



Steven L. Beshear
Governor

Leonard K. Peters
Secretary
Energy and Environment Cabinet

Commonwealth of Kentucky
Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, Kentucky 40602-0615
Telephone: (502) 564-3940
Fax: (502) 564-3460
psc.ky.gov

David L. Armstrong
Chairman

James Gardner
Vice Chairman

John W. Clay
Commissioner

November 3, 2008

PARTIES OF RECORD

Re: Administrative Case No. 2008-00169
Net Metering Guidelines

Attached is a copy of the memorandum which is being filed in the record of the above-referenced case. If you wish to file any comments regarding the contents of the memorandum, please do so within ten days of receipt of this letter. If you have any questions, please contact Rick Bertelson at 502/564-3940, Extension 260.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Stumbo".

Stephanie Stumbo
Executive Director

RB:v

INTRA-AGENCY MEMORANDUM

KENTUCKY PUBLIC SERVICE COMMISSION

TO: File: Administrative Case No. 2008-00169

FROM: Rick Bertelson, Staff Attorney

DATE: October 31, 2008

RE: Net Metering/Interconnection Guidelines

On October 16, 2008, Commission Staff held an informal telephone conference ("IC") with the parties and the AG to discuss a draft of the Net Metering/Interconnection Guidelines. The draft guidelines which were discussed had been agreed to in negotiations between the utilities and the intervenors. Following the IC, the draft guidelines were further revised by the utilities and intervenors, and they submitted their revised draft to Commission Staff. Staff reviewed the revised draft guidelines and made a few additional formatting and language changes, resulting in a "final preliminary draft" of the Net Metering/Interconnection Guidelines. This final preliminary draft is attached hereto for review and comment by the parties.

The Commission Staff's additional changes are noted in the underlined text of the attached document. To provide uniformity and clarity throughout the guidelines, Staff replaced the term "Company" with "Utility." Staff also attempted to standardize the format of the numbering system. Finally, Staff amended the language at page 1 to clarify that the document is not "Net Metering Guidelines," but rather a tariff which contains guidelines "intended to facilitate the use of net metering and interconnection of renewable energy generators..." Other minor typographical and formatting changes were also made.

During the IC, Commission Staff asked the parties to clarify or explain a number of the provisions of the guidelines. Staff asked whether the language on page 1 of the guidelines regarding availability of net metering could be clarified to provide that, if a utility wants to limit its obligation to provide net metering, it would need the Commission's permission. The utilities and intervenors agreed that the language should reflect that position and agreed to review the language proffered by Commission Staff to amend that portion of the guidelines. The parties agreed with Commission Staff's proposed language, as reflected on page 1 of the attached final preliminary draft.

Staff also asked whether the language on page 1 regarding the provision of net meters to customers "without any cost," should be clarified to prevent confusion over whether certain costs of a net metering program might be recoverable in a utility's base rates. The AG noted that any such clarification should not identify any costs as recoverable outside a base rate case. The utilities and intervenors agreed to review that language as well, and they offered an amendment to address that issue in their revised draft, which is contained in the attached final preliminary draft.

The lack of a termination agreement for the Level 1 application was determined to be a typographical error. This error was remedied by the parties in their revised draft and was incorporated in the final preliminary draft at page 14. The parties also clarified that the reference to Underwriters Laboratories on page 19 of the attached guidelines was intentional and needed no amendment.

Commission Staff also questioned whether, on pages 6 and 19 of the draft guidelines, it is necessary to specify that the customer is responsible for the electrical inspection referenced on those pages. The parties generally agreed with that concept, although some concern was expressed by the utilities that assigning responsibility for specific items, such as the electrical inspection, would leave open to challenge whether any number of items were the responsibility of the utility or the customer. The parties *did not address that language in their revised draft*, and Commission Staff *did not* amend the language in the final preliminary draft.

Commission Staff asked the parties whether it was necessary for the utilities to provide an annual report to the Commission listing the number of net metering customers they had added to their systems over the past year and the cumulative capacity of a utility's system currently occupied by those net metering customers, in order to give the Commission some advance notice of the time when the total cumulative capacity of net metering customers on a utility's system approaches 1 percent. Some parties supported the idea. However, one utility suggested that such annual reports not be required until a utility's net metering capacity reaches some threshold, such as 0.8 percent. The AG also suggested that any such annual reports include a list of the types of net metering generation facilities that have been installed and whether any of those facilities have created any operational or safety problems.

