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SUBJECT: Distributed Generation Interconnection Procedures

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318.1 Scope

The Distributed Generation Interconnection Standard applies to generation facilities operated in parallel with the Cooperative's distribution system. It establishes safety, reliability and economic standards for interconnection and parallel operation of distributed generation that encourage the development of member-owned on-site electric generation facilities using renewable fuel sources 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.

318.2 Applicability

The Distributed Generation Interconnection Standard applies to generation facilities operated in parallel with the Cooperative's distribution system and meeting the following criteria:

- a) The nameplate capacity of the distributed generation facility is equal to or less than 10 MVA;
and
- b) The distributed generation facility is not subject to the interconnection requirements of either the Federal Energy Regulatory Commission (FERC) or the applicable Regional Transmission Organization (RTO) (Midwest Independent Transmission System Operator, Inc. (MISO)).

318.3 Definitions

The following words and terms, when used in this Part, have the following meanings unless the context indicates otherwise:

"Adverse system impact" means a negative effect that compromises the safety or reliability of the electric distribution system or materially affects the quality of electric service provided by the cooperative to other members.

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"Affected system" means an electric system not owned or operated by the cooperative reviewing the interconnection request that could suffer an adverse system impact from the proposed interconnection.

"Applicant" means a person (or entity) who has submitted an interconnection request to interconnect a distributed generation facility to the cooperative's electric distribution system.

"Area network" means a type of electric distribution system served by multiple transformers interconnected in an electrical network circuit, generally used in large, densely populated metropolitan areas.

"Business day" means Monday through Friday, excluding State and federal holidays.

"Calendar day" means any day, including Saturdays, Sundays and State and federal holidays.

"Certificate of completion" means a certificate, in a form approved by the Cooperative, that contains information about the interconnection equipment to be used, its installation and local inspections (see Appendix B).

"Commissioning test" means tests applied to a distributed generation facility by the applicant after construction is completed to verify that the facility does not create adverse system impacts and performs to the submitted specifications. At a minimum, the scope of the commissioning tests performed shall include the commissioning test specified in Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standard 1547 Section 5.4 "Commissioning tests".

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"Distributed generation facility" means the equipment used by an interconnection member to generate or store electricity that operates in parallel with the electric distribution system. A distributed generation facility typically includes an electric generator, a prime mover, and the interconnection equipment required to safely interconnect with the electric distribution system or local electric power system.

"Distribution upgrade" means a required addition or modification to the electric distribution system to accommodate the interconnection of the distributed generation facility. Distribution upgrades do not include interconnection facilities.

"Draw-out type circuit breaker" means a switching device capable of making, carrying and breaking currents under normal and abnormal circuit conditions such as those of a short circuit. A draw-out circuit breaker can be physically removed from its enclosure creating a visible break in the circuit. The draw-out circuit breaker shall be capable of being locked in the open, drawn-out position.

"Electric distribution system" means the facilities and equipment owned and operated by the Cooperative and used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which electric distribution systems operate differ among areas, but generally operate at less than 35 kilovolts of electricity. "Electric distribution system" has the same meaning as the term "Area EPS," as defined in Section 3.1.6.1 of IEEE Standard 1547.

"Fault current" is the electrical current that flows through a circuit during an electrical fault condition. A fault condition occurs when one or more electrical conductors contact ground or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase. Often, a fault current is several times larger in magnitude than the current that normally flows through a circuit.

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"**IEEE Standard 1547**" is the Institute of Electrical and Electronics Engineers, Inc., 3 Park Avenue, New York, NY 10016-5997, Standard 1547 (2003) "Standard for Interconnecting Distributed Resources with Electric Power Systems." This incorporation does not include any later amendments or editions.

"**IEEE Standard 1547.1**" is the IEEE Standard 1547.1 (2005) "Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems." This incorporation does not include any later amendments or editions.

"Interconnection customer" means a member or entity that interconnects a distributed generation facility to an electric distribution system.

"**Interconnection equipment**" means a group of components or an integrated system owned and operated by the interconnection customer that connects an electric generator with a local electric power system, as that term is defined in Section 3.1.6.2 of IEEE Standard 1547, or with the electric distribution system. Interconnection equipment is all interface equipment including switchgear, protective devices, inverters or other interface devices. Interconnection equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.

