

# SAWNEE ELECTRIC MEMBERSHIP CORPORATION

## POLICY NO. 412

### SUBJECT: DISTRIBUTED GENERATION FACILITIES

#### I. OBJECTIVE

- A. To establish for Distributed Generation Facilities:
1. The terms and conditions for interconnection to Sawnee Electric Membership Corporation's ("Cooperative") electrical distribution system ("System").
  2. The terms for the disposition of supplied and generated energy including Net Billing, Net Metering, and Power Purchase Arrangements.

#### II. CONTENT

##### A. **Definitions**

The following words and terms shall have the following meanings, unless the context clearly indicates otherwise:

1. **"Authority Having Jurisdiction"** means an organization, office, or individual responsible for approving equipment, materials, or an installation for compliance to the National Electrical Code.
2. **"Battery Energy Storage System"** means an electric storage resources capable of receiving electric energy from the grid or other electric resource and storing it for later injection of electric energy back to the grid. Electric vehicle charging stations are not considered Battery Energy Storage Systems unless the interface between the vehicle battery and the grid is enabled for injecting electric energy to the grid.
3. **"Billing Period"** means, as to a particular Member account, the time period between the dates on which the Cooperative normally establishes as the service period for billing purposes.
4. **"Bi-directional Meter"** is a meter capable of measuring (but not necessarily displaying) electricity flow in both directions.
5. **"Bi-directional Metering"** means measuring the amount of electricity supplied by the Cooperative and the amount of electricity fed back to the

Cooperative's System by the Member's Distributed Generation Facility using a Bi-directional Meter.

6. **“Customer Generator”** means a member of the Cooperative and that either 1) is the owner and operator of a Distributed Generation Facility, or 2) is the lessee of Distributed Generation Facility, or 3) who has Solar Electric Generating Technology connected to the member's side of the retail service meter.
7. **“Distributed Generation Facility”** means a facility for the production of electrical energy and can include a Battery Energy Storage System that:
  - a. May interconnect and operate in parallel with the Cooperative's System;
  - b. Is connected to the member's side of the Cooperative's retail service meter;
  - c. Distributed Generation Facilities are categorized according to the following capacity in Alternating Current (“AC”) ratings of the resource:
    - 1) **“Small”** - means a generation resource with a capacity rating not greater than 100 kW.
    - 2) **“Large”** - means a generation resource with a capacity rating of greater than 100 kW, and not greater than 10 MW.
8. **“Energy Payment”** is a term used exclusively for Customer Generators on a Net Billing arrangement. The term means Excess Net Energy multiplied by the applicable rate.
9. **“Excess Net Energy”** is a term used exclusively for Customer Generators that qualify and are approved for Net Metering. The term means the difference between the electricity generated by the Member's Distributed Generation Facility and the electricity supplied by the Cooperative during the Billing Period.
10. **“Member”** means a member of the Cooperative.
11. **“Net Billing”** means the difference, over the Billing Period, between the Energy Payment and the Retail Billing Amount.
12. **“Net Metering”** means the difference, over the Billing Period, between electricity supplied to a Net Metering Customer from the System and the

electricity generated and fed into the System by the Net Metering Customer, which is measured using a single Bi-directional Meter.

13. **“Net Metering Customer”** means a Member receiving Net Metering service that 1) leases or 2) owns and operates a Distributed Generation Facility that:
  - a. Has peak generating capacity, rated in AC, of generally not more than 10 kW for residential applications, or has peak generating capacity, rated in AC, of generally not more than 100 kW for commercial applications, or as may be allowed under the applicable Distributed Generator Interconnection Procedure document;
  - b. Is located on, or near, the Member’s premises;
  - c. Uses a solar photovoltaic system, fuel cell, or wind turbine; and
  - d. Is intended primarily to offset part, or all, of the Member’s requirements for electricity.
14. **“Permission to Operate”** means written permission from the Cooperative to the Customer Generator for a specific Distributed Generation Facility to interconnect and operate in parallel with the Cooperative’s System.
15. **“Qualifying Facility” or “QF”** – means a generating facility which meets the requirements set forth in Federal Energy Regulatory Rules promulgated under Sections 201 and 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA). In general, a QF may be a cogeneration facility or a small power production facility. A cogeneration facility is a generating facility that sequentially produces electricity and another form of thermal energy. A small power production facility is 80 MW or less with its primary energy source biomass, renewable resources, geothermal resources, or any combination thereof.
16. **“Renewable Energy Credits” or “RECs”** – means a renewable energy credit as defined in the Green-e Energy National Standard and shall include all the renewable attributes associated with the applicable level of corresponding energy production.
17. **“Retail Billing Amount”** means the dollar amount calculated by applying the electricity supplied to a Customer Generator from the System under the applicable retail rate of the Cooperative, plus all other applicable charges under the applicable retail rate schedule.
18. **“Solar Electric Generating Technology”** is a system that generates electric energy that is fueled solely by ambient sunlight and installed upon the property owned or occupied by the Member of the Cooperative.