Commission Staff asked whether any of the parties planned to file a request for a hearing before the Commission or, alternatively, whether all of the parties would agree to submit the case for decision based on the existing record. All of the parties stated that they would agree to submit the case on the record. To that end, the Commission is issuing an Order contemporaneously with this IC memorandum, which gives the parties ten days in which to file a request for a hearing. If no request for a hearing is received, the case will stand submitted on the record.

At the conclusion of the IC, the parties agreed to review Commission Staff's preliminary final draft of the guidelines and provide any comments within ten days of the issuance of the IC memorandum.

There being no other questions from any party, the informal conference was adjourned.

Attachment
cc: Parties of Record

Net Metering Tariff – Kentucky

The guidelines contained in this tariff are intended to facilitate the use of net metering and interconnection of renewable energy generators by establishing interconnection and net metering guidelines for all retail electric suppliers operating in the Commonwealth, incorporating all applicable safety and power quality standards established by the National Electrical Code (NEC), Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL).

To the extent this tariff conflicts with any federal law or regulation or any law or regulation of the Commonwealth of Kentucky, the law or regulation shall supersede and control over any conflicting tariff provision.

AVAILABILITY

Net Metering is available to eligible customer-generators in the Utility's service territory, upon request, and on a first-come, first-served basis up to a cumulative capacity of one percent (1%) of the Utility's single hour peak load in Kentucky during the previous year. If the cumulative generating capacity of net metering systems reaches 1% of a supplier's single hour peak load during the previous year, upon Commission approval, the Utility's obligation to offer net metering to a new customer-generator may be limited. An eligible customer-generator shall mean a retail electric customer of the Utility with a generating facility that:

- (1) Generates electricity using solar energy, wind energy, biomass or biogas energy, or hydro energy;
- (2) Has a rated capacity of not greater than thirty (30) kilowatts;
- (3) Is located on the customer's premises;
- (4) Is owned and operated by the customer;
- (5) Is connected in parallel with the Utility's electric distribution system; and
- (6) Has the primary purpose of supplying all or part of the customer's own electricity requirements.

At its sole discretion, the Utility may provide Net Metering to other customer-generators not meeting all the conditions listed above on a case-by-case basis.

The term "Customer" hereinafter shall refer to any customer requesting or receiving Net Metering services under this tariff.

METERING

Due to variations among utilities in Kentucky in the types of meters used, it is impractical to have common language for this section that clearly describes the type of meter that will be used by any one utility to enable net metering.

The Utility shall provide net metering services, without any cost to the Customer for metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. This provision does not relieve Customer of his or her responsibility to pay metering costs embedded in the utility's Commission-approved base rates.

Any additional meter, meters, or distribution upgrades needed to monitor the flow in each direction shall be installed at the Customer's expense.

BILLING

Due to variations among utilities in Kentucky in rate tariff structure, billing system capabilities, and net metering equipment described above, it is impractical to have common language for this section that clearly describes the billing details of any one utility. Each Utility will provide language in its tariff filing that uniquely describes its billing practice consistent with the requirements in KRS 278.465 to 278.468.

APPLICATION AND APPROVAL PROCESS

The Customer shall submit an Application for Interconnection and Net Metering ("Application") and receive approval from the Utility prior to connecting the generator facility to the Utility's system.

Applications will be submitted by the Customer and reviewed and processed by the Utility according to either Level 1 or Level 2 processes defined below.

The Utility may reject an Application for violations of any code, standard, or regulation related to reliability or safety; however, the Utility will work with the Customer to resolve those issues to the extent practicable.

Customers may contact the Utility to check on status of an Application or with questions prior to submitting an Application. Utility contact information can be found on the Application form.

Each Utility shall provide contact information for inquiries regarding the Utility's net metering program and application process. The Utility shall provide electronic and phone contact information on all net metering application forms and on the Utility's website or in customer bill inserts if no website is available.

Each Utility with a website shall provide net metering application forms and information regarding the retail electric provider's net metering program on the

website. Companies shall accept applications by mail or in person. At its sole discretion, the Utility may accept applications electronically.

LEVEL 1

A Level 1 Application shall be used if the generating facility is inverter-based and is certified by a nationally recognized testing laboratory to meet the requirements of Underwriters Laboratories Standard 1741 "Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources" (UL 1741).

