

OTSEGO ELECTRIC COOPERATIVE, INC.

POLICY NO. 308

SUBJECT: Member-Owned Distributed Generation

POLICY: Emergency or Standby Generation:

Member owned emergency or standby generation that is intended to serve the member only during outages shall be connected to the member's service using an approved transfer switch. The installation shall be inspected and approved by a Cooperative approved licensed electrical inspector. In no case shall an emergency or standby generator be connected to Otsego Electric Cooperative's distribution lines.

Generation Connected in Parallel:

The Cooperative recognizes that Cooperative members may wish to own their own generation facilities, or member-owned distributed generation. The purpose of this policy is to ensure member-owned Distributed Generation that is designed to supplement power supplied by the Otsego Electric Cooperative, and is operated in parallel with the Cooperative's supplied power, shall be connected using industry-established procedures and requirements to ensure the protection of Cooperative personnel, facilities, and the public.

Member-owned distributed generation sources that are interconnected to the Cooperative's distribution facilities shall normally be limited to 15kW maximum nameplate capacity. Distributed generation facilities rated greater than 15kW will be considered on an individual basis subject to the constraints of the Cooperative's system.

Metering:

The Cooperative recognizes that extensive self-generation could adversely impact the Cooperative's wholesale energy costs, which are directly passed through to the membership at large, therefore, the Cooperative will use reasonable efforts to provide support and guidance to members who are interested in developing and investing in renewable energy generation facilities. This includes aiding our members in sizing the capacity of their system to match their load profile.

The Cooperative recognizes that power may be injected into its electric facilities at times where generation from member-owned facilities may exceed the member's consumption; usage and generation will be metered and purchased as follows:

- 1) The Cooperative will meter energy flows into the member's premises and charge the member based on their revenue classification and associated rate schedule.
- 2) Energy that flows out of the member's premises will be bi-directionally metered and credited to the member yearly based upon the Cooperative's avoided cost of wholesale energy as shown on the Cooperative's National Rural Utilities Cooperative Finance Corporation (NRUCFC) Form 7, Part L: kWh Purchased and Total Cost – Average Cost per kWh Purchased for the fiscal year excess energy was injected in to the Cooperative's facilities. Wholesale energy costs include amounts paid to the New York Power Authority (NYPA); New York Independent System Operator (NYISO); New York State Electric and Gas (NYSEG); and Load Management Credits paid to the Cooperative's members. This amount is the same used to calculate current monthly bills.
- 3) All other costs included in the member's revenue classification and associated rate schedule are costs that are for fixed facilities that must exist to serve the member, including operations and maintenance expenses, and for other services that must be provided to the member in conjunction with providing electrical service. These costs represent a service that must be provided regardless of member-owned generation facilities, and therefore, may not be avoided.

Liability Insurance:

As a condition of connecting self-generation systems to the Cooperative's electric distribution network, members must maintain and provide proof of homeowner's insurance to the Cooperative in the minimum amount of \$300,000 per occurrence prior to interconnection.

PROCEDURE: Members interested in self-generation shall contact the Cooperative and become familiar with relevant rules, requirements, and procedures for member owned distributed generation. The member shall submit a completed "Interconnection Application for Distributed Generation" to the Cooperative providing details of the project plans. The Cooperative will review the information provided in the application and shall respond to the member with comments or acceptance within fifteen (15) business days of receipt.

Upon acceptance by the Cooperative of the application, the member shall execute an "Interconnection Agreement for Distributed Generation" which includes acknowledgement of the member's obligations and responsibilities. Upon completion of the self-generation facility by the member, the member will notify the Cooperative to schedule a pre-connection inspection of the facility. The member is responsible for all associated field visit fees.

The member shall not connect the distributed generation facility to the Cooperative's electrical system until it receives written permission from the Cooperative to do so. The Cooperative shall provide written permission upon receipt of all relevant payments and upon validation that the facility complies with all stated requirements. The Cooperative shall have the right to access and inspect the facilities on the member's premises at any time and shall have the right to disconnect the facility if it is found that the facility violates any provisions of the interconnect requirements and/or due to concerns over employee safety, public safety, or the reliability of Cooperative electric service.