"**Interconnection facilities**" means facilities and equipment required by the Cooperative to accommodate the interconnection of a distributed generation facility. Collectively, interconnection facilities include all facilities and equipment between the distributed generation facility's interconnection equipment and the point of interconnection, including any modifications, additions, or upgrades necessary to physically and electrically interconnect the distributed generation facility to the electric distribution system. Interconnection facilities are sole use facilities and do not include distribution upgrades.

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"Interconnection request" means an applicant's request, in a form approved by the Cooperative, for interconnection of a new distributed generation facility or to change the capacity or other operating characteristics of an existing distributed generation facility already interconnected with the electric distribution system.

"Line section" is that portion of an electric distribution system connected to an interconnection customer's site, bounded by automatic sectionalizing devices and/or the end of the distribution line.

"Local electric power system" means facilities that deliver electric power to a load that is contained entirely within a single premises or group of premises. Local electric power system has the same meaning as that term has as defined in Section 3.1.6.2 of IEEE Standard 1547.

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

"Nationally recognized testing laboratory" or "NRTL" means a qualified private organization that meets the requirements of the Occupational Safety and Health Administration's (OSHA) regulations. See 29 CFR 1910.7. (July 31, 2000). This incorporation does not include any later amendments or editions. NRTLs perform independent safety testing and product certification. Each NRTL shall meet the requirements as set forth by OSHA in its NRTL program.

"Parallel operation" or **"parallel"** means a distributed generation facility that is connected electrically to the electric distribution system for longer than 100 milliseconds.

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"Point of interconnection" means the point where the distributed generation facility is electrically connected to the electric distribution system. Point of interconnection has the same meaning as the term "point of common coupling" defined in Section 3.1.13 of IEEE Standard 1547.

"Primary line" means an electric distribution system line operating at greater than 600 volts.

"Queue position" means, for each distribution circuit or line section, the order of a completed interconnection request relative to all other pending completed interconnection requests on that distribution circuit or line section. It is established by the date that the Cooperatives receives the completed interconnection request.

"Radial distribution circuit" means a circuit configuration in which independent feeders branch out radially from a common source of supply.

"Scoping meeting" means a meeting between representatives of the applicant and the Cooperative conducted for the purpose of discussing interconnection issues and exchanging relevant information.

"Secondary line" means an electric distribution system line, or service line, operating at 600 volts or less.

"Shared transformer" means a transformer that supplies secondary voltage to more than one customer.

"Spot network" means a type of electric distribution system that uses two or more inter-tied transformers to supply an electrical network circuit. A spot network is generally used to supply power to a single customer or a small group of customers. Spot network

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has the same meaning as the term "spot network" defined in Section 4.1.4 of IEEE Standard 1547.

"Standard distributed generation interconnection agreement" means a standard interconnection agreement applicable to interconnection requests for distributed generation facilities. (see Appendices A and D).

"UL Standard 1741" means the standard titled "Inverters Converters, and Controllers for Use in Independent Power Systems," November 7, 2005 edition, Underwriters Laboratories Inc. This incorporation does not include any later amendments or editions.

"Witness test" means verification 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 performed. For interconnection equipment that has not been lab-certified, the witness test shall also include verification of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and verification of production tests required by IEEE Standard 1547 Section 5.2. All verified tests are to be performed in accordance with the test procedures specified by IEEE Standard 1547.1.

318.4 Interconnection Requests

- a) Applicants seeking to interconnect a distributed generation facility shall submit an interconnection request to the Cooperative. Applicants shall use interconnection request forms approved by the Cooperative.
- b) The Cooperative shall specify the fee by level that the applicant shall remit to process the interconnection request. The fee shall be specified in the interconnection request forms. The Cooperative shall not charge more than the fees specified in the interconnection request application forms (Appendices A and D).

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- c) Interconnection requests may be submitted electronically, if agreed to by the parties.