The Utility will approve the Level 1 Application if the generating facility also meets all of the following conditions:

- (1) For interconnection to a radial distribution circuit, the aggregated generation on the circuit, including the proposed generating facility, will not exceed 15% of the Line Section's most recent annual one hour peak load. A line section is the smallest part of the primary distribution system the generating facility could remain connected to after operation of any sectionalizing devices.
- (2) If the proposed generating facility is to be interconnected on a single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed generating facility, will not exceed the smaller of 20 kVA or the nameplate rating of the transformer.
- (3) If the proposed generating facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
- (4) If the generating facility is to be connected to three-phase, three wire primary utility distribution lines, the generator shall appear as a phase-to-phase connection at the primary utility distribution line.
- (5) If the generating facility is to be connected to three-phase, four wire primary utility distribution lines, the generator shall appear to the primary utility distribution line as an effectively grounded source.
- (6) The interconnection will not be on an area or spot network.¹

¹ Area and spot networks are systems in which multiple transformers are interconnected on the secondary side and multiple primary voltage circuits are used to feed the transformers. A spot network is typically used to serve a single building and all the transformers are in one location. An area network typically serves multiple customers with secondary conductors covering multiple city blocks and with transformers at various locations.

- (7) The Utility does not identify any violations of any applicable provisions of IEEE 1547, "Standard for Interconnecting Distributed Resources with Electric Power Systems."
- (8) No construction of facilities by the Utility on its own system will be required to accommodate the generating facility

If the generating facility does not meet all of the above listed criteria, the Utility, in its sole discretion, may either: 1) approve the generating facility under the Level 1 Application if the Utility determines that the generating facility can be safely and reliably connected to the Utility's system; or 2) deny the Application as submitted under the Level 1 Application.

The Utility shall notify the customer within 20 business days whether the Application is approved or denied, based on the criteria provided in this section.

If the Application lacks complete information, the Utility shall notify the Customer that additional information is required, including a list of such additional information. The time between notification and receipt of required additional information will add to the time to process the Application.

When approved, the Utility will indicate by signing the approval line on the Level 1 Application Form and returning it to the Customer. The approval will be subject to successful completion of an initial installation inspection and witness test if required by the Utility. The Utility's approval section of the Application will indicate if an inspection and witness test are required. If so, the Customer shall notify the Utility within 3 business days of completion of the generating facility installation and schedule an inspection and witness test with the Utility to occur within 10 business days of completion of the generator facility installation or as otherwise agreed to by the Utility and the Customer. The Customer may not operate the generating facility until successful completion of such inspection and witness test, unless the Utility expressly permits operational testing not to exceed two hours. If the installation fails the inspection or witness test due to non-compliance with any provision in the Application and Utility approval, the Customer shall not operate the generating facility until any and all non-compliance is corrected and re-inspected by the Utility.

If the Application is denied, the Utility will supply the Customer with reasons for denial. The Customer may resubmit under Level 2 if appropriate.

LEVEL 2

A Level 2 Application is required under any of the following:

- (1) The generating facility is not inverter based;
- (2) The generating facility uses equipment that is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741; or
- (3) The generating facility does not meet one or more of the additional conditions under Level 1.

The Utility will approve the Level 2 Application if the generating facility meets the Utility's technical interconnection requirements, which are based on IEEE 1547. The Utility shall make its technical interconnection requirements available online and upon request.

The Utility will process the Level 2 Application within 30 business days of receipt of a complete Application. Within that time the Utility will respond in one of the following ways:

- (1) The Application is approved and the Utility will provide the Customer with an Interconnection Agreement to sign.
- (2) If construction or other changes to the Utility's distribution system are required, the cost will be the responsibility of the Customer. The Utility will give notice to the Customer and offer to meet to discuss estimated costs and construction timeframe. Should the Customer agree to pay for costs and proceed, the Utility will provide the Customer with an Interconnection Agreement to sign within a reasonable time.
- (3) The Application is denied. The Utility will supply the Customer with reasons for denial and offer to meet to discuss possible changes that would result in Utility approval. Customer may resubmit Application with changes.

If the Application lacks complete information, the Utility shall notify the Customer that additional information is required, including a list of such additional information. The time between notification and receipt of required additional information will add to the 30-business-day target to process the Application.

The Interconnection Agreement will contain all the terms and conditions for interconnection consistent with those specified in this tariff, inspection and witness test requirements, description of and cost of construction or other changes to the Utility's distribution system required to accommodate the generating facility, and detailed documentation of the generating facilities which may include single line diagrams, relay settings, and a description of operation.