RESPONSIBILITY: CEO, Director of Information Technology & Member Solutions, Line Foreman



POLICY NO. 308 - APPENDIX A: MEMBER-OWNED DISTRIBUTED GENERATION
APPLICATION PROCEDURES

Single-Phase attachment of inverter/converter based parallel Distributed Generation $\leq 15\text{kW}$

This application will be used by Otsego Electric Cooperative, Inc. (OEC) to determine the required equipment configuration for the interface to OEC's electric distribution system. The member must complete the entire application prior to beginning any installation.

The following are general guidelines to be followed by the member and OEC for the interconnection of distributed generation not exceeding 15kW of capacity with OEC's electrical distribution system.

- 1) The member reviews the application requirements including: Information Requirements; Application Form; Sample Installation Diagrams; and the OEC Interconnection Agreement for Distributed Generation.
- 2) The member completes the Application Form and returns it and related informational requirements to OEC along with a signed copy of the Information Request.
- 3) OEC reviews the Application Form and, if deemed necessary conducts a field visit to evaluate the site specific conditions. The member will be charged a Trip Charge (OEC Fee & Rate Schedule) for the cost of the initial field visit, and if deemed necessary by OEC each subsequent field visit.
- 4) OEC provides the member with a written estimate for the cost of interconnection.
- 5) Member signs an Interconnection Agreement for Distributed Generation not to exceed 15kW.
- 6) Contractor performs the installation work according to the approved drawings and data sheets but does not electrically connect the member-owned distributed generation equipment to the OEC distribution system until OEC provides written permission.
- 7) Member acquires and provides proof of inspection, by an OEC approved electric inspector, to OEC. Member provides required proof of insurance to OEC.
- 8) OEC installs the bi-direction metering equipment and performs on-site verification of the installed equipment and performs a functional test of the members distributed generation to confirm anti-islanding operation. A trip charge will apply.
- 9) Applicant receives written permission to connect the distributed generation to OEC's electrical distribution system.
- 10) Applicant provides written notice to OEC before making changes to the inspected member-owned distributed generation, additional capacity may be added as long as total rated capacity does not exceed 15kW. Any changes adding capacity over 15kW requires a new application to be completed for the whole project.



POLICY NO. 308 - APPENDIX A: MEMBER-OWNED DISTRIBUTED GENERATION

APPLICATION FORM

Single-Phase attachment of inverter/converter based parallel Distributed Generation $\leq 15\text{kW}$

Member Information

Name(s): _____ ; _____

Address: _____

Phone: () _____ - _____

Account #: _____

Consulting Engineer or Contractor

Name(s): _____ ; _____

Address: _____

Phone: () _____ - _____

Estimated In-Service Date: ____ / ____ / ____

Existing Electric Service: Capacity: _____ Amperes Voltage: _____ Volts

Location of Protective Interface Equipment on Property: _____

Energy Producing Equipment/Inverter Information

Manufacturer: _____

Model No. _____ Version # _____

Synchronous: Induction: Inverter: Other: _____

Rating: _____ kW Rating: _____ kVA Interconnection Voltage: _____ Volts

System Type Tested – Total System: Yes: No: (If No, Attach Product Literature)

Equipment Type Tested – (i.e. Inverter, Protection System): Yes: No: (If No, Attach Product Literature)

One Line Diagram Attached: Yes: Installation Test Plan Attached: Yes:

Member Signature

Date

POLICY NO. 308 - APPENDIX A: MEMBER-OWNED DISTRIBUTED GENERATION
AGREEMENT FOR INTERCONNECTION OF MEMBER-OWNED DISTRIBUTED GENERATION

Single-Phase attachment of inverter/converter based parallel Distributed Generation </=15kW

This Interconnection Agreement (“Agreement”) is made and entered into this ____ day of _____, 20____, by the Otsego Electric Cooperative, Inc., (“OEC”), a corporation organized under the laws of the State of New York, and _____, (“Distributed Generation Owner/Operator”), each hereinafter sometimes referred to individually as “Party” or both referred to collectively as the “Parties”. In consideration of the mutual covenants set forth herein, the Parties agree as follows:

This Agreement provides for the safe and orderly operation of the electrical facilities interconnecting the Distributed Generation Owner/Operator’s electric power generator at _____ (project location or address) (“the Facilities”) and the electrical distribution system owned by OEC (“the System”). The point of interconnection between the Facilities and the System shall be defined as the weather head for overhead service entrances or the meter pan for underground service entrances.

