Cogeneration and Small Power Production

REA Energy has developed a policy that promotes the development of alternative or green energy. We understand that developing alternative energy can be an exciting and challenging opportunity. Prior to starting your alternative energy project call us after you had a chance to read our policy and requirements section below so we can answer any question.

REA's Policy for Cogeneration and Power Production

It is the policy of REA Energy Cooperative, Inc. (REA) to permit and encourage Alternative Energy System (AES)/Qualifying Facility (QF) owners to operate cogeneration and small power production facilities, and to safely and reliably interconnect them with the Cooperative's electric distribution system. (The term AES/QF shall be used throughout this document to define any form of generation that is not owned and operated by the Cooperative, and is interconnected to the Cooperative.) Alternative Energy Systems are defined under Pennsylvania's Alternative Energy Portfolio Standards Act of 2004 (Act 213-2004). Qualifying Facilities are defined under the Public Utility Regulatory Policies Act of 1978 (PURPA). This policy will enable the AES/QF Owner to deliver total or excess energy into REA's distribution system. Compensation for such delivered energy shall be based on Allegheny Electric Cooperative's (Allegheny) avoided costs.

The interconnection of an AES/QF and REA's distribution system is subject to the following conditions:

A. Prior to the time of interconnection, the AES/QF Owner must submit to REA, complete and detailed electrical drawings of the AES/QF. Written approval must be received from the Cooperative prior to the physical interconnection of the AES/QF to REA's electrical system. All wiring must be in compliance with the National Electrical Code and all other applicable codes and ordinances, and must be approved by an electrical inspection agency recognized by REA. The AES/QF will synchronize with the Cooperative's electric system only when the Cooperative's and AES/QF's voltage and frequency are within acceptable industry tolerances. Adherence to IEEE 1547-2003 relaying guidelines is required. To prevent islanding on specific AES/QF's applications, a transfer trip scheme may be required.

B. The interconnection equipment must be of a "fail safe" design to insure, in the event of any electrical supply or equipment failure that the AES/QF and REA's electrical system will be automatically, physically separated and remain separated until REA's electrical system returns to normal status. The AES/QF's electrical system should be able to survive all normal transients which occur on electrical systems, including outages. For instance, fuse coordination and operation of REA reclosers should not cause damage which requires repair of the AES/QF's electrical system. Manual or automatic reset of system protective devices is acceptable.

C. The interconnection equipment must include an approved manual, visible load break safety switch lockable in the open position, accessible at all times to REA personnel. AES/QF Owner shall agree that REA may open said disconnect switch without prior notice for the following reasons:

    1. Emergency conditions on REA's system

    2. Inspection of AES/QF reveals a hazardous condition or lack of proper maintenance.

3. AES/QF interferes with service to other REA members or to REA's electrical system

4. Repair work on REA's system. Where time permits, REA will attempt to provide advance notice to the member of imminent disconnection of the AES/QF and the reasons for same.

5. Failure to adhere to current REA policies

D. Provide equipment to meter the generator's output. Metering will be determined by REA.

E. The AES/QF must be operated so that no adverse effect shall occur to REA's electrical system or to any of the other REA members and should such adverse effect occur, the AES/QF Owner must discontinue to operate the AES/QF and take such corrective action, at their expense, as REA, in its judgment, deems necessary.

F. The AES/QF Owner must inform the Cooperative of any changes to the AES/QF and obtain the Cooperative's approval, in writing, before said changes are made.

G. The AES/QF Owner will own, install and maintain at their expense all safety and interconnection equipment specified by the Cooperative, said minimum facilities being generally described in Exhibit A contained herein. REA will supervise installation and testing of said facilities.

H. The AES/QF Owner shall agree not to sell or deliver electrical energy from their facilities to any other person, association, corporation, cooperative, government agency or entity of any kind, except to Allegheny or to REA; without the express written agreement of Allegheny.

I. It is recommended that the residential AES/QF Owner have a current liability insurance policy adequate in amount to cover all forms of liability that may arise from the operation of the AES/QF interconnected to REA's electrical system.

J. The non-residential AES/QF Owner must have a current liability insurance policy adequate in amount to cover all forms of liability that may arise from the operation of the AES/QF interconnected to REA's electrical system. A copy of this policy must be on file with REA. Lapse of the policy must be automatically reported to REA by the insurer, and shall result in the immediate disconnection of the AES/QF from REA's electrical system.

K. The AES/QF Owner is responsible for executing a contract with Allegheny or REA to receive compensation for energy and/or capacity delivered into the Cooperative's electrical system.