318.5 General Requirements

- a) When an interconnection request for a distributed generation facility includes multiple energy production devices at a site for which the applicant seeks a single point of interconnection, the interconnection request shall be evaluated on the basis of the aggregate nameplate capacity of the multiple devices.
- b) When an interconnection request is for an increase in capacity for an existing distributed generation facility, the interconnection request shall be evaluated on the basis of the new total nameplate capacity of the distributed generation facility. Any request for a capacity increase shall include the submission of a new Interconnection Application and the applicable Application Fee (Fee based on the new, proposed nameplate capacity of the generation facility)
- c) The Cooperative shall designate a point of contact and provide contact information. The point of contact shall be able to direct applicant questions concerning interconnection request submissions and the interconnection request process to knowledgeable individuals within the Cooperative.
- d) The information that the Cooperative makes available to potential applicants can include previously existing Cooperative studies that help applicants understand whether it is feasible to interconnect a distributed generation facility at a particular point on the Cooperative's electric distribution system. However, the Cooperative can refuse to provide the information to the extent that providing it violates security requirements or confidentiality agreements, or it is contrary to law or State or federal regulations. In appropriate circumstances, the Cooperative may require a confidentiality agreement prior to release of this information.
- e) When an interconnection request is deemed complete by the Cooperative, any modification that is not agreed to by the Cooperative requires submission of a new interconnection request.
- f) When an applicant is not currently a member of the Cooperative at the proposed site, the applicant shall provide, upon Cooperative request, proof of the applicant's legal right to control the site, evidenced by the applicant's name on a property tax bill, deed, lease agreement or other legally binding contract.

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- g) To minimize the cost to interconnect multiple distributed generation facilities, the Cooperative or the applicant may propose a single point of interconnection for multiple distributed generation facilities located at an interconnection customer site that is on contiguous property. If the applicant rejects the Cooperatives proposal for a single point of interconnection, the applicant shall pay any additional cost to provide a separate point of interconnection for each distributed generation facility.
- h) The Cooperative may require that distributed generation facilities have the capability to be isolated from the Cooperatives distribution system. For distributed generation facilities interconnecting to a primary line, the isolation shall be by means of a lockable, visible-break isolation device accessible by the Cooperative. For distributed generation facilities interconnecting to a secondary line, the isolation shall be by means of a lockable isolation device whose status is indicated and is accessible by the Cooperative. The isolation device shall be installed, owned and maintained by the owner of the distributed generation facility and located electrically between the distributed generation facility and the point of interconnection. A draw-out type of circuit breaker accessible to the Cooperative with a provision for padlocking at the drawn-out position satisfies the requirement for an isolation device.
- i) The interconnection customer shall allow the Cooperative to isolate the distributed generation facility. An interconnection customer may elect to provide the Cooperative with access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise accessible to the Cooperative by installing a lockbox provided by the Cooperative that allows ready access to the isolation device. The lockbox shall be in a location determined by the Cooperative to be accessible by the Cooperative. The interconnection customer shall permit the Cooperative to affix a placard in a location of its choosing that provides instructions to Cooperative operating personnel for accessing the isolation device. If the Cooperative needs to isolate the distribution generation facility, the Cooperative shall not be held liable for any damages resulting from the actions necessary to isolate the generation facility.
- j) Any metering required for a distributed generation interconnection shall be installed, operated, and maintained in accordance with applicable Cooperative rates and agreements. Any such metering requirements shall be identified in the standard distributed generation interconnection agreement executed between the interconnection customer and the Cooperative.
- k) Cooperative monitoring and control of distributed generation facilities are permitted only when the nameplate rating is greater than 2 MVA. Monitoring and control requirements shall be consistent with the Cooperative's requirements and shall be clearly identified in the interconnection agreement between the interconnection customer and the Cooperative. Transfer trip shall not be considered Cooperative monitoring and control when

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required and installed to protect the electric distribution system or an affected system against adverse system impacts.

- i) The Cooperative may require a witness test after the distributed generation facility is constructed. The applicant shall provide the Cooperative with at least 15 business days notice of the planned commissioning test for the distributed generation facility. The applicant and Cooperative shall schedule the witness test at a mutually agreeable time. If the witness test results are not acceptable to the Cooperative, the applicant shall be granted 30 business days to address and resolve any deficiencies. The time period for addressing and resolving any deficiencies may be extended upon the mutual agreement of the Cooperative and the applicant prior to the end of the 30 business days. An initial request for extension shall not be denied by the Cooperative; subsequent requests may be denied. If the applicant fails to address and resolve the deficiencies to the Cooperative's satisfaction, the interconnection request shall be deemed withdrawn. Even if the Cooperative or an entity approved by the Cooperative does not witness a commissioning test, the applicant remains obligated to satisfy the interconnection test specifications and requirements set forth in IEEE Standard 1547 Section 5. The applicant shall, if requested by the Cooperative, provide a copy of all documentation in its possession regarding testing conducted pursuant to IEEE Standard 1547.1.

