicable Laws and Regulations, NERC and Applicable Reliability Council guidelines, and Transmission Provider and Transmission Owner guidelines.

9.5.3 **Modification Costs.** Unless required by Applicable Laws and Regulations or this Agreement, Generator shall not be responsible for the costs of any additions, modifications, or replacements made to the Transmission Owner Interconnection Facilities or the Transmission System by the Transmission Owner in its discretion or in order to facilitate the interconnection of a third-party to the Transmission Owner Interconnection Facilities or the Transmission System, or the provision of the delivery component transmission service under the Transmission Provider OATT for such third-party. Generator shall, however, be responsible for the costs of (i) any additions, modifications, or replacements made to the Transmission Owner Interconnection Facilities or the Transmission System as a result of any additions, modifications, or replacements made by Generator to the Facility or (ii) additions, modifications, or replacements reasonably necessary to

maintain or update the Generator Interconnection Facilities for reliability and safety purposes to the extent required by Good Utility Practice or to comply with changes in Applicable Laws and Regulations.

ARTICLE 10
METERING

10.1 **General.** Unless otherwise agreed by the Parties, the Transmission Owner shall provide, install, operate, maintain, own and/or control suitable Metering Equipment at the Point of Interconnection prior to any operation of the Facility. Power flows to and from the Facility shall be measured at or, at the Transmission Owner 's option, compensated to the Point of Interconnection. Metering quantities, in analog and/or digital form, shall be provided to Generator upon request. All costs associated with the administration of Metering Equipment and the provision of metering data to Generator shall be born by Generator. The costs of administration and of providing metering data shall be separately itemized on the Transmission Owner 's invoice to Generator. All reasonable costs associated with either the initial installation of metering or any changes to Metering Equipment, shall be borne by Generator. Generator shall be responsible for making all appropriate arrangements for station service requirements, including the delivery component of transmission service, if applicable. If Generator supplies its station service, the station service loads shall be netted against Generator's output.

10.2 **Standards.** Revenue quality Metering Equipment shall be installed, calibrated, and tested in accordance with applicable ANSI standards. To the extent this Article 10 conflicts with the manuals, standards or guidelines of the Applicable Reliability Council regarding interchange metering and transactions, the manuals, standards and guidelines of such Applicable Reliability Council shall control.

10.3 **Testing of Metering Equipment.** The Transmission Owner shall, at Generator's expense, 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 Generator, the Transmission Owner shall inspect or test Metering Equipment more frequently than every two (2) years, at the expense of Generator. The Transmission Owner shall give reasonable notice of the time when any inspection or test shall take place, and Generator may have representatives present at the test or inspection. If Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Generator's expense, in order to provide accurate metering. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than one percent (1%) from the measurement made by the standard meter used in the test, adjustment shall be made correcting all measurements made by the inaccurate meter for (i) the actual period during which inaccurate measurements were made, if the period can be determined, or if not, (ii) 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; provided that the period covered by the correction shall not exceed six months.

10.4 Metering Data. If the Parties have not made other arrangements, if hourly and/or daily energy readings are available and if such data are requested by the Transmission Provider, Generator shall report same to the Transmission Provider's representatives as indicated in Appendix E, by telephone or electronically or as the Parties otherwise agree, on a schedule to be agreed upon. At Generator's expense, Generator's metered data shall be telemetered to a location designated by the Transmission Provider and one or more locations designated by Generator.

10.5 Communications.

10.5.1 Generator Obligations. At Generator's expense, Generator shall maintain satisfactory operating communications with the Transmission Provider's system dispatcher or representative, as designated by the Transmission Provider or the Transmission Owner, as applicable. Generator shall provide standard voice line, dedicated voice line and facsimile communications at its Facility control room through use of the public telephone system. Generator shall also provide the dedicated data circuit(s) necessary to provide necessary generator data to the Transmission Provider as set forth in Appendix E. The data circuit(s) shall extend from the Facility to a location(s) specified by the Transmission Provider or its designate. Any required maintenance of such communications equipment shall be performed at Generator's expense, and may be performed by Generator or by the Transmission Owner. Operational communications shall be activated and maintained under, but not be limited to, the following events: (i) system paralleling or separation; (ii) scheduled and unscheduled shutdowns; (iii) equipment clearances; and (iv) hourly and daily load data.

10.5.2 Remote Terminal Unit. Prior to any operation of the Facility, a Remote Terminal Unit ("RTU") or equivalent data collection and transfer equipment acceptable to all Parties shall be installed by Generator, or by the Transmission Owner at Generator's expense, to gather accumulated and instantaneous data to be telemetered to a location(s) designated by the Transmission Owner through use of a dedicated point-to-point data circuit(s) as indicated in Section 10.5.1. The communication protocol for this data circuit(s) shall be specified by the Transmission Owner. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by the Transmission Provider.

ARTICLE 11
FORCE MAJEURE

11.1 Notice. The Party unable to carry out an obligation imposed on it by this Agreement due to Force Majeure shall notify the other Party in writing or by telephone within a reasonable time after the occurrence of the cause relied on.

11.2 Duration of Force Majeure. Except as set forth in Section 11.3, no Party will be considered in Default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure. A Party shall not be responsible for any non-performance or be considered in Breach or Default under this Agreement due to Force Majeure whether occurring on the Transmission System, the Facility, the Interconnection Facilities or any connecting electric generating, transmission or distribution system affecting the Party's operations. A Party shall be excused from whatever performance is affected only for the duration of the Force Majeure and while the Party exercises Reasonable Efforts to alleviate such situation. As soon as the non-performing Party is able to resume performance of its obligations excused as a result of the occurrence of Force Majeure, such Party shall give prompt notice thereof to the other Parties.

11.3 Obligation to Make Payments. Any Party's obligation to make payments for services incurred shall not be suspended by Force Majeure.

ARTICLE 12
INFORMATION REPORTING

12.1 Information Reporting Obligations. Each Party shall, in accordance with Good Utility Practice, promptly provide to the other Parties all relevant information, documents, or data regarding the Party's facilities and equipment which may reasonably be expected to pertain to the reliability of the other Party's facilities and equipment and which has been reasonably requested by the other Party.

ARTICLE 13
CREDITWORTHINESS, BILLING AND PAYMENTS

13.1 Creditworthiness. By the earlier of (i) thirty (30) days prior to the due date for Generator's first payment under the payment schedule specified in Appendix A or (ii) the first date specified in Appendix A for the ordering of equipment by Transmission Owner for installing the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades, Generator shall provide the Transmission Owner, at Transmission Owner's option, with a form of adequate assurance of creditworthiness satisfactory to Transmission Owner. If the adequate assurance is a parental guarantee or surety bond, it must be made by an entity that meets the creditworthiness requirements of the Transmission Owner, have terms and conditions reasonably acceptable to the Transmission Owner and guarantee payment of the entire estimated amount that will be due under this Agreement during its term.

If the adequate assurance is a letter of credit, it must be issued by a bank reasonably acceptable to the Transmission Owner, specify a reasonable expiration date and may provide that the maximum amount available to be drawn under the letter shall reduce on a monthly basis in accordance with the monthly payment schedule. The surety bond must be issued by an insurer reasonably acceptable to the Transmission Owner, specify a reasonable expiration date and may provide that the maximum amount assured under the bond shall reduce on a monthly basis in accordance with the monthly payment schedule. After the interconnection has been placed in service, Generator shall, subject to the standards of this Section 13.1, maintain a parental guarantee, surety bond, letter of credit, or some other credit assurance sufficient to meet its monthly payment obligation under Section 4.10 and its obligations under Section 9.4.1. At least sixty (60) days prior to the date on which the interconnection is anticipated to be placed in service and at least annually thereafter, the Transmission Owner shall notify Generator of the estimated monthly payment obligation under Section 4.10. Generator's estimated liability under Section 9.4.1 is stated in Appendix A.

13.2 **Generator's Continuing Creditworthiness.** In the event Generator's creditworthiness becomes unsatisfactory to Transmission Owner in its reasonably exercised discretion for amounts for which payment is not otherwise assured, Transmission Owner may demand that Generator provide, at Generator's option (but subject to Transmission Owner's acceptance based upon reasonably exercised discretion), either (i) the posting of a letter of credit; (ii) a cash prepayment; (iii) the posting of other acceptable collateral or security by the Generator; (iv) a guarantee agreement executed by a creditworthy entity; or (v) some other mutually agreeable method of providing assurance of payment satisfying Transmission Owner. Failure of Generator to provide such reasonably satisfactory assurances of its ability to make payment under this Agreement within seven (7) days of demand therefore shall be an event of Default under Article 17 of this Agreement and Transmission Owner shall have the right to exercise any of the remedies provided for in Article 17.