This Agreement is subject to the by-laws, applicable tariffs, rates, rules and regulations in place between the Distributed Generation Owner/Operator and OEC.

- 1) **Intent of Parties:** It is the intent of the Distributed Generation Owner/Operator to interconnect an electric power generator to OEC’s electric distribution system (“the interconnection”). It is the intent of OEC to operate the distribution system to maintain a high level of service and power quality to their members. It is the intent of both parties to operate their respective facilities in a way that ensures the safe and reliable provision of electric service.

- 2) **Operating Authority:** The Distributed Generation Owner/Operator is responsible for establishing operating procedures and standards within their organization. The operating authority for the Distributed Generation Owner/Operator shall ensure that the Operator in Charge of the generator is competent in the operation of the Facilities and is aware of the provisions of any operating agreements and regulations relating to safe operation of electrical power systems.

The operating authority for the Distributed Generation Owner/Operator is:

Name or title of operating authority: _____

Address: _____

Telephone Number: () _____ - _____

- 3) **Operator in Charge:** The operator in charge is the person identified by name or job title responsible for the real time operation of all electric facilities related to the interconnection and owned by their organization.

The operator in charge for the Distributed Generation Owner/Operator is:

Name or title of operator in charge: _____

Address: _____

Telephone Number: () _____ - _____

- 4) **Suspension of Interconnection:** The interconnection shall not compromise OEC's system protection or system operation. The operation of the Distributed Generation Owner/Operator's Facilities and the quality of electric energy supplied by the Distributed Generation Owner/Operator shall meet the standards as specified by OEC. If the operation of the Distributed Generation Owner/Operator's Facilities does not meet the standards as specified, then OEC will notify the Distributed Generation Owner/Operator to take reasonable and expedient corrective action. OEC shall have the right to disconnect the Distributed Generation Owner/Operator's Facilities until compliance is reasonably demonstrated. Notwithstanding, OEC may in its sole discretion disconnect the Owner/Operator's Facilities from OEC's system without notice if the operation of the Facilities imposes a threat, in OEC's sole judgement, to life, property, or the System.
- 5) **Outages:** Maintenance outages will occasionally be required on OEC's System and OEC will provide as much notice and planning as practicable to minimize such outages. It is noted that in some emergency cases such notice may not be practical. OEC's system may also be unavailable due to weather related outages which is beyond the control of OEC. Compensation will not be made for the unavailability of OEC's system due to the outages.
- 6) **Access:** Access is required at all times by OEC to the Distributed Generation Owner/Operator's Facilities for maintenance, operating and meter reading. OEC reserves the right, but not the obligation, to inspect the Distributed Generation Owner/Operator's Facilities.
- 7) **Costs of Interconnection to be borne by the Distributed Generation Owner/Operator:** OEC shall record the costs of equipment purchases, labor, applicable overheads, and all other appropriate and assignable costs incurred by OEC in connection with designing, field engineering, staking, installing, and documenting the interconnection ("Interconnection Costs"). Such costs may also be associated with the installation or modification of any metering equipment, protection devices or switches, and any power quality devices or equipment. The Distributed Generation Owner/Operator may request from OEC and will receive a non-binding written estimate of the interconnection costs. The Distributed Generation Owner/Operator shall reimburse OEC for all Interconnection Costs within 30 days of receiving an invoice from OEC. Any upgrades to the System required to accommodate the interconnection will be owned and operated by OEC.
- 8) **Payment by Distributed Generation Owner/Operator to OEC:** It is understood that the Distributed Generation Owner/Operator shall maintain active membership status in good-standing while the Facilities are in operation and, as a result, will continue to receive electrical service pursuant to the bylaws of OEC. This agreement shall terminate upon a change in membership status by the Distributed Generation Owner/Operator.
- 9) **Payment for Energy by OEC to Distributed Generation Owner/Operator:** OEC shall credit the Distributed Generation Owner/Operator for any energy that is injected into the OEC electric facilities during those times when generation from Facilities exceeds the Distributed Generation Owner/Operator's load. The price paid by OEC to the Distributed

