

## **EASTERN ILLINI ELECTRIC COOPERATIVE**

### **REGULATION NO. 27**

**SUBJECT:** Interconnection and Parallel Operation of Distribution Generation

**OBJECTIVE:**

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

**DEFINITIONS:**

Distributed generation (DG): Any generation built within close proximity to the generating member/owner's load regardless of generation capacity or energy source of such generation and includes, but is not limited to, the following:

- A. Small-scale environmentally friendly generators such as photovoltaic (PV), fuel cells, small wind turbines.
- B. Micro-turbines or reciprocating engines fueled by renewable fuels such as landfill gas or methane gas from digesters.
- C. Any qualifying facility (QF) under the Public Utility Regulatory Policies Act of 1978 (PURPA).
- D. Any on-site generation with less than 10 MW of capacity interconnected with distribution facilities.
- E. Commercial emergency and standby diesel generators installed, for example, in hospitals, hotels and on farms.
- F. Residential standby generators.
- G. Generators installed by a utility at a substation for voltage support or other reliability purposes.

IEEE Standard 1547: 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: 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.

Nameplate capacity: The maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer and is usually indicated on a nameplate physically attached to the power production equipment.

Small generator facility: The equipment used by an interconnection member/owner to generate, or store electricity that operates in parallel with the electric distribution system with a nameplate capacity of 10 kW or less. A small generator facility typically includes an electric generator, prime mover, and the interconnection equipment required to safely interconnect with the electric distribution system or local electric power system. These facilities have been approved by a nationally recognized testing laboratory or must have been approved by the Cooperative under a study process and qualify for expedited review.

UL Standard 1741: Underwriters Laboratories’ standard titled “Inverters, Converters, and Controllers for Use in Independent Power Systems”, November 7, 2005 edition, as amended and supplemented.

Witness test: For lab certified or field approved equipment, verification (either by an on-site observation or review of documents) by the Cooperative 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. For interconnection equipment that has not been lab certified or field approved, the witness test shall also include the verification by the Cooperative of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and verification by the Cooperative of production tests required by IEEE Standard 1547 Section 5.2. All tests verified by the Cooperative are to be performed in accordance with the test procedures specified by IEEE Standard 1547.1.

## **REGULATION:**

- I. This interconnection regulation applies to Cooperative member/owners proposing to install and interconnect generator facilities that:
  - A. Have a Nameplate Capacity equal to or less than 10 MW.
  - B. Are not subject to the interconnection requirements of Midwest Independent System Operator (MISO).
  - C. Are designed to operate in parallel with the electric distribution system.
- II. Interconnection Requests
  - A. Member/owners seeking to interconnect a generator facility shall submit an interconnection request using the form attached hereto as Attachment A. The request may be eligible for expedited interconnection review if the request is for a

small generator facility, using lab certified or field approved interconnection equipment, and where the aggregate distributed generation on the affected distribution circuit is less than 10 percent of the minimum load on the circuit.

- B. Interconnection equipment shall be deemed to be lab certified if it is evaluated by a nationally recognized testing laboratory (NRTL) and found to be in compliance with IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity), UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems and NFPA 70 National Electrical Code.
- C. Interconnection equipment shall be deemed to be field approved if, within the previous 36 months of the date of the interconnection request, it has been previously approved for use with the proposed Small Generator Facility in a materially identical system application, and the prior approval process included a successful Witness Test.
- D. The member/owner must submit to the Cooperative plans of the proposed installation and must obtain approval for the installation. This approval process will include a review by the Cooperative of the effect of the proposed generation on the Cooperative's distribution system, including both the protective scheme of the generator and that of the Cooperative. The member/owner requesting interconnection shall pay the cost of this review. No installation will be permitted that reduces reliability to other member/owners or causes voltage conditions on the system to be outside of the limits of ANSI C84.1 Range A. No installation will be permitted that is expected to produce objectionable harmonics on the system. Any mitigation required to resolve harmonic problems created by a member/owner-owned generator will be completed and paid for by the member/owner.
- E. For generating facilities with nameplate ratings greater than 10 kW up to and including 10 MW, the Cooperative shall apply, to the extent practicable and as determined to be in the best interests of the Cooperative, the procedures contained in the Small Generator Interconnection Procedures (SGIP) for generating facilities no larger than 20 MW as developed by the Federal Energy Regulatory Commission and the Illinois Commerce Commission regulations governing interconnection standards.

### III. Expedited Review

- A. The Cooperative shall review the application and evaluate the potential for adverse system impacts. Any costs of construction of facilities on the Cooperative's system to accommodate the small generator facility shall be paid by the member/owner.