The Customer may not operate the generating facility until an Interconnection Agreement is signed by the Customer and Utility and all necessary conditions stipulated in the agreement are met.

APPLICATION, INSPECTION AND PROCESSING FEES

No application fees or other review, study, or inspection or witness test fees may be charged by the Utility for Level 1 Applications.

The Utility may require each Customer to submit with each Level 2 Application a non-refundable application, inspection and processing fee of up to \$100 for Level 2 Applications. In the event the Utility determines an impact study is necessary with respect to a Level 2 Application, the Customer shall be responsible for any reasonable costs up to \$1,000 for the initial impact study. The Utility shall provide documentation of the actual cost of the impact study. Any other studies requested by the Customer shall be at the Customer's sole expense.

TERMS AND CONDITIONS FOR INTERCONNECTION

To interconnect to the Utility's distribution system, the Customer's generating facility shall comply with the following terms and conditions:

1. The Utility shall provide the Customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the Customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the Customer's expense.
2. The Customer shall install, operate, and maintain, at Customer's sole cost and expense, any control, protective, or other equipment on the Customer's system required by the Utility's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient and reliable operation of the generating facility in parallel with Utility's electric system. Customer shall bear full responsibility for the installation, maintenance and safe operation of the generating facility. Upon reasonable request from the Utility, the Customer shall demonstrate generating facility compliance.
3. The generating facility shall comply with, and the Customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by IEEE and accredited testing laboratories such as Underwriters Laboratories; (b) the NEC as may be revised from time to time; (c) Utility's rules, regulations, and Utility's Service Regulations as contained in Utility's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service

Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, Customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.

4. Any changes or additions to the Utility's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Utility for actual costs incurred for all such excess facilities prior to construction.
5. Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics or otherwise interfere with the operation of Utility's electric system. At all times when the generating facility is being operated in parallel with Utility's electric system, Customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Utility to any of its other customers or to any electric system interconnected with Utility's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Utility's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.
6. Customer shall be responsible for protecting, at Customer's sole cost and expense, the generating facility from any condition or disturbance on Utility's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Utility shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Utility.
7. After initial installation, Utility shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to Customer, Utility shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance, and operation of the generating facility comply with the requirements of this tariff.
8. For Level 1 and 2 generating facilities, where required by the Utility, an eligible Customer shall furnish and install on Customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the Customer's energy generating equipment from Utility's electric service under the full rated conditions of the Customer's

generating facility. The external disconnect switch (EDS) shall be located adjacent to Utility's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the Customer shall be responsible for ensuring that the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Utility personnel at all times. The Utility may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Utility's safety and operating protocols.

Any utility requiring the use of an EDS shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

9. Utility shall have the right and authority at Utility's sole discretion to isolate the generating facility or require the Customer to discontinue operation of the generating facility if Utility believes that: (a) continued interconnection and parallel operation of the generating facility with Utility's electric system creates or contributes (or may create or contribute) to a system emergency on either Utility's or Customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability, or power quality of Utility's electric system; or (c) the generating facility interferes with the operation of Utility's electric system. In non-emergency situations, Utility shall give Customer notice of noncompliance including a description of the specific noncompliance condition and allow Customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Utility is unable to immediately isolate or cause the Customer to isolate only the generating facility, the Utility may isolate the Customer's entire facility.
10. Customer shall agree that, without the prior written permission from Utility, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in generating facility capacity is allowed without approval.
11. The liability of the Customer to the Utility and the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

OR: (AT UTILITY'S OPTION PER ITS STANDARD TARIFFS and CONDITIONS OF SERVICE)

To the extent permitted by law, the Customer shall protect, indemnify, and hold harmless the Utility and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the Customer or the Customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining, or operating the Customer's generating facility or any related equipment or any facilities owned by the Utility except where such injury, death or damage was caused or contributed to by the fault or negligence of the Utility or its employees, agents, representatives, or contractors.

The liability of the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

12. The Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for both Level 1 and Level 2 generating facilities. Customer shall, upon request, provide Utility with proof of such insurance at the time that application is made for net metering.
13. By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Utility does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
14. A Customer's generating facility is transferable to other persons or service locations only after notification to the Utility has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Utility will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Utility will notify the Customer in writing and list what must be done to place the facility in compliance.
15. The Customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

LEVEL 1

Application for Interconnection and Net Metering

Use this application form only for a generating facility that is inverter based and certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.