Generation Owner/Operator for such energy shall be OEC's avoided cost of wholesale energy as shown on National Rural Utilities Cooperative Finance Corporation (NRUCFC) Form 7, Part L: kWh Purchased and Total Cost – Average Cost per kWh Purchased. OEC shall pay the Distributed Generation Owner/Operator for such energy once per year in January for the prior year's kWh or as soon as practicable after OEC receives all wholesale energy bills for the prior year. OEC shall calculate the wholesale cost of energy each January for the prior year in a manner that complies with NRUCFC guidelines for completion of Form 7, Part L. Wholesale energy costs include amounts paid to the New York Power Authority (NYPA); New York Independent System Operator (NYISO); New York State Electric and Gas (NYSEG); and Load Management Credits paid to the Cooperative's members. This amount is the same used to calculate current monthly bills.

- 10) **Tax Status:** OEC is a Cooperative, Non-Profit, Membership Corporation pursuant to the New York Rural Electric Cooperative Law. Nothing in this Agreement is intended to adversely affect OEC's tax status.
- 11) **Liability and Indemnification:** The Distributed Generation Owner/Operator shall assume all liability for and shall indemnify OEC from and against any claims, losses, costs and expenses of any kind or character to the extent that they result from Distributed Generation Owner/Operator's negligence or other wrongful conduct in connection with the design, construction and/or operation of the Distributed Generation Owner/Operator's facility.
- 12) **Term and Termination:** This Agreement is intended to be valid for a period of ten (10) years. It may be cancelled by either party upon not less than twelve (12) months written notice to the other party. This Agreement is subject to applicable federal, state and local laws, rules, regulations and/or orders ("law"). If any provision of this Agreement is unenforceable under any applicable law or is held invalid, such holding shall not affect any other provision hereof, and this Agreement shall be construed as if such unenforceable or invalid provision had never been contained herein.

Agreed to by the following:

Distributed Generation Owner/Operator (Print)

Otsego Electric Cooperative, Inc. Representative (Sign)

Distributed Generation Owner/Operator (Sign)

Otsego Electric Cooperative, Inc. Representative Title

Date

Date



POLICY NO. 308 - APPENDIX A: MEMBER-OWNED DISTRIBUTED GENERATION
INFORMATION REQUIREMENTS

Single-Phase attachment of inverter/converter based parallel Distributed Generation </=15kW

The Member shall furnish **ALL** of the following information to complete Otsego Electric Cooperative, Inc. (OEC)'s Engineering Review Process:

- 1) Application Form
- 2) Project Schedule
- 3) Site Plan
- 4) Description of Operation
- 5) One-Line Electrical Diagram of Complete Facility
- 6) Equipment Nameplate Data and Electrical Ratings For:
 - a. Interrupting Devices (Main Breaker, Distributed Generator Feeder Breaker) ¹
 - b. Line Disconnect Switch ²
 - c. Inverter Equipment (Including firmware as applicable) ³
 - d. Solar or Wind Turbine Generator Meter