318.6 Lab-Certified Equipment

An interconnection request may be eligible for expedited interconnection review if the distributed generation facility uses interconnection equipment that is lab-certified. Interconnection equipment shall be deemed to be lab-certified upon establishment of the following:

- a) The interconnection equipment has been successfully tested in accordance with IEEE Standard 1547.1, and it complies with the appropriate codes and standards referenced in subsection (f) as demonstrated by any NRTL recognized by OSHA to test and certify interconnection equipment; and
- b) The interconnection equipment has been labeled and is publicly listed by the NRTL at the time of the interconnection application; and
- c) The NRTL testing the interconnection equipment makes all test standards and procedures that it used to perform equipment certification available, and, with applicant approval, the test data itself. The NRTL may make this information readily available by publishing it on its web site and by encouraging it to be included in the manufacturer's literature accompanying the equipment; and

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- d) The applicant's use of the interconnection equipment falls within the use or uses for which the interconnection equipment was labeled and listed by the NRTL; and
- e) The generator, other electric sources, and/or interface components being utilized are compatible with the interconnection equipment and are consistent with the testing and listing specified by the NRTL for this type of interconnection equipment; and
- f) To meet the requirements for lab certification, interconnection equipment shall be evaluated by an NRTL in accordance with the following codes and standards:
 - 1) IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity);
 - 2) UL 1741 Inverters, Converters, and Controllers and Interconnection System Requirement with Distributed Energy Resources; and
 - 3) NFPA 70, National Electrical Code (2008), National Fire Protection Association, 1 Batterymarch Park, Quincy MA 02169-7471. This incorporation does not include any later amendments or editions; and

Lab-certified interconnection equipment shall not require further design testing or production testing, as specified by IEEE Standard 1547 Sections 5.1 and 5.2, or additional interconnection equipment modification to meet the requirements for expedited review; however, nothing in this Section shall preclude the need for an interconnection installation evaluation, commissioning tests or periodic testing as specified by IEEE Standard 1547 Sections 5.3, 5.4 and 5.5 or for a witness test conducted by the Cooperative.

318.7 Review Levels

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The Cooperative shall determine whether an interconnection request should be processed under the Level 1, 2, 3 or 4 procedures by using the following screens:

- a) The Cooperative shall use Level 1 procedures to evaluate all interconnection requests to connect a distributed generation facility when:
- The applicant has filed a Level 1 application and contract; and
 - The distributed generation facility has a nameplate capacity of 20.0 kVA or less; and
 - The distributed generation facility is inverter-based; and
 - The member interconnection equipment proposed for the distributed generation facility is lab-certified; and
 - No construction of facilities is required by the Cooperative to accommodate the distributed generation facility; or
 - Minor construction of facilities (Service Upgrades and/or simple Distribution Transformer replacement) by the Cooperative is required to accommodate the distributed generation facility. Any extension of primary voltage facilities (cable or conductor) shall be accommodated under Level 2 Interconnection procedures.
- b) The Cooperative shall use Level 2 procedures for evaluating interconnection requests when:
- The applicant has filed a Level 2 application; and
 - The nameplate capacity rating is 2 MVA or less; and
 - The interconnection equipment proposed for the distributed generation facility is lab-certified; and
 - The proposed interconnection is to a radial distribution circuit or a spot network limited to serving one customer; and
 - Major construction of facilities by the Cooperative is required to accommodate the distributed generation facility. Major construction will include the extension of primary voltage facilities (cable or conductor) and/or the installation of switch gear, sectionalizing boxes, and other pole mounted or pad-mounted equipment.
- c) The Cooperative shall use Level 3 review procedures for evaluating interconnection requests to area networks and radial distribution circuits where power will not be exported based on the following criteria.
- 1) For interconnection requests to the load side of an area network, the following criteria shall be satisfied to qualify for a Level 3 expedited review:
 - The applicant has filed a Level 3 application; and