13.3 **Invoice.** Each invoice shall (i) delineate the month in which the services will be provided; (ii) fully describe the services to be rendered; and (iii) itemize the services to be performed or provided.

13.4 **Payment.** The invoice shall be paid within thirty (30) 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.

13.5 **Final Invoice.** Within six (6) months after completion of the construction of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades, the Transmission Owner shall provide an invoice of the final cost of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades and shall set forth such costs in sufficient detail to enable Generator to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. To the extent that the final, actual costs that Generator is

obligated to pay hereunder for the construction of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades exceeds the estimated costs already paid by Generator hereunder for such purposes, Generator shall reimburse the Transmission Owner for the amount of such difference within thirty (30) days after receipt of an invoice for such amount in accordance with the billing provisions of this Agreement. To the extent that the estimated costs already paid by Generator hereunder for such purposes exceed the final, actual costs that Generator is obligated to pay hereunder for such purposes, the Transmission Owner shall refund to Generator an amount equal to the difference within thirty (30) days of the issuance of such final cost invoice. The Transmission Owner shall use Reasonable Efforts to minimize its costs.

13.6 **Disputes.** All invoiced amounts shall be paid on or before the invoice payment due date. In the event of a billing dispute between the Transmission Provider, Transmission Owner, and/or Generator, the Transmission Provider shall continue to provide interconnection service under the Interconnect Agreement as long as Generator pays disputed amounts on or before the due date. In the event the dispute is resolved in favor of the Generator, the Transmission Provider or Transmission Owner shall, within thirty (30) days of the resolution, make payment to the Generator with interest calculated in accordance with Section 13.8. If Generator fails to meet this requirement for continuation of service, then the Transmission Provider may provide notice to Generator of a Breach pursuant to Articles 17 and 18.

13.7 **Waiver.** Payment of an invoice shall not relieve the paying Party from any other responsibilities or obligations it has under this Agreement, nor shall such payment constitute a waiver of any claims arising hereunder.

13.8 **Interest.** Interest on any unpaid amounts shall be calculated daily at the then current prime interest rate per annum as published in the Federal Reserve Statistical Release H.15, or its successor publication, plus two percent (2%) per annum, or the maximum rate permitted by law, whichever is less, from the date due until the date upon which payment is made.

13.9 **Payment During Dispute.** In the event of a billing dispute between the Transmission Provider, Transmission Owner, and/or Generator, each Party shall continue to provide services and pay all invoices.

13.10 **Collection Expenses.** No Party shall be responsible for the other Parties' costs of collecting amounts due under this Agreement, including attorney fees and expenses and the expenses of arbitration.

ARTICLE 14
ASSIGNMENT

14.1 **General.** No Party shall voluntarily assign its rights nor delegate its duties under this Agreement, or any part of such rights or duties, without the written consent of the other Parties, which consent shall not be unreasonably withheld or delayed, except in connection with the sale, merger, or transfer of a substantial portion or all of its properties including the Interconnection Facilities which it owns so long as the assignee in such a sale, merger, or transfer directly assumes in writing all rights, duties and obligations arising under this Agreement. Prior to the effective date of any assignment pursuant to this Section 14.1 by Generator, the assignee shall demonstrate to the Transmission Provider and the Transmission Owner that the assignee will comply with the requirements of Article 13 on the effective date of the assignment, and such assignor shall be, without further action, released from its obligation hereunder. Any such assignment or delegation made without such written consent shall be null and void. In addition, the Transmission Provider shall be entitled to assign this Agreement to any wholly-owned direct or indirect subsidiary of the Transmission Provider.

14.2 **Assignment.** Notwithstanding the provisions of Section 14.1, Generator may assign this Agreement, including the right to receive transmission service credits under Section 9.2, and shall be, without further action and to the extent of the assignment, released from the obligations of this Agreement, without the Transmission Provider's or Transmission Owner's prior consent to any future owner that purchases or otherwise acquires, directly or indirectly, all or a portion of the Facility provided that prior to the effective date of any such assignment, the assignee demonstrates to Transmission Owner that the assignee will comply with the provisions of Article 13 on the effective date of the assignment and assumes all other rights, duties, and obligations arising under this Agreement in a writing provided to the Transmission Provider and Transmission Owner. In addition and also notwithstanding the provisions of Section 14.1, Generator or its assignee may assign this Agreement to the persons, entities or institutions providing financing or refinancing for the development, design, construction or operation of the Facility and Generator Interconnection Facilities, provided that such assignment does not affect compliance with Article 13 and with all other rights, duties and obligations arising under this Agreement. If Generator provides notice thereof to the Transmission Provider and Transmission Owner, the Transmission Provider and Transmission Owner shall provide notice and reasonable opportunity for such lenders to cure any Default under this Agreement. The Transmission Provider and Transmission Owner shall, if requested by such lenders, execute its standard documents and certificates as may be requested with respect to the assignment and status of this Agreement, provided such documents do not change the rights of the Transmission Provider or Transmission Owner under this Agreement except with respect to providing notice and reasonable opportunity to cure. Such standard documents and certificates shall include, if true at the time the statement is to be made, statements that (i) this Agreement is in full force and effect and that neither Generator, the Transmission Provider, nor

Transmission Owner are in Default; (ii) all representations made by the Transmission Provider and Transmission Owner in this Agreement are true and complete as of the specified date; and (iii) all conditions to be satisfied by the Transmission Provider and Transmission Owner on or prior to the specified date have been satisfied. In the event of any foreclosure by such lenders, the purchasers at such foreclosure or any subsequent purchaser, shall upon request, be entitled to the rights and benefits of (and be bound by) this Agreement so long as it is an entity entitled to interconnect with the Transmission System. The Transmission Provider and Transmission Owner may bill Generator for the cost of providing such standard documents and certificates.

ARTICLE 15
INSURANCE

15.1 **Generator Insurance.** Without limiting any obligations or liabilities under this Agreement, Generator shall, at its expense, provide and maintain in effect for the life of this Agreement, minimum insurance coverage (in any combination of primary and excess layers) as follows:

15.1.1 **Workers' Compensation.** Workers' compensation insurance in accordance with all applicable state, federal, and maritime laws, including employer's liability insurance in the amount of one million dollars ($1,000,000) per accident. The policy shall be endorsed to include a waiver of subrogation in favor of the Transmission Provider and Transmission Owner, and their affiliated and associated companies.

15.1.2 **Commercial General Liability.** Commercial general liability insurance, including contractual liability coverage, for liabilities assumed under this Agreement and personal injury coverage in the amount of twenty-five million dollars ($25,000,000) per occurrence for bodily injury and property damage. The policy shall be endorsed to include the Transmission Provider, Transmission Owner, and their affiliated and associated companies as additional insureds with a provision substantially in the form of the following:

> In consideration of the premium charged, the Transmission Provider, Transmission Owner, and their affiliated and associated companies are named as additional insureds with respect to liabilities arising out of the Transmission Provider's and Transmission Owner's use and ownership of the Transmission System and/or the Transmission Owner Interconnection Facilities and the Transmission Provider's and Transmission Owner's use of the Generator Interconnection Facilities. The inclusion of more than one insured under this policy shall not operate to impair the rights of one insured against another insured and the coverages afforded by this policy will apply as though separate policies had been issued to each insured. The

inclusion of more than one insured will not, however, operate to increase the limits of the carrier's liability. The Transmission Provider and Transmission Owner will not, by reason of their inclusion under this policy, incur liability to the insurance carrier for payment of premium for this policy.

15.2 **Generator Self-Insurance.** Generator, at its option, may, with adequate credit assurance provided to Transmission Owner, self-insure all or part of the insurance required in this Article 15; provided, however, that all other provisions of this Article 15, including, but not limited to, waiver of subrogation, waiver of rights of recourse, and additional insured status, which provide or are intended to provide protection for the Transmission Provider, Transmission Owner, and their affiliated and associated companies under this Agreement, shall remain enforceable. Generator's election to self-insure shall not impair, limit, or in any manner result in a reduction of rights and/or benefits otherwise available to the Transmission Provider, Transmission Owner, and their affiliated and associated companies through formal insurance policies and endorsements as specified in the above paragraphs of this Article 15. All amounts of self-insurance, retentions and/or deductibles are the responsibility of and shall be borne by Generator.

15.3 **Transmission Owner Insurance.** Without limiting any obligations or liabilities under this Agreement, the Transmission Owner shall, at its expense, provide and maintain in effect for the life of this Agreement, minimum insurance coverage (in any combination of primary and excess layers) as follows:

15.3.1 **Workers' Compensation.** Workers' compensation insurance in accordance with all applicable state, federal, and maritime laws, including employer's liability insurance in the amount of one million dollars ($1,000,000) per accident. The policy shall be endorsed to include a waiver of subrogation in favor of Generator and its affiliated and associated companies.

