

MENARD ELECTRIC COOPERATIVE

POLICY MANUAL

SECTION IV - Operating Rules for Cooperative Members

46.1 INTERCONNECTION AND PARALLEL OPERATION OF DISTRIBUTED GENERATION

Objective

To establish safety, reliability and economic standards for interconnection and parallel operation of member-owned distributed generation facilities designed primarily to offset the member's electrical requirements while honoring the Cooperative's obligation to provide electricity to all members on a cooperative basis, and which may encourage the development of member-owned on-site electric generation facilities using renewable fuel sources.

Definitions

Distributed Generation is defined as any electric generation built within close proximity to the interconnecting member's load regardless of energy source, including, but is not limited to:

- 1) environmentally friendly generators such as solar photovoltaics (PV), fuel cells, and wind turbines;
- 2) micro-turbines or reciprocating engines fueled by renewable fuels such as landfill gas or methane gas from digesters;
- 3) any certified qualifying facility (QF) that meets the operational, efficiency, ownership and other standards under the Public Utility Regulatory Policies Act of 1978 (PURPA); and,
- 4) any on-site generation designed to operate in parallel with the Cooperative's distribution system.

ANSI Standard C84.1 means the American National Standards Institute (ANSI) Standard C84.1 (2011) for "Electric Power Systems and Equipment – Voltage Ratings (60 Hz)", as amended and supplemented, at the time the interconnection request is submitted.

IEEE Standard 1547 means the Institute of Electrical and Electronic Engineers, Inc. (IEEE) Standard 1547 (2003) "Standard for Interconnecting Distributed Resources with Electric Power Systems", as amended and supplemented, at the time the interconnection request is submitted.

IEEE Standard 1547.1 means the IEEE Standard 1547.1 (2005) "Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems", as amended and supplemented, at the time the interconnection request is submitted.

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Interconnection means the physical electrical connection interface between two electrical systems owned by different parties.

MISO means the Midwest Independent System Operator, Inc., or its successors in interest.

Nameplate Rating means the maximum electric energy production capability of a generator, specified in kilowatts, as stated on the generator device placard(s), nameplate(s), or in the manufacturer's specifications, prior to any power inverter device(s).

Parallel Operation means operation of alternating current electrical generation in electrical synchronism with the voltage and frequency of the grid in a manner consistent with applicable electrical codes and standards and in accordance with good utility practice.

Queue Date means the date and time corresponding to when the Cooperative deems an interconnection request to be complete and subsequently enters the queue for analysis.

UL Standard 1741 means the Underwriters Laboratories' standard titled "Inverters, Converters, and Controllers for Use in Independent Power Systems", November 7, 2005 edition, as amended and supplemented, at the time the interconnection application request is submitted.

Witness Test means, for lab-certified or field-approved equipment, verification by the Cooperative (either by an on-site observation or review of documents) that the Interconnection installation evaluation required by IEEE Standard 1547 Section 5.3 and the commissioning test required by IEEE Standard 1547 Section 5.4 have been adequately performed. All tests verified by the Cooperative are to be performed in accordance with the test procedures specified by IEEE Standard 1547.1.

Applicability

This interconnection Policy applies to Cooperative members proposing to install and interconnect Distributed Generation facilities that:

- A. Have a Nameplate Rating equal to or less than 100 kW;
- B. Are not subject to the Interconnection requirements of MISO; and,
- C. Are designed for Parallel Operation with the electric distribution system.

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Interconnection Requests

- 1) Members seeking an Interconnection with the Cooperative's electric distribution system shall submit an interconnection request to the Cooperative comprised of the following documents:
 - Attachment A-1 – Member Interconnection Application
 - Attachment A-2 – Distributed Generation General Description and Electrical Characteristics
- 2) The interconnection request shall be reviewed by the Cooperative for completeness. Once deemed by the Cooperative to be complete, member shall be provided a fully-executed copy of Attachment A-1 establishing the Queue Date for the Distributed Generation system. Interconnection requests shall be evaluated for their impact to the Cooperative's electric distribution system in the order of the Queue Date.
- 3) Each interconnection request will include (i) a review of the protection schemes of both the proposed Distributed Generation and the Cooperative's electric system, and (ii) a voltage coordination study. No installation of Distributed Generation will be permitted that:
 - Reduces reliability to other members;
 - Causes voltage conditions on the system to be outside of the limits of ANSI C84.1 Range A;
 - Creates a safety concern or hazard to the public or Cooperative personnel; or,
 - Is expected to produce objectionable harmonics on the Cooperative's distribution system.
- 4) The Cooperative shall communicate in writing to the member within twenty (20) business days of the Queue Date any upgrades, improvements, additions, enhancements or operational restrictions to the electric distribution system necessary to accommodate the Interconnection, including a cost estimate to facilitate or mitigate such requirement. When possible, the Construction Cost Fee Schedule approved by the Board of Directors in effect on the Queue Date will be utilized and a copy provided to the member for consideration.
 - i. Construction cost estimates shall be valid for no longer than ninety (90) calendar days from the Queue Date.

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- ii. Member shall be responsible for 100% of all costs to safely provide the Interconnection, including but not limited to the Coop's basic construction charge, additional metering charges, and costs for distribution equipment or facilities.
 - iii. Member's payment of Construction Costs shall be construed as aid to construction only, and member shall not acquire any ownership interest in the metering, wiring, safety devices, or other equipment installed by the Cooperative at member's site.
 - iv. Failure by the member to place funds with the Cooperative in the timeframe mutually agreed upon (plus an additional thirty calendar days) shall result in the interconnection request being cancelled and voided by the Cooperative. A desire by the member to renew the interconnection request at a later date will be deemed an entirely new interconnection request.
- 5) The Cooperative is responsible for determining, in its sole judgment, if there is a likelihood of material electrical impact to a third-party utility electrical system due to the Interconnection of member's Distributed Generation. If judged affirmatively, Cooperative will arrange for discussions with the third-party utility. Member will be responsible for all costs related to the third-party utility's analyses, if any.