Submit this Application to:

Utility name and address

If you have questions regarding this Application or its status, contact the Utility at:

Phone #, email

Customer Name: _____ Account Number: _____

Customer Address: _____

Customer Phone No.: _____ Customer E-Mail Address: _____

Project Contact Person: _____

Phone No.: _____ E-mail Address (Optional): _____

Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:

Energy Source: Solar Wind Hydro Biogas Biomass

Inverter Manufacturer and Model #: _____

Inverter Power Rating: _____ Inverter Voltage Rating: _____

Power Rating of Energy Source (i.e., solar panels, wind turbine): _____

Is Battery Storage Used: No Yes If Yes, Battery Power Rating: _____

Attach documentation showing that inverter is certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.

Attach site drawing or sketch showing location of Utility's meter, energy source, (**optional: Utility accessible disconnect switch**) and inverter.

Attach single line drawing showing all electrical equipment from the Utility's metering location to the energy source including switches, fuses, breakers, panels, transformers, inverters, energy source, wire size, equipment ratings, and transformer connections.

Expected Start-up Date: _____

TERMS AND CONDITIONS:

1. The Utility shall provide Customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the Customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the Customer's expense.
2. Customer shall install, operate, and maintain, at Customer's sole cost and expense, any control, protective, or other equipment on the Customer's system required by the Utility's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient, and reliable operation of the generating facility in parallel with Utility's electric system. Customer shall bear full responsibility for the installation, maintenance, and safe operation of the generating facility. Upon reasonable request from the Utility, the Customer shall demonstrate generating facility compliance.
3. The generating facility shall comply with, and the Customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by the Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL); (b) the National Electrical Code (NEC) as may be revised from time to time; (c) Utility's rules, regulations, and Utility's Service Regulations as contained in Utility's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, Customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
4. Any changes or additions to the Utility's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Utility for actual costs incurred for all such excess facilities prior to construction.
5. Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics, or otherwise interfere with the operation of Utility's electric system. At all times when the generating facility is being operated in parallel with Utility's electric system, Customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service

quality rendered by Utility to any of its other customers or to any electric system interconnected with Utility's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Utility's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.

6. Customer shall be responsible for protecting, at Customer's sole cost and expense, the generating facility from any condition or disturbance on Utility's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Utility shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Utility.
7. After initial installation, Utility shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to Customer, Utility shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the generating facility comply with the requirements of this tariff.
8. For Level 1 generating facilities, where required by the Utility, an eligible Customer shall furnish and install on Customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the Customer's energy generating equipment from Utility's electric service under the full rated conditions of the Customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Utility's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the Customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Utility personnel at all times. The Utility may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Utility's safety and operating protocols.

Any utility requiring the use of an EDS shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

9. Utility shall have the right and authority at Utility's sole discretion to isolate the generating facility or require the Customer to discontinue operation of the generating facility if Utility believes that: (a) continued interconnection and parallel operation of the generating facility with Utility's electric system creates or contributes (or may create or contribute) to a system emergency on either Utility's or Customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability or power quality of Utility's electric system; or (c) the generating facility interferes with the operation of Utility's electric system. In non-emergency situations, Utility shall give Customer notice of noncompliance including a description of the specific noncompliance condition and allow Customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Utility is unable to immediately isolate or cause the Customer to isolate only the generating facility, the Utility may isolate the Customer's entire facility.
10. Customer shall agree that, without the prior written permission from Utility, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in generating facility capacity is allowed without approval.
11. The liability of the Customer to the Utility and the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

OR: (AT UTILITY'S OPTION PER ITS STANDARD TARIFFS and CONDITIONS OF SERVICE)

To the extent permitted by law, the Customer shall protect, indemnify, and hold harmless the Utility and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the Customer or the Customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining or operating the Customer's generating facility or any related equipment or any facilities owned by the Utility except where such injury, death or damage was caused or contributed to by the fault or negligence of the Utility or its employees, agents, representatives, or contractors.

The liability of the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

12. The Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for Level 1 generating facilities. Customer shall, upon request, provide Utility with proof of such insurance at the time that application is made for net metering.
13. By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Utility does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
14. A Customer's generating facility is transferable to other persons or service locations only after notification to the Utility has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Utility will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Utility will notify the Customer in writing and list what must be done to place the facility in compliance.
15. The Customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

Effective Term and Termination Rights

This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. This Agreement may be terminated as follows: (a) Customer may terminate this Agreement at any time by giving the Utility at least sixty (60) days' written notice; (b) Utility may terminate upon failure by the Customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Utility, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Utility may terminate by giving the Customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation or statute affecting this Agreement or which renders the system out of compliance with the new law or statute.