15.3.2 **Commercial General Liability.** Commercial general liability insurance, including contractual liability coverage for liabilities assumed under this Agreement, and personal injury coverage in the amount of twenty-five million dollars ($25,000,000) per occurrence for bodily injury and property damage. The policy shall be endorsed to include Transmission Provider and Generator and their affiliated and associated companies as additional insureds with a provision substantially in the form of the following:

> In consideration of the premium charged, Transmission Provider and Generator and their affiliated and associated companies are named as additional insureds with respect to liabilities arising out of Generator's use and ownership of the Facility and/or the Generator Interconnection Facilities and Generator's use of the Transmission System and/or the

Transmission Owner Interconnection Facilities. The inclusion of more than one insured under this policy shall not operate to impair the rights of one insured against another insured and the coverages afforded by this policy will apply as though separate policies had been issued to each insured. The inclusion of more than one insured will not, however, operate to increase the limits of the carrier's liability. Generator will not, by reason of its inclusion under this policy, incur liability to the insurance carrier for payment of premium for this policy.

15.4 **Transmission Owner Self-Insurance.** The Transmission Owner, at its option, may, with adequate credit assurance provided to Generator, self-insure all or part of the insurance required in this Article 15; provided, however, that all other provisions of this Article 15, including, but not limited to, waiver of subrogation, waiver of rights of recourse, and additional insured status, which provide or are intended to provide protection for Generator and its affiliated and associated companies under this Agreement, shall remain enforceable. The Transmission Owner 's election to self-insure shall not impair, limit, or in any manner result in a reduction of rights and/or benefits otherwise available to Generator and its affiliated and associated companies through formal insurance policies and endorsements as specified in the above paragraphs of this Article 15. All amounts of self-insurance, retentions and/or deductibles are the responsibility of and shall be borne by the Transmission Owner.

15.5 **Notices and Certificates of Insurance.** All policies of insurance shall provide for thirty (30) days prior written notice of cancellation or material adverse change. Prior to the date the Facility is first operated in parallel with the Transmission System and annually thereafter during the term of this Agreement, certificates of insurance shall be furnished by the Transmission Owner to Generator.

ARTICLE 16
INDEMNITY

16.1 **General.** Each Party shall indemnify and hold harmless the other Parties, and the other Parties' respective officers, shareholders, stakeholders, managers, representatives, directors, agents and employees, and affiliated and associated companies, from and against any and all loss, liability, damage, cost or expense, including damage and liability for bodily injury to or death of persons, or damage to property of persons (including reasonable attorney's fees and expenses, litigation costs, consultant fees, investigation fees and sums paid in settlements of claims and any such fees and expenses incurred in enforcing this indemnity or collecting any sums due hereunder) (collectively, "Loss") to the extent arising out of, in connection with or resulting from (i) the indemnifying Party's breach of any of the representations or warranties made in, or failure to perform any of its obligations under, this Agreement; or (ii) the negligence or willful misconduct of the indemnifying Party or its contractors and regardless whether arising under

Applicable Laws and Regulations or otherwise; *provided*, however, that no Party shall have any indemnification obligations under this Section 16.1 with respect to any Loss to the extent the Loss results from the negligence or willful misconduct of the Party seeking indemnity.

16.2 **Notice and Defense.** Promptly after receipt by a person entitled to indemnity ("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 Section 16.1 may apply, the Indemnified Person shall notify the indemnifying Party of such fact, but any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay shall be 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 reasonable satisfaction to the Indemnified Person; *provided*, however, that if the defendants in any such action include one or more Indemnified Persons and the indemnifying Party and the Indemnified Person shall have reasonably concluded 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 behalf of such Indemnified Person; provided, further that the indemnifying Party shall only be required to pay the fees and expenses of one additional law firm 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 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, and in such event the indemnifying Party shall pay the reasonable expenses of the Indemnified Person in such defense, 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 unreasonably withheld or delayed.

16.3 **Indemnified Person.** If an Indemnified Person is entitled to indemnification under this Article 16 as a result of a claim by a third party, and the indemnifying Party fails to assume the defense of such claim, such Indemnified Person may at the expense of the indemnifying Party contest, settle, consent to the entry of any judgment with respect to, or pay in full, such claim.

16.4 **Amount Owing.** If an indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 16, the amount owing to the

Indemnified Person shall be the amount of such Indemnified Person's actual Loss, not of any insurance or other recovery.

16.5 Limitation on Damages. Notwithstanding any other provision of this Agreement, liability of all Parties shall be limited to direct actual damages, and all other damages at law or in equity are waived. Under no circumstances shall any Party or its affiliates, directors, officers, employees and agents, or any of them, be liable to the other Parties, whether in tort, contract or other basis in law or equity for any special, indirect, punitive, exemplary or consequential damages, including lost profits. The limitations on damages specified in this Section 16.5 are without regard to the cause or causes related thereto, including the negligence of any Party, whether such negligence be sole, joint or concurrent, or active or passive. The provisions of this Section 16.5 shall survive the termination or expiration of this Agreement. This Section 16.5 shall not be interpreted in any way to override the provisions of Sections 16.1 through 16.4.

ARTICLE 17
BREACH, CURE AND DEFAULT

17.1 Events of Breach. A Breach of this Agreement shall include:

(a) The failure to pay any amount when due;

(b) The failure to comply with any material term or condition of this Agreement, including but not limited to any material Breach of a representation, warranty or covenant made in this Agreement;

(c) If a Party (i) is adjudicated bankrupt; (ii) files a voluntary petition in bankruptcy under any provision of any federal or state bankruptcy law or shall consent to the filing of any bankruptcy or reorganization petition against it under any similar law; (iii) makes a general assignment for the benefit of its creditors; or (iv) consents to the appointment of a receiver, trustee or liquidator;

(d) Assignment of this Agreement in a manner inconsistent with the terms of this Agreement;

(e) Failure of a Party to provide such access rights, or a Party's attempt to revoke or terminate such access rights, as provided under this Agreement; or

(f) Failure of a Party to provide information or data to another Party as required under this Agreement, provided the Party entitled to the information or data under this Agreement requires such information or data to satisfy its obligations under this Agreement.

17.2 **Continued Operation.** In the event of a Breach or Default by a Party, the Parties shall continue to operate and maintain, as applicable, such DC power systems, protection and Metering Equipment, telemetering equipment, SCADA equipment, transformers, Secondary Systems, communications equipment, building facilities, software, documentation, structural components, and other facilities and appurtenances that are reasonably necessary for the Transmission Provider and Transmission Owner to operate and maintain the Transmission System, or for Generator to operate and maintain the Facility, in a safe and reliable manner.

17.3 **Cure and Default.** Upon the occurrence of an event of Breach, the Party not in Breach, when it becomes aware of the Breach, shall give written notice of the Breach to the Breaching Party and to any other person a Party to this Agreement identified in writing to the other Party in advance. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach. Upon the occurrence described in part (c) of Section 17.1, the Party experiencing such occurrence shall notify the other Party in writing within seven (7) days after the commencement of such occurrence. Upon receiving written notice of the Breach hereunder, the Breaching Party shall have thirty (30) days to cure such Breach unless such Breach is due to an occurrence under Section 17.1(a) or (c) in which case the cure period will be five (5) days. If the Breach is such that it cannot be cured within thirty (30) days, the Breaching Party will commence in good faith all steps as are reasonable and appropriate to cure the Breach within such thirty (30) day time period and thereafter diligently pursue such action to completion. In the event the Breaching Party fails to cure the Breach, or to commence reasonable and appropriate steps to cure the Breach, within thirty (30) days of becoming aware of the Breach, the Breaching Party will be in Default of this Agreement.

17.4 **Right to Compel Performance.** Notwithstanding the foregoing, upon the occurrence of an event of Default, the non-Defaulting Party shall be entitled to (i) commence an action to require the Defaulting Party to remedy such Default and specifically perform its duties and obligations hereunder in accordance with the terms and conditions hereof, and (ii) exercise such other rights and remedies as it may have in equity or at law.

ARTICLE 18
TERMINATION OF INTERCONNECTION SERVICE

18.1 **Expiration of Term.** Except as otherwise specified in this Article 18, Interconnection Service for the Facility shall terminate at the conclusion of the term of this Agreement.

18.2 **Termination.** In addition to the termination provisions set forth in Section 2.2, Party may terminate this Agreement upon the Default of another Party in accordance with this Agreement. Subject to the limitations set forth in Section 18.3, in the event of a Default, a non-Defaulting Party may terminate this Agreement only upon the

later of (i) its giving of written notice of termination to the other Parties; and (ii) the filing at FERC of a notice of termination for this Agreement, which filing must be accepted for filing by FERC.