Installation, Construction and Inspection

- 1) At the sole discretion of the Cooperative, the Cooperative shall provide the member with certain requirements and related specifications pertaining to the design and construction of the Interconnection as it regards the scope of work. Such specifications may include certain electrical protection schemes, voltage coordination arrangements, or other considerations in keeping with good utility practice, including but not limited to Interconnection equipment being lab-certified, meaning the equipment has been evaluated by a nationally recognized testing laboratory (NRTL) and found to be in compliance with IEEE Standard 1547, IEEE Standard 1547.1, UL 1741, National Electrical Safety Code and NFPA 70 National Electrical Code.
- 2) Provided a third-party utility is required to perform certain work to facilitate the Interconnection, the member is responsible for obtaining a Certificate of Completion from the third-party utility. The main electrical disconnect controlling the electric interface of the Distributed Generation Interconnection shall remain open and locked pending the Cooperative's receipt of said certificate.

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- 3) Member installation must include an accessible, lockable disconnect device capable of demonstrating a visible open to Cooperate personnel, and marked by a visible placard describing the equipment. Member installation must include a visible placard at the point of Interconnection stating, "Distributed Generation present" and including a brief description of the disconnect switch location.
- 4) Member shall notify the Cooperative in writing of completion of the Interconnection work on member's side. As an alternative, a Certificate of Completion by member's certified and licensed Distributed Generation installer or electrician is acceptable. The main electrical disconnect controlling the electric interface of the Distributed Generation Interconnection shall remain open and locked pending the Cooperative's receipt of said notice or certificate.
- 5) In all cases, notice of completion or delivery of a Certificate of Completion to the Cooperative is not an authorization for energization of the Distributed Generation facility by the member.
- 6) Subsequent to the Cooperative notifying the member in writing of completion of Interconnection work undertaken by the Cooperative, and within 10 business days of receipt of notice by the Cooperative of completion of Interconnection work by member and third-party utility, if applicable, the Cooperative will perform a Witness Test of the Distributed Generation system and the point of Interconnection.

Agreement and Insurance Requirements

- 1) Upon satisfaction of the Cooperative that the Interconnection is safe, reliable, and operationally functional, both parties shall execute an Agreement for Interconnection and Parallel Operation of Distributed Generation, incorporated hereto as Attachment B (the "Agreement").
- 2) The Agreement, accompanied by the following deliverables from the member, are required prior to the Cooperative issuing an authorization for energization of the Distributed Generation facility.
 - a. Operator in Charge. Member shall provide a phone number and address of a contact person(s) with knowledge of the Distributed Generation facility, its installation, the Interconnection, and having the authority to disconnect the facility at the request of the Cooperative in accordance with the provisions of the Agreement.

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- b. Certificate of Insurance. Member shall provide a certificate of insurance in full force and effect, demonstrating member has public liability and property damage insurance endorsing the Cooperative as an additional insured and with minimum insurance limits of liability of no less than stipulated in the Agreement between Cooperative and member.
- 3) The Cooperative reserves the right to audit member periodically to ensure the operator in charge remains a viable contact and to assure minimum insurance liability coverage(s) are in force.
- 4) Upon Cooperative's satisfaction of member's obligation to the contractual terms, the Cooperative shall provide member with an Authorization to Energize letter, incorporated hereto as Attachment C. Absent the Authorization to Energize, the main electrical disconnect controlling the electric interface of the Distributed Generation Interconnection with the electric system of the Cooperative shall remain open and locked.

Miscellaneous Requirements

- 1) The member shall not energize the Cooperative's distribution system during any period of electricity service interruption.
- 2) The Cooperative shall have free and unencumbered access to the member's Distributed Generation facility and Interconnection equipment for any reasonable purpose in connection with this Policy.
- 3) The Cooperative shall have the right to inspect and approve all plans for expansion or modification of the Distributed Generation system(s) and Interconnection facilities prior to initial operation or subsequent operation. The Distributed Generation system shall at all times be subject to the Cooperative's requirements for maintaining voltage standards, proper phasing, reactive power requirements, and frequency.
- 4) The member shall, at Cooperative's request, make any necessary changes or adjustments to the Distributed Generation facilities to eliminate interference on the Cooperative's distribution system.
- 5) The member shall be responsible for all costs of the Interconnection, including future transmission, distribution, metering, service and other facility costs necessary to continue Parallel Operation of the Distributed Generation with the Cooperative's electric distribution system.

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- 6) Electric generation facilities may be disconnected by the Cooperative from its system whenever, in the sole opinion of the Cooperative, such action is required by an emergency, for reasons of safety or due to interference with service to other members. When possible, the Cooperative shall provide reasonable notice to the member prior to disconnection of the facility.
- 7) Any auxiliary or reserve power service required by the member must be arranged in accordance with the terms of the Cooperative's applicable policies and rates, as modified from time to time.
- 8) Any funds due the member or the Cooperative as a direct result of the ongoing operations of the Distributed Generation system shall be transacted in accordance with the Cooperative's applicable policies.

APPROVED BY BOARD OF DIRECTORS 3-25-08

APPROVED BY BOARD OF DIRECTORS 2-28-12

APPROVED BY BOARD OF DIRECTORS 8-28-18