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- The nameplate capacity of the distributed generation facility is less than or equal to 40 kVA; and
 - The proposed distributed generation facility uses a lab-certified inverter-based equipment package; and
 - The distributed generation facility uses reverse power relays and/or other protection functions that prevent the export of power into the area network; and
 - The aggregate of all generation on the area network does not exceed the lower of 5% of an area network's maximum load or 40 kVA; and
 - No construction of facilities by the Cooperative shall be required to accommodate the distributed generation facility.
- 2) For interconnection requests to a radial distribution circuit, the following criteria shall be satisfied to qualify for a Level 3 expedited review:
- The applicant has filed a Level 3 application; and
 - The aggregated total of the nameplate capacity of all of the generators on the circuit, including the proposed distributed generation facility, is 10 MVA or less; and
 - The distributed generation facility will use reverse power relays or other protection functions that prevent power flow onto the electric distribution system; and
 - The distributed generation facility is not served by a shared transformer; and
 - No construction of facilities by the Cooperative on its own system shall be required to accommodate the distributed generation facility.
- d) The Cooperative shall use the Level 4 study review procedures for evaluating interconnection requests when:
- The applicant has filed a Level 4 application; and
 - The nameplate capacity of the small generation facility is 10 MVA or less; and
 - Not all of the interconnection equipment or distributed generation facilities being used for the application is lab-certified.

318.8 Level 1 Review Procedures

The Cooperative shall use the Level 1 interconnection review procedures for an interconnection request that meet the requirements specified in Section 318.7.

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- a) The Cooperative shall evaluate the potential for adverse system impacts using the following screens, which shall be satisfied:
- 1) For interconnection of a proposed distributed generation facility to a radial distribution circuit, the total distributed generation connected to the distribution circuit, including the proposed distributed generation facility, may not exceed 15% of the maximum load normally supplied by the distribution circuit.
 - 2) The total capacity of distributed generation facilities connected on the load side of spot network protectors, including the proposed facility, shall not exceed 5% of the spot network's maximum load or 40 kVA, whichever is less.
 - 3) When a proposed distributed generation facility is to be interconnected on a single-phase shared secondary line, the aggregate generation capacity on the shared secondary line, including the proposed distributed generation facility, shall not exceed 20 kVA.
 - 4) When a proposed distributed generation facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
 - 5) The Cooperative shall not be required to construct any facilities on its own system to accommodate the distributed generation facility's interconnection but may do so at its discretion.
- b) The Level 1 interconnection shall use the following procedures:
- 1) The applicant submits an interconnection request using the appropriate form along with the Level 1 application fee. A completed Level 1 application shall include the following:
 - i. Site Plan showing the following: streets, principal structures and buildings, generator location, revenue meter location, all AC and DC Disconnect locations.
 - ii. 1-Line Diagram showing the following: DC Generator Output, Inverter(s) or Microinverters, Optimizers, PV AC Disconnect, Manner of Tapping to existing member-owned distribution equipment
 - iii. Proof of Homeowners or Business Liability Insurance.
 - iv. Directory Placard at meter location when required by the Cooperative.

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- 2) After receipt of the interconnection request, the Cooperative shall inform the applicant whether the interconnection request is complete or not. If the request is incomplete, the Cooperative shall specify what information is missing and the applicant has 15 business days after receiving notice from the Cooperative to provide the missing information or the interconnection request may be deemed withdrawn.
- 3) After an interconnection request is deemed complete, the Cooperative shall assign a queue position based upon the date that the interconnection request is determined to be complete. The Cooperative shall then inform the applicant of its queue position.
- 4) After the Cooperative notifies the applicant that its interconnection request is complete, the Cooperative shall verify whether the distributed generation facility passes all the relevant Level 1 screens.
- 5) If the Cooperative determines and demonstrates that a distributed generation facility does not pass all relevant Level 1 screens, the Cooperative shall provide notice to the applicant explaining the reasons that the facility did not pass those screens.
- 6) Otherwise, the Cooperative shall approve the interconnection request and provide to the applicant a signed version of the "Conditional Agreement to Interconnect Distributed Generation Facility" subject to the following conditions:
 - i. The distributed generation facility has been approved by local or municipal electric code officials with jurisdiction over the interconnection.
 1. If no local inspection or code enforcement exists, applicant shall provide a Distributed Generation Wiring Statement Card signed by the electrician doing the work on the distributed generation facility.
 - ii. 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;
 - iii. The witness test has been successfully completed if required by the Cooperative or if the witness test has been waived by the Cooperative; and
 - iv. The applicant has signed a standard distributed generation interconnection agreement. When an applicant does not sign the agreement within 30 business days after receipt of the agreement from the Cooperative, the interconnection request is deemed withdrawn unless the applicant requests to have the deadline

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extended for no more than 15 business days. An initial request for extension shall not be denied by the Cooperative, but subsequent requests may be denied.