L. The AES/QF Owner is responsible for executing a contract with Allegheny or REA to receive compensation for energy and/or capacity delivered into the Cooperative's electric system. The Cooperative shall credit an AES at the full retail rate for each kilowatt-hour produced by an AES installed on the member's side of the electric revenue meter, up to a total amount of electricity used by the member during an annual period. For AESs involved in virtual meter aggregation, a credit shall be applied first to the meter through which the Cooperative supplies electricity to the distribution system, then through the remaining meters for the AES's account equally at each meter's designated rate. At the end of each annual period, the AES will be compensated for kilowatt-hours generated by the AES over the amount of kilowatt-hours delivered by the Cooperative during the annual period at the avoided cost of wholesale power. Meter aggregation is the combination of readings from, and billing for, all meters regardless of rate class on

properties owned or leased and operated by a member operating an AES within the Cooperative's service territory whether the aggregation is completed through physical or virtual meter aggregation within two miles of the member's property.

M. The AES/QF must be installed a minimum of 100 feet or total height of AES/QF plus 40 feet, whichever is greater, away from the nearest overhead electric facility, or such other distance that REA deems necessary for safety related reasons.

N. Any AES/QF that has a maximum output capability of 15 kVA or greater must interconnect to a three-phase line, unless otherwise determined by REA.

The AES/QF Owner shall pay for any incremental costs on the part of the Cooperative for matching the cooperative's facilities to that of the AES/QF. This would include, but not be limited to:

1. Increase in transformer capacity and service conductor size or length

2. Change or addition of type of service
    a. Single-phase to three-phase
    b. Voltage change (120/240, 240/480, etc.)

3. Line extension to AES/QF
    a. Single-phase line extension to facility
    b. Extension of three-phase line to facility

4. Installation of any and all equipment to accomplish a transfer trip scheme, including the following:
    a. Reclosers and controls
    b. Communication Equipment

5. Metering Equipment

6. Any other cost to make corrections should the AES/QF equipment create a power quality issue on REA's lines

7. Any and all costs as specified in Board Policy Bulletin C-2

O. REA reserves the right to inspect the AES/QF and interconnection equipment at any time.

P. The AES/QF Owner shall agree to hold REA harmless and indemnify REA in connection with any damages or injury, affecting any party, resulting from the installation, said interconnection, or operation of AES/QF. The AES/QF Owner agrees to indemnify REA for any money damages, liabilities, administrative and/or legal expenses incurred by REA as a result of the AES/QF Owner's failure to meet any requirement set forth herein.

Q. For AES/QF of 500 kW or less, the attached Rate Schedule applies (Exhibit C).

R. For AES/QF of more than 500 kW, Allegheny or REA will negotiate a rate on a case-by-case basis.

S. Allegheny or REA is not obligated to purchase or transmit power from an AES/QF for the following:

1. To construct, install, maintain, repair, replace, remove, investigate and inspect any of its equipment or any part of its system.
2. Emergencies, forced outages, operating conditions on its system, or as otherwise required by prudent electrical practices.

T. For larger generation/power producers, in addition to the above requirements, REA Energy may require the following:

1. Additional information, such as percent impedance and MVA base for each generator and Step-up transformer. Equipment specifications and details of transformers, circuit breakers, current transformers, voltage transformers, and any other major equipment or special items. Schematic and wiring drawings for relaying, controls, and any other drawings, as specified during REA Energy's initial review.

2. Specific setting information on all the Generation Facility's protective relays associated with the generator protection and generator step-up transformer protection or auxiliary transformer protection.

3. Commissioning of Generation Facility shall include written certification from an approved relay testing organization, approved by REA Energy, that all fault protection relays have been successfully acceptance tested, commissioned, set, and functionally trip tested prior to initial start-up of proposed generation.

4. For all Generation Facility installations, a QEI Remote Terminal Unit (RTU), MDS 900 MHZ radio(s),weather proof enclosure, and an antenna system(s) will be purchased and installed by REA Energy at the expense of the Power Producer. This RTU will utilize the Cooper Power 2179 protocol and provide the necessary point counts required by the QEI SCADA System of REA Energy to operate and monitor the generation and interconnection facilities at the Generation Facility site. Point count will include, but not be limited to, analog, MWH, control, status, and KYZ pulses from metering. If necessary, provisions shall be made at the bottom of each enclosure to allow all cables to be wired to the RTU. The Power Producer must also supply 125 VAC power necessary for the RTU.

5. In unique cases where the Power Producer desires to transmit their generation over REA Energy's Distribution system, REA Energy may charge the Power Producer a Distribution Wheeling Fee to deliver energy over its facilities. Wheeling Fee will be determined per the specific scope of each individual project.