**B. Interconnection Requirements**

1. A prospective Customer Generator, that intends to install a Distributed Generation Facility, must complete all the requirements outlined in the applicable Distributed Generator Interconnection Procedure document prior to interconnecting.

**C. Conditions for Interconnection**

1. The Cooperative shall issue Permission to Operate to a prospective Customer Generator authorizing operation of its Distributed Generation Facility on an interconnected basis when:
  - a. All conditions outlined in the applicable Distributed Generator Interconnection Procedure document have been satisfied.
  - b. Upon the Cooperative's receipt of a copy of the inspection certificate issued by the Authority Having Jurisdiction. If no Authority Having Jurisdiction exists at the Customer Generator Distributed Generation Facility site, the Customer Generator shall provide an inspection report by a professional engineer or qualified licensed electrician.
  - c. If required, the Member has executed a written Distributed Generation Facility Interconnection Agreement with the Cooperative and is in compliance with all requirements set forth therein.
2. In addition to complying with the Distributed Generator Interconnection Procedures, a Distributed Generation Facility shall comply with the following operating conditions:
  - a. Interconnection Protection Requirements. A readily accessible, lockable, visible-break isolation device shall be required. The location of the switch shall be subject to approval by Cooperative. Customer Generator must not energize any portion of the Cooperative's System that is de-energized unless specifically authorized to do so by appropriate authorities of the Cooperative. The Customer Generator shall provide protection to prevent unintentional backfeeding of the Cooperative's System. This protection may require a communication links between the Distributed Generation Facility and the Cooperative's System. Direct transfer trip may be required to prevent unintentional islands, and to clear System faults that may not be detectable by the Distributed Generation Facility interconnection protection scheme.

- b. Generator Interface Transformer. The generator interface transformer is intended to provide isolation of the Customer Generator's generating equipment from the Cooperative's System. Interface transformer specifications shall be determined by the Cooperative and ownership of said transformer shall be at the Cooperative's option.
- c. Certification of Protection Schemes. Inverters marked as meeting UL 1741 shall be considered certified for interconnection. Cooperative's Systems that use Smart Inverters meeting UL 1741SA shall provide a certified test report or certification letter from a professional engineer or certified electrician that the programmed settings meet the required by Cooperative. Non-inverter based on inverters not meeting UL 1741 or UL 1741SA shall be certified by professional engineer.
- d. Safety.
  - i) Operation of a Distributed Generation Facility shall not present a safety hazard to the Cooperative employees or other members connected to the Cooperative's System or the public at large.
  - ii) The Customer Generator shall be responsible for the design, installation and maintenance of all equipment and facilities installed or that will be installed on the Customer Generator's side of the Point of Common Coupling. It is the sole responsibility of the Customer Generator to obtain all necessary permits and inspections required by city or county inspectors regarding the installation of the Distributed Generation Facility. Further, the Distributed Generation Facility must operate in compliance with all applicable federal, state and county/city laws and regulations.
  - iii) Cooperative may temporarily open and lock the disconnect switch at the Distributed Generation Facility for reasons relating to the overall reliability and safe operations of the Cooperative's distribution system, including but not limited to emergencies, hazardous conditions, ordinary maintenance and / or repair of the System, failure of components of the System, or following the tampering of the Cooperative's equipment.
- e. Operating Limits. Operation of the Distributed Generation Facility shall not compromise the quality of electric service to other members on the Cooperative's System. The Customer Generator's

parallel generating equipment shall meet the following minimum requirements:

- i) Voltage. The Distributed Generation Facility shall be capable of operating within Range A of ANSI Standard C84.1. For nominal 120-volt service, this Range A is a voltage level of 114 volts to 126 volts.
- ii) Power Factor. Distributed Generation Facility will operate at unity power factor except by written permission from the Cooperative.
- iii) Interrupting for Faults. For faults on the System, the Distributed Generation Facility shall cease to energize and trip.
- iv) Abnormal Voltage and Frequency. When voltage or frequency is out the range of nominal as defined by IEEE 1547 for Category I systems, the Distributed Generation Facility shall cease to energize Cooperative's System.
- v) Return to Service. Distributed Generation Facility shall not energize the Point of Common Coupling when the Cooperative's System is de-energized. The Distributed Generation Facility may return to normal after a required time delay of 300 seconds after the Cooperative's System is re-energized.
- vi) Power Quality. Harmonic current distortion shall be limited to meet the requirements of IEEE 1547. Overvoltage contribution shall be limited to meet the requirements of IEEE 1547.
- vii) Rapid Voltage Changes. The Customer Generator shall not cause the Distributed Generation Facility to step or ramp change in system voltage at the Point of Common Coupling exceeding 3% of nominal for 12 kV and 25 kV interconnections and 5% of nominal at low voltage interconnections.
- viii) Synchronization. It is the Customer Generator's responsibility to provide proper synchronizing of its parallel generating equipment. The Cooperative assumes no liability for any Customer Generator Distributed Generator Facility. The Customer Generator shall operate its equipment at its own risk.

**D. Temporary Disconnection**

1. The Cooperative may disconnect the Distributed Generation Facility from the Cooperative's System for reasons relating to the overall reliability and safe operations of the System, including but not limited to emergencies, hazardous conditions, ordinary maintenance and / or repair of the Cooperative's System, failure of components of the Cooperative's System or following the tampering of the Cooperative's equipment.

**E. Obligations to Purchase Energy**

1. The Cooperative may purchase energy from the Customer Generator under any of the following types of arrangements: 1) Net Metering, 2) Net Billing, or 3) Purchase Power Agreement ("PPA") and this will be determined solely by the Cooperative in accordance with prevailing law and/or the policies of the Cooperative.
2. Unless a Distributed Generation Facility meets the requirements for Net Metering and is approved for Net Metering by the Cooperative, the Cooperative is not obligated to purchase any Excess Net Energy produced by the Distributed Generation Facility but may do so if the Cooperative, in its sole opinion, determines that such purchase is in the overall best interest of the Cooperative.
3. Any purchases by the Cooperative from a Customer Generator that has formal status as a QF shall be in accordance with the provisions of the Cooperative's Qualifying Facilities Rate for Power Purchase retail rate (Schedule "QFPP"). These purchases are in the form of Net Billing.
4. Unless otherwise agreed to in writing, authorized and executed by the parties, the Cooperative shall not purchase energy from an eligible Customer Generator under the Net Metering service arrangements, described herein, if doing so will cause the total rated generating AC capacity of all Distributed Generation Facilities interconnected to the Cooperative's System to exceed 0.2% of the Cooperative's annual peak demand for the previous calendar year.
5. For Customer Generators that are not subject to either 1) Net Metering, or 2) Net Billing as described above: any purchases of Net Excess Energy delivered onto the Cooperative's System will be conducted pursuant to a negotiated PPA.

**F. Metering**

1. Distributed Generation Facilities with Net Metering
  - a. The Cooperative will use Bi-directional Metering for the Distributed Generation Facilities interconnected on the Net Metering Customer's side of the retail service meter.
2. Distributed Generation Facilities without Net Metering
  - a. For Distributed Generation Facilities more than 10 kW for residential and over 100 kW up to 10 MW for commercial, the Cooperative may elect to install one or more Bi-directional Meters or single direction meters.

**G. Energy Purchases**

All service rules, regulations and restrictions outlined under the Cooperative's service rules and regulations, rate schedules for the purchase of electricity and sale of Excess Net Energy and other requirements will apply, in addition to the following provisions.