- 7) If a distributed generation facility is not approved under a Level 1 review, and the Cooperative's reasons for denying Level 1 status are not subject to dispute, the applicant may submit a new interconnection request for consideration under Level 2, Level 3 or Level 4 procedures.

318.9 Level 2 Review Procedures

The Cooperative shall use the Level 2 review procedure for interconnection requests that meet the Level 2 criteria in Section 318.7.

- a) The Cooperative shall evaluate the potential for adverse system impacts using the following screens, which shall be satisfied:
 - 1) For interconnection of a proposed distributed generation facility to a radial distribution circuit, the total distributed generation connected to the distribution circuit, including the proposed distributed generation facility, may not exceed 15% of the maximum normal load normally supplied by the distribution circuit.
 - 2) For interconnection of a proposed distributed generation facility to the load side of spot network protectors, the proposed distributed generation facility shall utilize an inverter-based equipment package. The customer interconnection equipment proposed for the distributed generation facility must be lab-certified and, when aggregated with other generation, may not exceed 5% of a spot network's maximum load.
 - 3) The proposed distributed generation facility, in aggregation with other generation on the distribution circuit, may not contribute more than 10% to the distribution circuit's maximum fault current at the point on the primary line nearest the point of interconnection.
 - 4) The proposed distributed generation facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment including substation breakers, fuse cutouts, and line reclosers, or other member equipment on the electric distribution system to be exposed to fault currents exceeding 90% of their short circuit interrupting capability. The interconnection may not occur under Level 2 if equipment on the Cooperative's distribution circuit is already exposed to fault currents of between 90% and 100% of the EDC's equipment short circuit interrupting

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capability. However, if fault currents exceed 100% of the Cooperative's equipment short circuit interrupting capability even without the distributed generation being interconnected, the Cooperative shall replace the equipment at its own expense, and interconnection may proceed under Level 2.

- 5) When a member-generator facility is to be connected to 3-phase, 3-wire primary Cooperative distribution lines, a 3-phase or single-phase generator shall be connected phase-to-phase.
- 6) When a member-generator facility is to be connected to 3-phase, 4-wire primary Cooperative distribution lines, a 3-phase or (3)single-phase generators shall be connected line-to-neutral and shall be grounded.
- 7) When the proposed distributed generation facility is to be interconnected on single-phase shared secondary line, the aggregate generation capacity on the shared secondary line, including the proposed distributed generation facility, may not exceed 20 kVA.
- 8) When a proposed distributed generation facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
- 9) A distributed generation facility, in aggregate with other generation interconnected to the distribution side of a substation transformer feeding the circuit where the distributed generation facility proposes to interconnect, may not exceed 10 MVA in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity.
- 10) Except as permitted by additional review the Cooperative shall not be required to construct any facilities on its own system to accommodate the distributed generation facility's interconnection but may do so at its discretion.

b) The Level 2 interconnection shall use the following procedures:

- 1) The applicant submits an interconnection request using the appropriate form and the Level 2 application fee. Interconnection request shall include additional documentation required by the cooperative; including but not limited to the following:
 - i. Site Plan showing the following: streets, principal structures and buildings, generator location, revenue meter location, all AC and DC Disconnect locations.