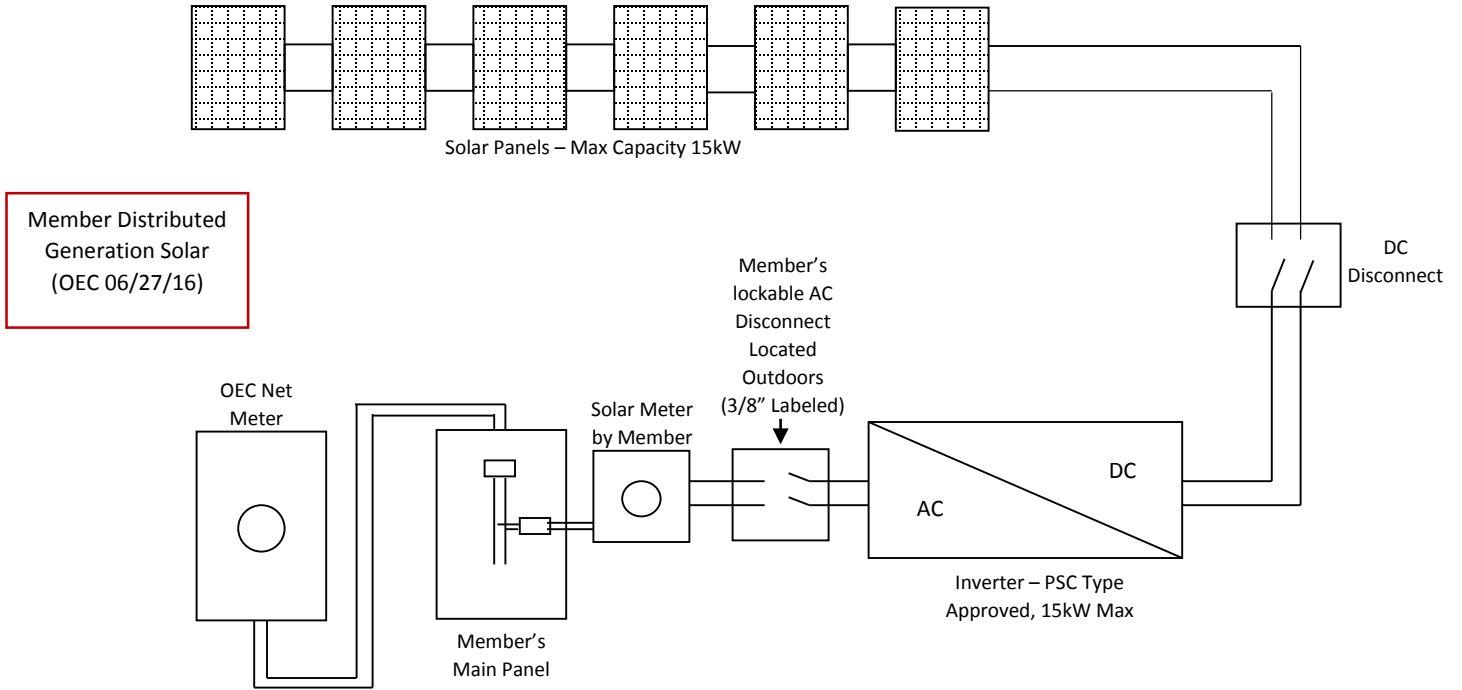
¹ Manufacturer, Type, Ampere Rating, Interrupting Ampere Rating

² Manufacturer, Type, Ampere Rating. Generating equipment shall be capable of being isolated from the utility system by means of an external, manual, visible, gang-operated, load break disconnecting switch. The disconnect switch shall be installed, owned and maintained by the Member. It shall be located in the AC system between the power-producing equipment and its interconnection point with the OEC system. The disconnect switch must be rated for the voltage and current requirements of the installation. Disconnect devices shall meet applicable UL, ANSI, and IEEE standards, and shall be installed to meet all applicable local, state, and federal codes. The disconnect switch shall be clearly marked, "Generator Disconnect Switch," with permanent 3/8 inch letters or larger. The disconnect switch shall be located within ten (10) feet of OEC's external electric service meter. If such location is not possible, the Member will propose, subject to OEC approval, an alternate location. The disconnect switch shall be readily accessible for operation and locking by OEC personnel in the open position with a standard OEC, 3/8 inch shank padlock.

³ Direct current generation can only be installed in parallel with the utility's system using a synchronous inverter. Only inverters designed to operate in parallel with the utility system shall be utilized for this purpose. The design shall be such as to disconnect this synchronous inverter upon a utility system interruption. Equipment must be selected from the "Certified Equipment" list maintained by the New York State PSC. Such equipment has dynamic anti-islanding protection as defined by IEEE 1547/UL 1741 and conforms to the maximum harmonic limits delineated in IEEE 519. Synchronization or re-synchronization of an inverter to the utility system shall not result in a voltage deviation that exceeds the requirements contained in Section II.E, Power Quality, of IEEE 519.

**POLICY NO. 308 - APPENDIX A: MEMBER-OWNED DISTRIBUTED GENERATION
 INFORMATION REQUIREMENTS**

Typical Member Solar Installation – 15kW Maximum



Typical Member Wind Turbine Generator Installation – 15kW Maximum