1. Net Metering
  - a. When Excess Net Energy is generated by the Net Metering Customer's Distributed Generation Facility during the Billing Period, the Net Metering Customer shall receive a credit for the Excess Net Energy pursuant to the Cooperative's applicable net energy metering rate schedule ("NEM").
  - b. The Net Metering Customer shall be charged for all other applicable cost under the then applicable retail rate schedule that would otherwise be applicable if the Member was not a Net Metering Member.
2. Net Billing
  - a. When the Energy Payment exceeds the Retail Billing Amount during the Billing Period, the Customer Generator shall receive a credit to the Member's account for the next month's Billing Period consistent with the appropriate retail rate schedule.
  - b. If the Retail Billing Amount exceeds the Energy Payment, then the Customer Generator shall be billed for the difference in accordance with the Cooperative's billing practices.



3. Purchase Power Agreement

- a. When applicable, all Excess Net Energy generated by the Member's Distributed Generation Facility and delivered onto the System shall be purchased at the applicable mutually agreed to rate.

**H. Charges for Interconnection**

1. The Customer Generator shall be responsible for all costs of installing, operating, and maintaining protective equipment and/or electrical facilities required to interconnect with the Cooperative's System.
2. The Customer Generator shall be charged for the direct and indirect costs incurred by the Cooperative as a result of the interconnection.
3. Said charges will be determined in accordance with the Cooperative's Distributed Generator Interconnection Procedure document.

**I. Notice of Additional Safety, Power Quality, and Interconnection Requirements**

1. The Distributed Generation Facility shall include, at the Customer Generator's sole expense, all equipment necessary to meet applicable safety, power quality, and interconnection requirements as stated in the applicable Distributed Generator Interconnection Procedure.
2. The Cooperative may adopt additional safety, power quality, and interconnection requirements in support of prudent utility practices at the Cooperative's sole discretion.

**J. Renewable Energy Credits**

1. The Cooperative shall retain ownership of any and all RECs produced by the Distributed Generation Facility, associated with Excess Net Energy purchased by the Cooperative through its Energy Payment under the applicable retail rate, unless there are specific provisions in the Interconnection Agreement with the Cooperative for their sale and/ or purchase.
2. The Cooperative shall be responsible for the measurement, verification, and all record-keeping associated with the RECs it purchases through its Energy Payment of Excess Net Energy under the applicable retail rate.
3. The Net Metering Customer shall be responsible for the measurement, verification, and all record-keeping associated with the production of RECs consumed or used.

4. The Net Metering Member is responsible for obtaining certification from the Center for Resource Solutions' Green-e Energy program to demonstrate that RECs were produced and exist, if required by the Cooperative.
5. The Net Metering Customer agrees that the Cooperative shall, for all Excess Net Energy purchased by the Cooperative through its Energy Payment under Rate Schedule NEM, also receive the RECs associated with said Excess Net Energy.

**K. Enforcement**

1. Violation of any provision of this Policy, applicable Distributed Generator Interconnection Procedures, or any Interconnection or other Agreement between the Cooperative and the Customer Generator, or the determination by the Cooperative that any Distributed Generation Facility is causing an unreasonable, adverse impact upon safety, electric distribution system reliability or power quality, may result in any action appropriate to address the issue, including, without limitation, disconnection of the Distributed Generator Facility from the System and termination of electric service.
2. Action to terminate service of a Member under this provision by the President and Chief Executive Officer ("CEO") or his/her designee shall be reported to the Board of Directors as soon as practical.

**III. RESPONSIBILITY**

- A. It shall be the responsibility of the President and CEO, as directed by the Board of Directors, to administer this policy, to develop appropriate controls for its overall enforcement and to report his findings to the Board of Directors.
- B. The Board of Directors does hereby authorize the staff to amend the Distributed Generator Interconnection Requirements document as needed.

**IV. GENERAL**

The Cooperative reserves the right to modify or change any of the provisions of this policy at any time without notice. Cooperative has the right to depart from the guidelines set forth herein, when it deems such departure to be warranted by the circumstances in its sole discretion.

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