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- ii. 1-Line Diagram showing the following: DC Generator Output, Inverter(s) or Microinverters, Optimizers, PV AC Disconnect, Rating of protective devices, Manner of Tapping to existing member-owned distribution equipment
 - iii. Proof of Homeowners or Business Liability Insurance.
 - iv. Directory Placard at meter location when required by the Cooperative.
- 2) After receiving the interconnection request, the Cooperative shall inform the applicant as to whether the interconnection request is complete. If the request is incomplete, the Cooperative shall specify what materials are missing and the applicant has 15 business days to provide the missing information, or the interconnection request may be deemed withdrawn.
- 3) After an interconnection request is deemed complete, the Cooperative shall assign a queue position based upon the date that the interconnection request is determined to be complete. The Cooperative shall then inform the applicant of its queue position.
- 4) If, after determining that the interconnection request is complete, the Cooperative determines that it needs additional information to evaluate the distributed generation facility's adverse system impact, it shall request this information. The Cooperative may not restart the review process or alter the applicant's queue position because it requires the additional information. The Cooperative can extend the time to finish its evaluation only to the extent of the delay required for receipt of the additional information. If the additional information is not provided by the applicant within 15 business days, the interconnection request may be deemed withdrawn.
- c) When the Cooperative determines that the interconnection request passes the Level 2 screening criteria, or the Cooperative determines that the distributed generation facility can be interconnected safely and will not cause adverse system impacts, even if it fails one or more of the Level 2 screening criteria, it shall provide the applicant with a standard distributed generation interconnection agreement.
- d) Within 30 business days after receipt of the standard distributed generation interconnection agreement, the applicant shall sign and return the agreement to the Cooperative. If the applicant does not sign and return the agreement within 30 business days, the interconnection request shall be deemed withdrawn unless the applicant requests a 15 business day extension in writing. The initial request for extension may not be denied by the Cooperative. When the Cooperative constructs an additional review under the provisions of subsection (f), the interconnection of the distributed generation facility shall proceed according to milestones agreed to by the parties in the standard distributed generation interconnection agreement.

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- e) The standard distributed generation interconnection agreement is not final until:
- 1) All requirements in the standard distributed generation interconnection agreement are satisfied;
 - 2) The distributed generation facility is approved by the electric code officials with jurisdiction over the interconnection.
 1. If no local inspection or code enforcement exists, applicant shall provide a Distributed Generation Wiring Statement Card signed by the electrician doing the work on the distributed generation facility.
 - 3) The applicant provides a certificate of completion to the Cooperative. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
 - 4) The witness test is successfully completed if required by the Cooperative or if the witness test is waived.
- f) Additional review may be appropriate when a distributed generation facility fails to meet one or more of the Level 2 screens. The Cooperative shall offer to perform additional review to determine whether there are minor modifications to the distributed generation facility or electric distribution system that would enable the interconnection to be made safely and so that it will not cause adverse system impacts. The Cooperative shall provide the applicant with a nonbinding estimate for the costs of additional review and the costs of minor modifications to the electric distribution system. The Cooperative shall undertake the additional review only after the applicant pays for the additional review. The Cooperative shall undertake the modifications only after the applicant pays for the modifications.

318.10 Level 3 Review Procedures

The Cooperative shall use the Level 3 review procedure for an interconnection request that meets the criteria in Section 318.7.

- a) A Level 3 interconnection shall use the following procedures:

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- 1) The applicant submits an interconnection request using the appropriate form and the Level 3 application fee. Interconnection request shall include additional documentation required by the cooperative; including but not limited to the following:
 - a. Site Plan showing the following: streets, principal structures and buildings, generator location, revenue meter location, all AC and DC Disconnect locations.
 - b. 1-Line Diagram showing the following: DC Generator Output, Inverter(s) or Microinverters, Optimizers, PV AC Disconnect, Rating of protective devices, Manner of Tapping to existing member-owned distribution equipment
 - c. Proof of Homeowners or Business Liability Insurance.
 - d. Directory Placard at meter location when required by the Cooperative.
- 2) After receiving the interconnection request, the Cooperative shall inform the applicant as to whether the interconnection request is complete. If the request is incomplete, the Cooperative shall specify what materials are missing and the applicant has 15 business days to provide the missing information, or the interconnection request may be deemed withdrawn.
- 3) After an interconnection request is deemed complete, the Cooperative shall assign a queue position to it based upon the date the interconnection request is determined to be complete. The Cooperative shall then inform the applicant of its queue position.
- 4) If, after determining that the interconnection request is complete, the Cooperative determines that it needs additional information to evaluate the distributed generation facility's adverse system impact, it shall request this information. The Cooperative may not restart the review process or alter the applicant's queue position because it requires the additional information. The Cooperative can extend the time to finish its evaluation only to the extent of the delay is required for receipt of the additional information. If this additional information is not provided by the applicant within 15 business days, the interconnection request may be deemed withdrawn.
- 5) Interconnection requests meeting the requirements for non-exporting distributed generation facilities interconnecting to an area network shall be presumed to be appropriate for interconnection. The Cooperative shall process the interconnection request to area networks using the following procedures:
 - a. The Cooperative shall evaluate the interconnection request under Level 2 interconnection review procedures as set forth except that the Cooperative has 25 business days to evaluate the interconnection request against the screens to