18.3 Disposition of Facilities Upon Termination of Agreement.

18.3.1 Transmission Provider and Transmission Owner Obligations. Upon termination of this Agreement, unless otherwise agreed by the Parties in writing, Transmission Owner shall:

(a) prior to the construction and installation of any portion of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades and to the extent possible, cancel any pending orders of, or return, such facilities to the extent that such orders or facilities are not required to provide Interconnection Service to a Subsequent Generator;

(b) keep in place any portion of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades already constructed and installed, provided that Transmission Owner may, in its discretion, remove the Transmission Owner Interconnection Facilities; and

(c) perform such work as may be necessary to ensure the safety of persons and property and to preserve the integrity of the Transmission System (*e.g.*, construction demobilization, wind-up work).

18.3.2 Generator Obligations. Upon billing by Transmission Owner, Generator shall reimburse Transmission Owner for any costs incurred by Transmission Owner in performance of the actions required or permitted by Section 18.3.1 and for the cost of any Transmission Owner Interconnection Facilities and Interconnection System Upgrades described in Appendix A, including any study or redesign costs associated therewith, that are necessary for the provision of Interconnection Service to a Subsequent Generator that has entered into an Interconnection and Operating Agreement with Transmission Provider and/or Transmission Owner on or before the date of the termination of this Agreement. The Transmission Owner and the Transmission Provider shall use Reasonable Efforts to minimize costs and shall offset the amounts owed by any salvage value of facilities, if applicable. Generator shall pay these costs pursuant to §13.4 of this Agreement. If the cost of any Transmission Owner Interconnection Facilities and Interconnection System Upgrades described in Appendix A, including any study or redesign costs associated therewith are necessary for the provision of Interconnection Service to such Subsequent Generator, Generator may seek recovery of such costs from

the Subsequent Generator in accordance with Section 3.6 to the extent that Generator has paid such costs to Transmission Owner.

18.3.3 **Pre-construction or Installation.** Upon termination of this Agreement and prior to the construction and installation of any portion of the Transmission Owner Interconnection Facilities or Interconnection System Upgrades, Transmission Owner may, at its option, retain any portion of such facilities not cancelled or returned in accordance with Section 18.3.1(a), in which case Transmission Owner shall be responsible for all costs associated with procuring such facilities. To the extent that Generator has already paid Transmission Owner for any or all of such costs, Transmission Owner shall refund such amounts to Generator. If Transmission Owner elects to not retain any portion of such facilities, Transmission Owner shall convey and make available to Generator such facilities as soon as practicable after Generator's payment for such facilities.

18.4 **Survival of Rights.** Termination of this Agreement shall not relieve any Party of any of its liabilities and obligations arising hereunder prior to the date termination becomes effective, and each Party may take whatever judicial or administrative actions as appear necessary or desirable to enforce its rights hereunder.

ARTICLE 19
SUBCONTRACTORS

19.1 **Subcontractors.** Nothing in this Agreement shall prevent a Party from utilizing the services of subcontractors, 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.

19.1.1 **Responsibility of Principal.** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. In accordance with the provisions of this Agreement, each Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any applicable obligation imposed by this Agreement upon a Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

19.1.2 **No Third-Party Beneficiary.** Except as may be specifically set forth to the contrary herein, no subcontractor or any other party is intended to be, nor will it be deemed to be, a third-party beneficiary of this Agreement.

19.1.3 **No Limitation by Insurance.** The obligations under this Article 19 will not be limited in any way by any limitation of subcontractor's insurance.

ARTICLE 20
CONFIDENTIALITY

20.1 Term. During the term of this Agreement, and for a period of three (3) years after the expiration or termination of this Agreement, except as otherwise provided in this Article 20, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

20.2 Scope. Confidential Information shall not include information that the receiving Party can demonstrate (i) is generally available to the public other than as a result of a disclosure by the receiving Party; (ii) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (iii) 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 other Party to keep such information confidential; (iv) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (v) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or breach of this Agreement; or (vi) is required, in accordance with Section 20.7 of this Agreement, to be disclosed to any Governmental Authority as long as such information is made available to the public, is otherwise required to be disclosed by Applicable Laws and Regulations or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Agreement. Information designated as Confidential Information shall no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

20.3 Release of Confidential Information. No Party shall release or disclose Confidential Information to any other person, except on a need-to-know basis, to its employees, consultants or to parties who may be or considering providing financing to or equity participation with Generator in connection with this Agreement, unless such person has first been advised of the confidentiality provisions of this Article 20 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person receiving the initial Confidential Information shall remain primarily responsible for any release of Confidential Information in contravention of this Article 20.

20.4 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 either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

20.5 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 another Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

20.6 **Standard of Care.** Each Party shall use at least the same standard of care to protect Confidential Information it receives as that 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 other Parties under this Agreement or to comply with Applicable Laws and Regulations.

20.7 **Order of Disclosure.** If a Governmental Authority 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, data request, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt prior written notice to the extent possible of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or agreement, or waive compliance with the terms of this Agreement. Notwithstanding the absence of a protective order or agreement, 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 shall use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

20.8 **Termination of Agreement.** Upon termination of this Agreement for any reason, each Party shall, at the Party's option, within ten (10) days after 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 the other Parties) or return to the other Parties, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Parties.

20.9 **Remedies.** The Parties expressly agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article 20. Each Party accordingly expressly 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 20, 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 to be an exclusive remedy for the breach of this Article 20, 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 20.

ARTICLE 21
INFORMATION ACCESS AND AUDIT RIGHTS

21.1 **Information Access.** Each Party shall make available to the other Parties information necessary to verify the costs incurred by the other Parties for which the requesting Party is responsible under this Agreement and carry out obligations and responsibilities under this Agreement, provided that the Parties shall not use such information for purposes other than to operate and maintain their respective facilities and equipment for the purposes set forth in this Section 21.1 and to enforce their rights under this Agreement.

21.2 **Audit Rights.** Subject to the requirements of confidentiality under Article 20, a Party at its expense shall have the right, during normal business hours, and upon prior reasonable notice to another Party, to audit each other's accounts and records pertaining to a Party's performance and/or satisfaction of obligations arising under this Agreement during the twenty-four (24) month period prior to commencement of the audit, other than the performance and/or satisfaction of the Transmission Provider under Section 4.7, which shall be subject to the audit provisions of such Section. Any audit authorized by this Section 21.2 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 obligations under this Agreement.

ARTICLE 22
DISPUTES

22.1 **Submission.** Any claim or dispute, which a Party may have against others, arising out of this Agreement shall be submitted for resolution in accordance with the dispute resolution provisions of the Transmission Provider OATT.

22.2 **Rights under the Federal Power Act.** Nothing in this Article 22 shall restrict the rights of any Party to file a complaint with FERC under relevant provisions of the Federal Power Act.

22.3 **Equitable Remedies.** Nothing in this Article shall prevent either Party from pursuing or seeking any equitable remedy available to it under Applicable Laws and Regulations, at any time, before a Governmental Authority.

ARTICLE 23
NOTICES

23.1 **General.** Any notice, demand or request required or permitted to be given by a Party to others and any instrument required or permitted to be tendered or delivered by a Party in writing to the other may be so given, tendered or delivered, as the case may be, by depositing the same with the United States Postal Service with postage

prepaid, for transmission by certified or registered mail, addressed to the Parties, or personally delivered to the Parties, at the address set out below:

To the Transmission Provider:

Manager, Interconnection Planning
Midwest ISO
701 City Center Drive
Carmel, IN 46032

To Transmission Owner:

Mark S. Johnson, Director, Transmission
LG&E Energy Services, Inc.
220 West Main Street
P. O. Box 32030
Louisville, KY 40232

To Generator:

Charlie Freibert, Director, Energy Marketing
LG&E Energy Services Inc.
220 West Main Street
P. O. Box 32030
Louisville, KY 40232

23.2 **Billings and Payments.** Billings and payments shall be sent to the addresses shown in Section 23.1.

23.3 **Alternative Forms of Notice.** Any notice or request required or permitted to be given by either Party to the other 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 below:

To the Transmission Provider:

Voice telephone – (317) 249-5759
Facsimile telephone – (317) 249-5703
Email address – jfohey@midwestiso.org

To Transmission Owner:

Phone: (502) 627-2824
Fax: (502) 627-4716
Email: mark.johnson@lgeenergy.com

To Generator:

Phone: (502) 627-3673
Fax: (502) 627-3613
Email: charlie.freibert@lgeenergy.com

23.4 **DUNS #.** If the Transmission Owner and Generator have not obtained DUNS numbers by the time this Agreement is executed, the Transmission Owner and Generator will forward their DUNS numbers within five (5) business days of having obtained such numbers to the Transmission Provider by facsimile or email to the fax number or email set out below:

To the Transmission Provider:

Facsimile telephone – (317) 249-5703
Email address – jfohey@midwestiso.org

23.5 **Notification of In-Service Date.** Transmission Owner will serve to the Transmission Provider a copy of Appendix C - Operation Date as forwarded to Generator on the same day to the address shown in Section 23.1, and by facsimile to the numbers set out below:

To the Transmission Provider:

Facsimile telephone – (317) 249-5703

ARTICLE 24
MISCELLANEOUS

24.1 **No Ownership Control.** Generator represents and warrants as of the effective date of this Agreement, that it does not own more than five percent (5%) of the voting shares of the Transmission Provider, nor has contractual rights permitting it to direct the voting of such percentage of shares, and further agrees that this representation shall remain true during the term of this Agreement.