- B. The Cooperative shall, within 14 calendar days after receipt of the interconnection request, inform the applicant or member/owner that the interconnection request is complete or incomplete and if so, what materials are missing.
- C. If the interconnection request is complete, the Cooperative shall, within 21 calendar days after the end of the 14 calendar days noted in B, verify that the small generator facility equipment can be interconnected safely and reliably.
- D. Unless the Cooperative determines and demonstrates that a small generator facility cannot be interconnected safely or reliably to its system and provides a letter to the applicant or member/owner explaining its reasons for denying an interconnection request, the Cooperative shall approve the interconnection request subject to the following conditions:
  - 1. The small generator facility has been approved by local or municipal electric code officials with jurisdiction over the interconnections.
  - 2. A certificate of completion has been returned to the Cooperative. Completion of local inspections may be designated on inspection forms used by local inspecting authorities.
  - 3. The witness test has been successfully completed or waived.
  - 4. The applicant has signed a standard small generator interconnection agreement, see Attachment B, Exhibit A and provided proof of insurance or otherwise complied with the terms of the agreement. When an applicant does not sign the agreement within 30 calendar days after receipt from the Cooperative, the interconnection request may be deemed withdrawn unless the applicant requests to have the deadline extended. The request for extension shall not be unreasonably denied by the Cooperative.
- E. When a small generator facility is not approved under this expedited review, the applicant or member/owner may submit a new interconnection request for consideration under the procedures for review of larger capacity generator facilities with a nameplate capacity greater than 10 kW and less than 10 MW.

#### IV. Insurance Requirements

- A. Throughout the term of this agreement, the member/owner shall carry a liability insurance policy issued by a licensed insurance carrier with an A. M. Best rating of B+ or better that provides protection against claims for damages resulting from (i) bodily injury, including wrongful death; and (ii) property damage arising out of the member/owner's ownership and/or operation of the distributed generation facility under this agreement and such policy will be primary and non-contributory.

- B. The limits of such policy shall be at least \$1,000,000 per occurrence for those member/owners with generation facilities. The member/owner shall provide a certificate of insurance containing a minimum 30 calendar days notice of cancellation to the Cooperative prior to connection of the member/owner's facility to the Cooperative's system.

#### V. Indemnification

The member/owner shall indemnify the Cooperative, its directors, officers, representatives, agents, and employees against all loss, damage, expense and liability to any persons, including member/owners, for injury to or death of persons or injury to property, including, without limitation, consequential damages, interest, punitive damages, fees and charges due the Cooperative from the member/owner in accordance with both applicable rate tariffs for the provision of electric service and the Cooperative's regulations, attorney's fees, court costs and expenses, proximately caused by the construction, ownership, interconnection, operation, or maintenance of, or by failure of, any of such member/owners' works or facilities used in connection with the operation of the generating facility. The member/owner will, upon the Cooperative's request, defend any suit asserting a claim covered by the agreement to indemnify.

#### VI. Miscellaneous Requirements

- A. The Cooperative shall be reimbursed for all costs of interconnection, including all carrying costs, incurred by the Cooperative in connecting the member/owner generation facility to the distribution system. Those costs for small generating facility shall not exceed \$500 unless the facility fails initial testing and additional review is necessary.
- B. The Cooperative shall have free access to the member/owner's generation facility and interconnection equipment at all times to monitor operation of the member/owner's equipment, Cooperative-supplied service equipment connected to such system, or to disconnect if the facility is not in compliance with the requirements of IEEE 1547 and the non-compliance adversely affects the safety or reliability of the electric system. The Cooperative shall provide reasonable notice to the member/owner prior to disconnection of the facility if possible.
- C. The Cooperative shall have the right to inspect and approve all plans for parallel generation systems and the interconnection systems prior to initial operation or subsequent operation following modifications.
- D. The member/owner shall make any necessary changes or adjustments to the additional facilities being operated in parallel to eliminate interference on the Cooperative's distribution system.
- E. The member/owner shall not energize the Cooperative's system during any period of utility service interruption. The member/owner's equipment must contain a disconnect device to which the Cooperative has access and which the Cooperative

can lock for safety reasons in an open position to disconnect, the member/owner's electric generating facility for the cooperative's electric delivery system.

- F. 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 safety purposes or due to interference with service to other member/owners. Such facilities shall also be subject to the Cooperative's requirements for maintaining voltage standards of output and the production of reactive power.
- G. Phasing, frequency and voltage of the member/owner's interconnected generation shall be compatible with that provided by the Cooperative.
- H. The member/owners shall pay the cost of interconnection including initial and future transmission, distribution, metering, service and other facilities costs necessary to permit interconnected operations with the Cooperative.
- I. Any auxiliary or reserve power service required by the member/owner must be arranged in accordance with the terms of the Cooperative's applicable policies/rates as modified from time to time.
- J. In the event of a dispute, either party shall provide the other party with a written notice of dispute describing in detail the nature of the dispute. If the dispute has not been resolved within 14 calendar days after receipt of the notice, either party may request assistance from a reputable dispute resolution service for assistance in resolving the dispute. The service will select an appropriate dispute resolution venue, (such mediation, settlement judge, early neutral evaluation, or technical expert) to assist the parties in resolving their dispute. Each party agrees to conduct all negotiations in good faith and will be responsible for one-half of any costs paid to dispute resolution services utilized in the attempt to resolve the dispute. If neither party elects to seek assistance from a dispute resolution service, or if the attempted dispute resolution fails, then either party may exercise whatever rights and remedies it may have in equity or law consistent with the terms of this regulation.

Adopted: 02/19/08  
Amended: 9/29/09  
Amended: 10/27/10