I hereby certify that, to the best of my knowledge, all of the information provided in this Application is true, and I agree to abide by all the Terms and Conditions included in this Application for Interconnection and Net Metering and Utility's Net Metering Tariff.

Customer Signature

Date

Title

UTILITY APPROVAL SECTION

When signed below by a Utility representative, Application for Interconnection and Net Metering is approved subject to the provisions contained in this Application and as indicated below.

Utility inspection and witness test: Required Waived

If Utility inspection and witness test is required, Customer shall notify the Utility within 3 business days of completion of the generating facility installation and schedule an inspection and witness test with the Utility to occur within 10 business days of completion of the generating facility installation or as otherwise agreed to by the Utility and the Customer. Unless indicated below, the Customer may not operate the generating facility until such inspection and witness test is successfully completed. Additionally, the Customer may not operate the generating facility until all other terms and conditions in the Application have been met.

Call _____ to schedule an inspection and witness test.

Pre-Inspection operational testing not to exceed two hours: Allowed Not Allowed

If Utility inspection and witness test is waived, operation of the generating facility may begin when installation is complete, and all other terms and conditions in the Application have been met.

Additions, Changes, or Clarifications to Application Information:

None As specified here: _____

Approved by: _____ Date: _____

Printed Name: _____ Title: _____

LEVEL 2

Application For Interconnection And Net Metering

Use this Application form when generating facility is not inverter-based or is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741 or does not meet any of the additional conditions under Level 1.

Submit this Application (optional: along with an application fee of \$100) to:

Utility name and address

If you have questions regarding this Application or its status, contact the Utility at:

Phone #, email

Customer Name: _____ Account Number: _____

Customer Address: _____

Project Contact Person: _____

Phone No.: _____ Email Address (Optional): _____

Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:

Total Generating Capacity of Generating Facility: _____

Type of Generator: Inverter-Based Synchronous Induction

Power Source: Solar Wind Hydro Biogas Biomass

Adequate documentation and information must be submitted with this application to be considered complete. Typically this should include the following:

1. Single-line diagram of the customer's system showing all electrical equipment from the generator to the point of interconnection with the Utility's distribution system, including generators, transformers, switchgear, switches, breakers, fuses, voltage transformers, current transformers, wire sizes, equipment ratings, and transformer connections.
2. Control drawings for relays and breakers.
3. Site Plans showing the physical location of major equipment.
4. Relevant ratings of equipment. Transformer information should include capacity ratings, voltage ratings, winding arrangements, and impedance.

5. If protective relays are used, settings applicable to the interconnection protection. If programmable relays are used, a description of how the relay is programmed to operate as applicable to interconnection protection.
6. A description of how the generator system will be operated including all modes of operation.
7. For inverters, the manufacturer name, model number, and AC power rating. For certified inverters, attach documentation showing that inverter is certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.
8. For synchronous generators, manufacturer and model number, nameplate ratings, and impedance data (X_d , X'_d , & X''_d).
9. For induction generators, manufacturer and model number, nameplate ratings, and locked rotor current.

Customer Signature: _____ Date: _____

LEVEL 2
INTERCONNECTION AGREEMENT

THIS INTERCONNECTION AGREEMENT (Agreement) is made and entered into this _____ day of _____, 20____, by and between _____ (Utility), and _____ (Customer). Utility and Customer are hereinafter sometimes referred to individually as "Party" or collectively as "Parties".

WITNESSETH:

WHEREAS, Customer is installing, or has installed, generating equipment, controls, and protective relays and equipment (Generating Facility) used to interconnect and operate in parallel with Utility's electric system, which Generating Facility is more fully described in Exhibit A, attached hereto and incorporated herein by this Agreement, and as follows:

Location: _____

Generator Size and Type: _____

NOW, THEREFORE, in consideration thereof, Customer and Utility agree as follows:

Utility agrees to allow Customer to interconnect and operate the Generating Facility in parallel with the Utility's electric system and Customer agrees to abide by Utility's Net Metering Tariff and all the Terms and Conditions listed in this Agreement including any additional conditions listed in Exhibit A.