24.2 **Waiver.** Any waiver at any time by a Party of its rights with respect to a Default under this Agreement, or with respect to any other matters arising in connection with

this Agreement, shall not be deemed a waiver or continuing waiver with respect to any subsequent Default or other matter.

24.3 **Governing Law.** The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the laws of the State of Indiana without regard to the conflicts of law provisions.

24.4 **Headings Not to Affect Meaning.** The descriptive headings of the various Sections and Articles of this Agreement have been inserted for convenience of reference only and shall in no way modify or restrict any of the terms and provisions hereof.

24.5 **Amendments and Rights Under the Federal Power Act.** This Agreement may be amended by and only by a written instrument duly executed by all Parties. Upon satisfaction of all Applicable Laws and Regulations, an amendment to this Agreement shall become effective and a part of this Agreement. Notwithstanding the foregoing, nothing contained herein shall be construed as affecting in any way the rights of the Transmission Provider, Transmission Owner, or Generator under Sections 205 and 206 of the Federal Power Act and pursuant to FERC's rules and regulations promulgated thereunder. The Transmission Provider reserves the right to file rate schedules with FERC concerning any services the Transmission Provider deems necessary for reliable and orderly bulk power system management, including but not limited to any standby or related services that may arise from a failure by Generator to meet its schedule of deliveries across the Transmission System.

24.6 **Entire Agreement.** This Agreement constitutes the entire agreement among the Parties hereto with reference to the subject matter hereof and no change or modification as to any of the provisions hereof shall be binding on any Party unless reduced to writing and approved by the duly authorized officer or agent of Generator, Transmission Owner, and the Transmission Provider. The terms and conditions of this Agreement and every appendix referred to herein shall be amended, as mutually agreed to by the Parties, to comply with changes or alterations made necessary by a valid applicable order of any Governmental Authority having jurisdiction hereof.

24.7 **Counterparts.** This Agreement may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument.

24.8 **Binding Effect.** This Agreement 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.

24.9 **Conflicts.** In the event of a conflict between the body of this Agreement and any attachment, appendix or exhibit hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed to be the final intent of the Parties.

24.10 Regulatory Requirements. Each Party's obligations under this Agreement 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 receiving 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 these other approvals as soon as is reasonably practicable.

ARTICLE 25
REPRESENTATIONS AND WARRANTIES

25.1 General. Each Party hereby represents, warrants and covenants as follows with these representations, warranties, and covenants effective as to the Party during the full time this Agreement is effective:

25.1.1 Good Standing. Such Party is duly organized or formed, as applicable, validity existing and in good standing under the laws of its state of organization or formation, and is in good standing under the laws of the respective state(s) of their organization as stated in the preamble of this Agreement.

25.1.2 Authority. Such Party has the right, power and authority to enter into this Agreement, to become a party hereto and to perform its obligations hereunder, and this Agreement is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms.

25.1.3 No Conflict. The execution, delivery and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of either Party, or any judgment, license, permit or order or material agreement or instrument applicable to or binding upon either Party or any of its assets.

25.1.4 Consent and Approval. That it has sought or obtained, or, in accordance with this Agreement will seek or obtain, each consent, approval, authorization or order of, or acceptance of a filing with, or notice to, any Governmental Authority with jurisdiction concerning this Agreement, in connection with the execution, delivery and performance of this Agreement.

25.1.5 Solvency. That each Party is financially solvent.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

Midwest Independent Transmission System Operator, Inc.

By: Roger C. Harszy
Name: Roger C. Harszy
Title: Ex. Director, Engineering

Louisville Gas and Electric Company/ Kentucky Utilities Company
DUNS # 006945505/006944938

By: John N. Voyles Jr.
Name: John N. Voyles Jr.
Title: Vice President, Regulated Generation

Louisville Gas and Electric Company
DUNS #006945505

By: Mark S. Johnson
Name: Mark S. Johnson
Title: Director Transmission

MISO Project G218 Queue 37356-01
APPENDIX A

POINT OF INTERCONNECTION, TRANSMISSION OWNER INTERCONNECTION FACILITIES, INTERCONNECTION SYSTEM UPGRADES, COST ESTIMATES AND RESPONSIBILITY, TRANSMISSION CREDITS, CONSTRUCTION SCHEDULE, AND MONTHLY PAYMENT SCHEDULE

This Appendix A is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

1.1 **Point of Interconnection.** The Point of Interconnection shall be at the point where Generator connects to the Transmission System at LG&E (Transmission)'s Trimble County 345 kV substation. See Exhibit 1 which drawing is attached hereto and made a part hereof.

1.2 **Transmission Owner Interconnection Facilities (including metering equipment) to be constructed by the Transmission Owner.** The Transmission Owner shall construct an interconnection at Trimble County 345 kV substation comprising of breakers, switches, system protection and metering as shown in Exhibit 1.

1.3 **Transmission Owner Interconnection Facilities (including metering equipment) to be constructed by Generator.** None

1.4 **Interconnection System Upgrades to be installed by the Transmission Owner.** The Transmission Owner shall construct a new 345 kV connection to Speed 345 kV substation by looping Speed to Ghent 345 kV line through Trimble County 345 kV substation. This construction will comprise of all breakers, switches, system protection and metering as shown in Exhibit 1.

1.5 **Cost Estimates and Responsibility.** Generator and the Transmission Owner hereby acknowledge and agree that the cost indicated below is only an estimate and that Generator hereby agrees to and shall reimburse the Transmission Owner for all actual costs, as determined pursuant to Section 9.4 herein associated with the construction and installation by the Transmission Owner and/or Generator of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades.

1.5.1 The cost for the Transmission Owner Interconnection Facilities to be constructed by the Transmission Owner is estimated at **$ 0.00.**

1.5.2 The cost for the Transmission Owner Interconnection Facilities to be constructed by Generator is estimated at **$ 0.00.**

1.5.3 The cost for the Interconnection System Upgrades is estimated at **$ 8,571,563** as provided in Exhibit 2.

1.5.4 The cost, including penalties, of redispatch or market-related costs arising from outages described in Section 9.1.10 of the Agreement is estimated at **$ 0.00.**

1.5.5 The total cost for the Transmission Owner Interconnection Facilities and Interconnection System Upgrades is estimated at **$ 8,571,563.**

1.5.6 Generator's liability for reimbursement of Transmission Owner for taxes, interest and/or penalties under Section 9.4.1 is estimated at **$ 0.00.** This amount is not included in the total cost for Transmission Owner Interconnection Facilities and Interconnection System Upgrades stated in Section 1.5.5 of this Appendix A.

1.6 **First Equipment Order.** The first date for the ordering of equipment by Transmission Owner for installing Transmission Owner Interconnection Facilities and/or Interconnection System Upgrade is expected to be 30 months prior to completion date in Section 1.8.

1.7 **Transmission Credits.** The portion of the Interconnection System Upgrades that is subject to the transmission service credits described in Section 9.2 of this Agreement is estimated to be **$ 8,571,563** as shown in Section 1.5.3. Transmission credits will be based on the final, actual cost of completing the Interconnection System Upgrades as provided by the final invoice prepared by Transmission Owner pursuant to Section 13.5 of this Agreement. Any reimbursement due Generator will include (i) the final, actual cost after any true-up amounts have been paid pursuant to Section 13.5, and (ii) interest at the rate calculated in accordance with section 35.19a(a)(2)(iii) of FERC's regulations applied to the amount remaining to be reimbursed from the date of collection from Generator until fully reimbursed.

Transmission Owner shall reimburse Generator as directed by the Transmission Provider on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges on the Transmission System, as payments are made under the Transmission Provider OATT using either of the following options:

_____ Credits against transmission service – Generator shall provide the Transmission Provider with a monthly record of the various transmission services that the Generator has taken from the Transmission Provider originating from the Facility. Transmission Provider will verify the records, calculate the total cost of the monthly transmission service, and provide Transmission Owner the amount Transmission Owner is to reimburse Generator pursuant to Section 9.2.1 of this Agreement. If the Transmission Customer for the Facility's generation obtains Transmission Service under the Transmission Provider OATT, then in the absence of a mutually agreeable payment schedule, refunds to Generator shall be based on the Midwest ISO's OATT firm and non-firm point-to-point transmission service rate for the pricing zone corresponding to the Transmission Customer's Point of Delivery, multiplied by either the amount of Facility generation designated as a Network Resource if Network Integration Transmission Service is taken, or the Transmission Customer's reservation if Point-to-Point Transmission Service is taken, as applicable.

__X__ Cash repayment, with payment schedule as follows:

__X__ Immediate repayment to be made not later than one-hundred and twenty (120) days following notice as provided in Appendix C, or

_____ Sixty (60) equal monthly payments over five years.

Such reimbursement will begin the second calendar month after the later of Transmission Owner's final invoice pursuant to Section 13.5 or Generator's demonstration of commercial operation of the Facility, with full reimbursement achieved within five years of the initial credit or cash repayment hereunder. Beginning with the first payment through either credits against transmission service or cash repayment, Transmission Owner will send Generator a statement, by the 15th day of each month, that will provide the amount of credit or reimbursement and interest paid for the current month, year-to-date and total-to-date, and remaining credit balance.

The Parties may adopt any alternative payment schedule that is mutually agreeable that otherwise accelerates reimbursement of amounts paid previously by Generator. Transmission Owner shall notify the Transmission Provider upon initiation, completion and any alteration of the payment schedule herein described and shall provide the Transmission Provider what information the Transmission Provider may request to verify such payments are made and their amount.

The Parties' agreement to a crediting mechanism herein, whether credits apply to transmission service obtained by Generator or its assignee, or through regular payments or accelerated payment, shall not serve as precedent regarding any Party's future agreement to a crediting mechanism.

1.8 **Construction Schedule.** Construction of the Facility, Generator Interconnection Facilities, the Transmission Owner Interconnection Facilities and Interconnection System Upgrades is scheduled as follows:

Trimble County 345 kV substation line terminal connecting to the Generator Interconnection Facilities will be reasonably coordinated to be completed 6 months prior to the Generator's service date.

1.9 **Monthly Payment Schedule.** Generator shall pay the Transmission Owner for the installation of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades in accordance with the following schedule:

Payment in full for the amount listed in Exhibit 2 shall be due 31 months prior to the date in Appendix A, Section 1.8. Generator shall make any additional payment or receive refund within 30 days of receipt of invoice by the Transmission Owner. Generator shall provide notice of payments' amount and date as they are provided to the Transmission Owner. The Transmission Owner shall notify the Transmission Provider when payments are received. The Transmission Provider will authorize the Transmission Owner to procure and construct the facilities invoiced.

1.10 **Permits, Licenses and Authorizations.** The Transmission Provider and/or Transmission Owner shall obtain all necessary permits, licenses and authorizations for the facilities in this Appendix A..

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APPENDIX B

FACILITY AND GENERATOR INTERCONNECTION FACILITIES

This Appendix B is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

1.1 **Facility.** Generator intends to own and operate an 750 MW electric generating facility located in Trimble County, Kentucky, and more specifically described as follows

The Faciltiy will operate in synchronism with the grid and will have a generating capacity of up to 750 MW. The Facility will operate with +/- 0.95 power factor at the Point of Interconnection. The generator will operated in inductive power factor mode (absorb MVAR from the network) unless it is an Emergency Condition.

1.2 **Generator Interconnection Facilities to be constructed by Generator.** Generator shall construct a take off tower at the high kV end of the transformers and connect to the take-off tower at Trimble County 345 kV substation. The Generator Interconnection Facilities will be constructed six months prior to the Generator's service date.

1.3 **Permits, Licenses and Authorizations.** Generator shall obtain the following permits, licenses and authorizations:

Generator shall obtain the necessary permits, licenses and authorizations as required for the Facility and Generator Interconnection Facilities (associated transmission line) to reach the Point of Interconnection. Such authorizations may be required from the following Governmental Authorities:

Federal agencies including the Army Corps of Engineers, the Federal Energy Regulatory Commission and the Environmental Protection Agency,

Kentucky agencies including the Kentucky Public Service Commission,

Trimble County and other local agencies including those regulating planning and zoning.

It shall be the Generator's responsibility to ensure all necessary authorizations are obtained related to the construction and operation of the Facility.

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APPENDIX C - OPERATION DATE

This Appendix C is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

[Date]

[Generator, as specified in Section 23.1]
[Address]
[Address]
[Address]

Re: Trimble County Generating Station, Unit 2

Dear _____ [as specified in section 23.1]

On [Date], the Transmission Owner, Louisville Gas & Electric Company, and the Generator, Louisville Gas & Electric Company and Kentucky Utilities Company, completed to their mutual satisfaction all work on Trimble County Generating Station, Unit 2, the "Facility" and associated interconnection facilities and related equipment required to interconnect the Facility with the Transmission Owner's transmission system and have energized the Facility in parallel operation with the Transmission Owner's transmission system. This letter confirms that the Generator may commence commercial operation of the Facility and associated interconnection facilities effective as of [Date plus one day].

Thank you.

[Signature]
[Transmission Owner Representative]

cc: Midwest ISO

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APPENDIX D - INTERCONNECTION GUIDELINES

This Appendix D is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

The unique requirements of each generation interconnection will dictate the establishment of mutually agreeable Interconnection Guidelines that further define the requirements of this Interconnection and Operating Agreement. The Interconnection Guidelines address, but are not limited to, the following:

(a) **System Protection Facilities:** Transmission Owner will construct a protective relaying scheme to protect the Transmission Owner's transmission system from faults on the Generator Interconnection Facilities. If a differential relaying scheme is used on the Generator Interconnection Facilities, *i.e.*, the Generator-owned transmission line, differential relaying equipment must be installed at the Facility. Generator will be responsible for providing protection for its generators and associated equipment from faults on the Generator Interconnection Facilities and for faults on the Transmission Owner's transmission system.

(b) **Communication requirements:** Generator shall provide a standard telephone number for communication to the facility controlling the generators. Generator shall provide backup voice communications either by establishing a dedicated telephone line or by utilizing wireless phone service. Facsimile communication shall also be available at the Facility control room. If the Facility control room is not staffed at any time when the Facility is not synchronized, then Generator shall provide a 24-hour contact telephone number for contacting those personnel responsible for operatingthe Facility.

(c) **Metering requirement:** Transmission Owner shall construct and/or install as part of the Transmission Owner Interconnection Facilities that metering and telemetry equipment required to provide MW, MVar, MWh, and MVarH, and that telemetry necessary to provide data to the Transmission Owner's transmission system control center and through the Transmission Owner energy management system to the Transmission Provider. Transmission Owner shall make available to Generator access to the metering and telemetry equipment so that Generator can electronically connect to such equipment and transmit all data to Generator or Generator's designee.

(d) **Grounding requirements:** Generator will tie the ground for its transmission line to the ground grid of the Trimble County 345 kV substation at a point provided by the Transmission Owner.

(e) **Transmission Line and Substation Connection configurations:** Transmission Owner will designate a physical interconnection point at the Trimble County 345 kV substation that shall be at the point where Generator's transmission line connects (*i.e.*, the Point of Interconnection) to the dead end bells on the substation as soon as the engineering and design for the Transmission Owner Interconnection Facilities are complete.

(f) **Short Circuit requirements:** Transmission Owner will provide short circuit requirements associated with its transmission system for the Generator-owned equipment as soon as the engineering and design for the Transmission Owner Interconnection Facilities are complete.

(g) **Synchronizing requirements:** Generator will synchronize the Facility at the Point of Interconnection.

(h) **Reactive Power Control requirements:** Generator is expected to provide its own reactive power needs. Upon request from the Transmission Owner's transmission system control center, the Facility shall provide reactive power, dynamically, over a range of 0.90 leading to 0.90 lagging power factor at the Point of Interconnection.

(i) **Data provisions:** Generator will provide line disconnect position and 345 kV breaker status. Transmission Owner will provide MW, MVar, MWh and MVarH data, as measured at the Point of Interconnection, to Generator.

(j) **Energization inspection and testing requirements:** Transmission Owner shall have the right to inspect the Generator-owned 345 kV transmission line and terminal equipment at the Facility before electrically connecting to the Trimble County 345 kV substation.

(k) **Auxiliary Power:** Generator will arrange for auxiliary power from the local electric distribution utility in Kentucky for periods when the Facility is not generating. Generator will design the auxiliary power system of the Facility such that an electrical connection between the Transmission Owner's transmission system and the local electric distribution utility cannot occur.

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APPENDIX E - OPERATING GUIDELINES

This Appendix E is a part of the Interconnection and Operating Agreement between Generator, Transmission Owner, and the Transmission Provider.