Terms and Conditions:

To interconnect to the Utility's distribution system, the Customer's generating facility shall comply with the following terms and conditions:

1. The Utility shall provide Customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the Customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the Customer's expense.
2. Customer shall install, operate, and maintain, at Customer's sole cost and expense, any control, protective, or other equipment on the Customer's system required by the Utility's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient, and reliable operation of the generating facility in parallel

with Utility's electric system. Customer shall bear full responsibility for the installation, maintenance, and safe operation of the generating facility. Upon reasonable request from the Utility, Customer shall demonstrate generating facility compliance.

3. The generating facility shall comply with, and Customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by the Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL); (b) the National Electrical Code (NEC) as may be revised from time to time; (c) Utility's rules, regulations, and Utility's Service Regulations as contained in Utility's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, Customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
4. Any changes or additions to the Utility's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Utility for actual costs incurred for all such excess facilities prior to construction.
5. Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics or otherwise interfere with the operation of Utility's electric system. At all times when the generating facility is being operated in parallel with Utility's electric system, Customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Utility to any of its other customers or to any electric system interconnected with Utility's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Utility's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.
6. Customer shall be responsible for protecting, at Customer's sole cost and expense, the generating facility from any condition or disturbance on Utility's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Utility shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Utility.

7. After initial installation, Utility shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to Customer, Utility shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the generating facility comply with the requirements of this tariff.
8. For Level 2 generating facilities, where required by the Utility, an eligible Customer shall furnish and install on Customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the Customer's energy generating equipment from Utility's electric service under the full rated conditions of the Customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Utility's meters or the location of the EDS shall be noted by placing a sticker on the meter and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the Customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Utility personnel at all times. The Utility may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Utility's safety and operating protocols.

Any utility requiring the use of an EDS shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

9. Utility shall have the right and authority at Utility's sole discretion to isolate the generating facility or require the Customer to discontinue operation of the generating facility if Utility believes that: (a) continued interconnection and parallel operation of the generating facility with Utility's electric system creates or contributes (or may create or contribute) to a system emergency on either Utility's or Customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability or power quality of Utility's electric system; or (c) the generating facility interferes with the operation of Utility's electric system. In non-emergency situations, Utility shall give Customer notice of noncompliance including a description of the specific noncompliance condition and allow Customer a reasonable time to cure the noncompliance prior to isolating the Generating Facilities. In emergency situations, where the Utility is unable to immediately isolate or cause the Customer to isolate only the generating facility, the Utility may isolate the Customer's entire facility.

10. Customer shall agree that, without the prior written permission from Utility, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components not resulting in increases in generating facility capacity is allowed without approval.
11. The liability of the customer to the Utility and the Utility to the customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the customer is taking service.

OR: (AT UTILITY'S OPTION PER ITS STANDARD TARIFFS and CONDITIONS OF SERVICE)

To the extent permitted by law, the Customer shall protect, indemnify, and hold harmless the Utility and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the Customer or the Customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining, or operating the Customer's generating facility or any related equipment or any facilities owned by the Utility except where such injury, death or damage was caused or contributed to by the fault or negligence of the Utility or its employees, agents, representatives, or contractors.

The liability of the Utility to the Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the Customer is taking service.

12. The Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy). Customer shall provide Utility with proof of such insurance at the time that application is made for net metering.
13. By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Utility does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
14. A Customer's generating facility is transferable to other persons or service locations only after notification to the Utility has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred

to another person, customer, or location, the Utility will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Utility will notify the Customer in writing and list what must be done to place the facility in compliance.

15. The Customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

Effective Term and Termination Rights

This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. This Agreement may be terminated as follows: (a) Customer may terminate this Agreement at any time by giving the Utility at least sixty (60) days' written notice; (b) Utility may terminate upon failure by the Customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Utility, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Utility may terminate by giving the Customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation, or statute affecting this Agreement or which renders the system out of compliance with the new law or statute.

IN WITNESS WHEREOF, the Parties have executed this Agreement, effective as of the date first above written.

UTILITY

CUSTOMER

By: _____ By: _____

Printed Name

Printed Name

Title: _____ Title: _____

Exhibit A

Exhibit A will contain additional detailed information about the Generating Facility such as a single line diagram, relay settings, and a description of operation.

When construction of Utility facilities is required, Exhibit A will also contain a description and associated cost.

Exhibit A will also specify requirements for a Utility inspection and witness test and when limited operation for testing or full operation may begin.