The unique requirements of each generation interconnection will dictate the establishment of mutually agreeable Operational Guidelines that further define the requirements of this Interconnection and Operating Agreement. These guidelines address, but are not limited to, the following:

(a) **System Protection Facilities (relaying):** Generator and Transmission Owner agree to operate the protective relays associated with the Transmission Owner Interconnection Facilities under Generator's and Transmission Owner's respective operational control in compliance with Transmission Owner's approved settings. To ensure such protective relays are in good operational order and properly adjusted, Generator and Transmission Owner agree to test such protective schemes within their respective control at least once every five (5) years or as agreed by Generator and Transmission Owner or as required by the rules and procedures of the Transmission Provider, if applicable, which rules and procedures shall govern in the event of a conflict under this Paragraph (a). Generator and Transmission Owner shall provide the other sufficient notice so that the other Parties may have a representative(s) present to witness such test of protective schemes. Upon completion of such testing, Generator and Transmission Owner, as appropriate, shall provide the other Parties the test results. Generator or Transmission Owner shall notify the other Parties in writing as soon as practicable of any failures in, and/or setting or design changes to, such protective relay schemes.

(b) **Switching and tagging:** The electrical clearance procedures for the Transmission Owner Interconnection Facilities are specified in APPENDIX E(b).

(c) **Communication requirements:** The communications requirements and procedures are specified in APPENDIX E(c).

(d) **Metering requirements:** On a daily basis, Generator or Generator's designee will checkout scheduled and actual generation meter readings (*i.e.*, MWh and MVarH) with the Transmission Owner transmission system control center. Additionally, in the event of telemetry failure, Generator shall provide by telephone hourly generation meter readings (*i.e.*, MWh and MVarH) for the Facility to the Transmission Owner transmission system control center.

(e) **Data reporting requirements:** [None]

(f) **Training:** [None]

(g) **Capacity determination and verification (including ancillary services and certification):** Before Generator provides any Ancillary Services, Generator will obtain certification pursuant to Transmission Provider requirements and procedures.

(h) **Emergency operations, including system restoration and black start arrangements:** Emergency operations shall be performed per Article 7.

(i) **Identified must-run conditions:** [None]

(j) **Provision of ancillary services:** Transmission Owner is not obligated to provide Ancillary Services to Generator under this Agreement. Notwithstanding, Generator shall be entitled to Ancillary Services from the Transmission Owner's transmission system but only to the extent that such Ancillary Services are available and requested. If applicable, Generator shall purchase or otherwise provide what Ancillary Services it requires, if any, to deliver the energy produced by the Facility pursuant to the Transmission Provider OATT.

(k) **Specific transmission requirements of nuclear units to abide by all NRC requirements and regulations:** [Not applicable]

(l) **Stability requirements, including generation short circuit ratio considerations:** [None]

(m) **Limitations of operations in support of emergency response:** In accordance with Section 4.13.5.2, as frequency drops, the Facility is expected to stay on line and "ride through" until frequency drops below certain set points as described in ECAR DOCUMENT NO. 3 EMERGENCY OPERATIONS, Revised June 16, 1998 - APPENDIX I ISOLATION OF GENERATING UNITS, page 6 and 7, as excerpted below:

If a generating unit is removed from the Control Area at a frequency higher than or a time less than that shown in the following table, an amount of load equal to the generation being removed from the Control Area must also be shed simultaneously.

Frequency Time before Generation Unit Isolation

60.0 to 59.5 Hz Unlimited

59.5 to 58.5 Hz 30.0 minutes before unit isolation can be expected

58.5 to 58.2 Hz 7.0 minutes before unit isolation can be expected

Below 58.2 Hz Unit isolation without time delay can be expected

The above operating time periods and frequencies may be adjusted for specific units for the cumulative effect of blade fatigue over the life of the turbine.

If generating units are isolated from the system, every effort should be made by the power plant operators to maintain unit auxiliaries and, if possible, a local load. This will allow rapid resynchronizing of the unit to the main network and aid in restoration of the system.

(n) **Maintenance and Testing:** Transmission Owner will provide Generator notice per Transmission Provider requirements of any planned maintenance and testing that will affect the ability of the Facility to remain interconnected with Transmission Owner's transmission system. For unplanned maintenance and testing, Transmission Owner will provide notice to Transmission Provider per Transmission Provider requirements and to Generator as soon after Transmission Owner becomes

aware of the need for such unplanned maintenance and testing as reasonably possible. Generator will provide Transmission Provider per Transmission Provider requirements and Transmission Owner, Generator's long-term maintenance schedule for generators of greater size than 18 MW (one module) for a minimum of a rolling one-year period (Type I). Generator will submit to Transmission Provider updated maintenance schedules on a quarterly basis. All such planned maintenance outages will be submitted to Transmission Provider and Transmission Owner at least two weeks in advance for review (Type II); this notice shall advise whether Generator requires electrical clearance at the Transmission Owner Interconnection Facilities.

For emergency outages of the Facility, Generator will provide notice to Transmission Owner as soon after Generator becomes aware of the need for electrical clearance in connection with the outage as reasonably possible. Nothing in this Paragraph prohibits Transmission Owner or Generator from opening its respective transmission facilities without notice to the other should such action avoid injury to personnel or property or to the public.

(o) **Generation and operation control:** Generator will notify Transmission Owner and the Transmission Provider when the Facility is synchronized with the Transmission System and when the Facility is taken off-line. Generator will be solely responsible for regulating to its scheduled obligation and will within 10 minutes adjust the electronic tag to the actual output.

(p) **Reactive Control:** Generator is expected to provide its own reactive power needs. Upon request from the Transmission Owner's transmission system control center, the Facility is required to provide reactive power, dynamically, over a range of 0.90 leading to 0.90 lagging power factor at the Point of Interconnection.

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APPENDIX E(b)

SWITCHING AND TAGGING PROCEDURES

1. Definitions

1.1. CLEARANCE - The process of removing and holding a transmission line, section of bus or piece of equipment from service so that work may be safely performed.

1.2. HOLD CARD - The formal registered card in the LG&E and KU Electrical Operating Card system. It is applied at the switches and disconnects through which electrical energy may be supplied to the section of line or equipment at which safety CLEARANCE is desired. It may be used with proper authority and registration at all voltage levels. A HOLD CARD is NEVER used to hold circuits or equipment IN service.

2. Planned Clearance Request originated by Generator

2.1. If the switching on the generating facility impacts the operation of the Transmission Owner Interconnection Facilities, then Generator will send a Clearance Request to the LG&E and KU transmission system control center to facilitate the switching.

3. Planned Clearance Request in the Trimble County 345 kV substation originated by Generator

3.1. Any planned switching in the Trimble County 345 kV substation originated by Generator will be coordinated with a Clearance Request through the LG&E and KU transmission system control center with a minimum of 24 hours' notice except in emergency situations (notices of between 24 hours and five days may be required depending on the impact of the outage on the transmission grid). The LG&E and KU transmission system control center will accommodate the request as soon as practicable. Personnel availability and system conditions may prevent a Clearance Request from being completed at the time requested by Generator. LG&E and KU personnel will perform all switching and apply all HOLD CARDS in the LG&E and KU Trimble County 345 KV substation. Generator's personnel may observe the switching if desired. Once the LG&E and KU transmission system control center has received assurance from LG&E and KU personnel that all devices are properly opened and carded, the LG&E and KU transmission system control center will provide CLEARANCE to Generator.

4. Planned Clearance Request on Generator Interconnection Facilities originated by Transmission Owner

4.1. All planned Clearance Requests on Generator Interconnection Facilities originated by Transmission Owner will be coordinated with Generator's personnel by a Clearance Request submitted by LG&E and KU personnel with a minimum of 48 hours' notice except in emergency situations. Generator will accommodate the request as soon as practicable. Generator's personnel will perform all switching and apply all HOLD CARDS in Generator's facilities. LG&E and KU personnel may observe all switching if desired.

Once Generator is assured that all devices are properly opened and carded, Generator's personnel will provide CLEARANCE to the LG&E and KU transmission system control center.

5. Planned Clearance Request in the Trimble County 345 kV substation originated by Transmission Owner

5.1. Generator will be notified for informational purposes only of any planned Clearance Request in the Trimble County 345 kV substation originated by Transmission Owner that do not require total isolation of the Generator Interconnection Facilities from the Transmission Owner's transmission system.

5.2. Any planned Clearance Requests that would result in the isolation of the Generator Interconnection Facilities from Transmission Owner's transmission system will be coordinated with Generator.

6. Unplanned requests to isolate Generator Interconnection Facilities by remote breaker operation

6.1. Generator may request the Transmission Owner's transmission system control center to isolate the Generator Interconnection Facilities from the transmission system by the remote operation of breakers in the Trimble County 345 kV substation. The transmission system control center will accommodate the request as soon as practicable. Personnel availability and system conditions may prevent a request from being completed at the time requested by Generator. CLEARANCE will not be given and Generator's personnel must isolate Generator's facilities before performing work. If CLEARANCE is required then a request must be made under the procedures of Section 3.1 above.

7. Unplanned outages

7.1. If an unplanned interruption occurs in either Generator Interconnection Facilities or the Trimble County 345 kV substation, then both Transmission Owner's transmission system control center and Generator's personnel will provide the other with all pertinent information as soon as practicable. This information will include, but not limited to:

1. Devices involved,
2. Status of devices in question,
3. Time stamps,
4. Cause of interruption (if available),
5. Relay targets (if available),
6. Any information helpful in determining cause and/or useful in the restoration process

8. Procedures for re-energizing Generator Interconnection Facilities after isolation from transmission system

8.1. Generator's personnel must request Transmission Owner's transmission system control center to re-energize the Generator Interconnection Facilities after such Facilities have become isolated.

9. Emergency switching to isolate Generator Interconnection Facilities from LG&E and KU transmission system

9.1 During emergency situations, when LG&E and KU personnel are unable to isolate Generator Interconnection Facilities from the Trimble County 345 kV substation, LG&E and KU may request Generator's personnel to open the 138 kV line breaker/switch at the Facility.

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APPENDIX E(c)

COMMUNICATIONS REQUIREMENTS

1. Generator's personnel will notify Transmission Owner's transmission system control center:

   1.1. Prior to synchronization of the first generator;
   1.2. Prior to the planned separation of the last generator;
   1.3. As soon as possible after an unplanned separation of all generators;
   1.4. For Clearance Requests for Generator Interconnection Facilities requiring switching on the Trimble County 345 kV substation; and
   1.5. When abnormal system conditions are affecting the operation of the Generator Interconnection Facilities.

2. Transmission Owner's transmission system control center will notify Generator's personnel:

   2.1. When conditions may prevent Facility synchronization;
   2.2. When conditions may require Facility separation;
   2.3. On a requirement for Facility separation;
   2.4. On the requirement for redispatch during a system emergency; and
   2.5. For a Clearance Request for Transmission Owner-operated equipment requiring switching on the Generator Interconnection Facilities.

3. In the event of telemetry failure from the Transmission Owner Interconnection Facilities, Generator's personnel will be required to provide hourly meter readings (*i.e.*, MWh and MVarH) to Transmission Owner's transmission system control center.

4. The Parties anticipate that their respective operating personnel will communicate beyond the requirements of notice above as necessary and appropriate, in accordance with Good Utility Practice, to provide reliable and efficient operation of both Transmission Owner's transmission system and Generator Interconnection Facilities.

EXHIBIT 1

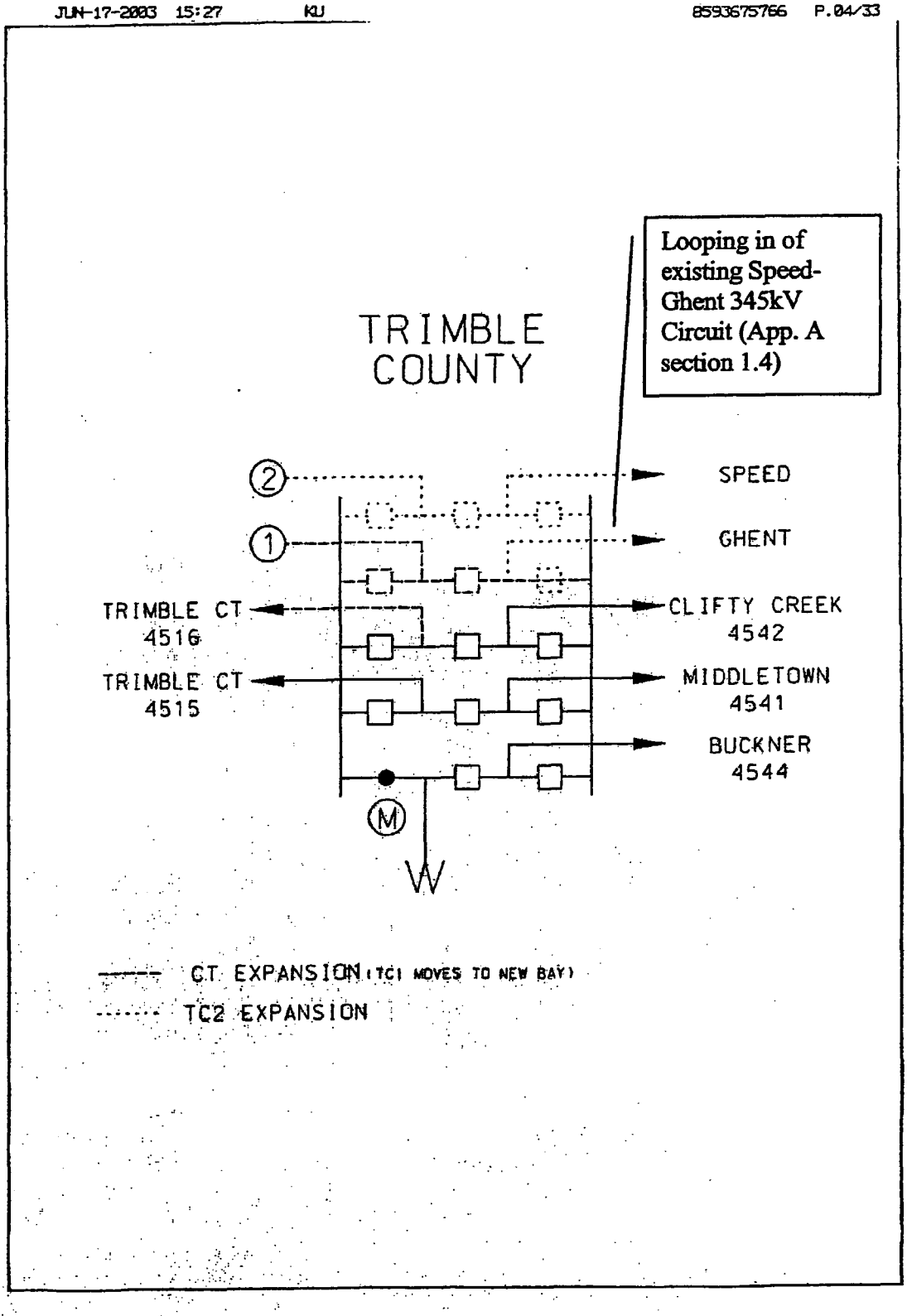
Looping in of existing Speed-Ghent 345kV Circuit (App. A section 1.4)
TRIMBLE COUNTY
2
1
SPEED
GHENT
TRIMBLE CT 4516
TRIMBLE CT 4515
CLIFTY CREEK 4542
MIDDLETOWN 4541
BUCKNER 4544
M
W
CT EXPANSION (TC1 MOVES TO NEW BAY)
TC2 EXPANSION

EXHIBIT 2

Construction Cost

Task	Cost in 2003 Dollars	Cost in 2007 Dollars
Trimble County 345 kV substation cost without take-off structure	$3,940,275	$4,486,708
Cost of the interconnection take-off structure at the Trimble County 345 kV substation	$110,000	$125,255
Transmission line from Trimble 345 kV substation to the new tap on Speed – Ghent 345 kV transmission line Material – Cables; steel structures, etc Dead-end structure at the new tap New line from Trimble County 345 kV substation to the new tap on Speed – Ghent 345 kV line	$3,475,210	$3,957,149
Total	$7,525,485	$8,569,112

LG&E and KU estimates do not include any cost for construction of transmission facilities between the Facility and the Point of Interconnection at the take-off structure in the Trimble County 345kV substation.

Cinergy has estimated that $304,384 (in 2007 dollars) will be required to replace equipment at the Speed 345 kV substation to match the new equipment installed at the Trimble County 345 kV substation. LG&E and KU will relocate the existing protective equipment at Ghent-to-Trimble County as part of this project. Therefore, no significant work will be needed at the Speed 345 kV substation and the Ghent 345 kV substation.

All of the identified facilities must be completed 6 months before the Facility's commercial operation date of January 1, 2007 to facilitate testing of the new unit. Therefore, all the transmission work must be finished by July 1, 2006. A schedule of the key tasks are given below -

Start Date	Task/Item
October 1, 2003	Looping of Ghent – Speed 345 kV transmission line through Trimble County 345 kV substation –

	Engineering Design
July 1, 2004	Looping of Ghent – Speed 345 kV transmission line through Trimble County 345 kV substation – Right-of-way acquisition
April 1, 2005	Looping of Ghent – Speed 345 kV transmission line through Trimble County 345 kV substation – New Line Material Acquisition
July 1, 2005	TRIMBLE 345 KV SUBSTATION Order all substation materials
January 1, 2006	Looping of Ghent – Speed 345 kV transmission line through Trimble 345 kV substation – New Line Construction