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determine whether interconnecting the distributed generation facility to the Cooperative's area network has any potential adverse system impacts.

- b. If the Level 2 screens for area networks identify potential adverse system impacts, the Cooperative may determine, at its sole discretion that it is inappropriate for the distributed generation facility to interconnect to the area network under Level 3 review, and the interconnection request is denied. The applicant may submit a new interconnection request for consideration under Level 4 procedures at the queue position assigned to the Level 3 interconnection request, if the request is made within 15 business days after notification that the current application is denied.
- 6) For interconnection requests that meet the requirements for non-exporting distributed generation facilities interconnecting to a radial distribution circuit, the Cooperative shall evaluate the interconnection request under the Level 2 review.
- b) For a distributed generation facility that satisfies the criteria in Section 318.10(a)(5) or (a)(6), the Cooperative shall approve the interconnection request and provide a standard interconnection agreement for the applicant to sign.
 - c) Within 30 business days after receipt of the standard distributed generation interconnection agreement, the applicant shall complete, sign and return the agreement to the Cooperative. If the applicant does not sign the standard distributed generation interconnection agreement within 30 business days, the request shall be deemed withdrawn, unless the applicant requests a 15 business day extension in writing. An initial request for extension may not be denied by the Cooperative. After the standard distributed generation interconnection agreement is signed by the parties, interconnection of the distributed generation facility shall proceed according to any milestones agreed to by the parties in the standard distributed generation interconnection agreement.
 - d) The standard distributed generation interconnection agreement is not final until:
 - 1) All requirements in the standard distributed generation interconnection agreement are satisfied.
 - 2) The distributed generation facility is approved by the electric code officials with jurisdiction over the interconnection.
 - a. If no local inspection or code enforcement exists, applicant shall provide a Distributed Generation Wiring Statement Card signed by the electrician doing the work on the distributed generation facility.

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- 3) The applicant provides a certificate of completion to the Cooperative. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
 - 4) The witness test is successfully completed if required by the Cooperative or if the witness test is waived.
- e) If the distributed generation facility is not approved under a Level 3 review, the Cooperative shall provide the applicant with written notification explaining its reasons for denying the interconnection request. The applicant may submit a new interconnection request for consideration under a Level 4 interconnection review. The queue position assigned to the Level 3 interconnection request shall be retained, provided that the request is made within 15 business days after notification that the current interconnection request is denied.

318.11 Level 4 Review Procedures

The Cooperative shall use the Level 4 study review procedures for an interconnection request that meets the criteria in Section 318.7.

- a) The applicant submits an interconnection request using the appropriate form, along with the Level 4 application fee. Interconnection request shall include additional documentation required by the cooperative; including but not limited to the following:
 - a. Site Plan showing the following: streets, principal structures and buildings, generator location, revenue meter location, all AC and DC Disconnect locations.
 - b. 1-Line Diagram showing the following: DC Generator Output, Inverter(s) or Microinverters, Optimizers, PV AC Disconnect, Rating of protective devices, Manner of Tapping to existing member-owned distribution equipment
 - c. Proof of Homeowners or Business Liability Insurance.
 - d. Directory Placard at meter location when required by the Cooperative.
- b) After receipt of an interconnection request, the Cooperative shall notify the applicant whether the request is complete. When the interconnection request is not complete, the Cooperative shall provide the applicant with a written list detailing the information required to complete the interconnection request. The applicant has 15 business days to provide the required information or the interconnection request is considered withdrawn. The parties may agree to extend the time for receipt of the additional information. The interconnection request is deemed complete when the required information has been provided by the applicant, or the parties have agreed that the applicant may provide additional information at a later time.

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- c) After an interconnection request is deemed complete, the Cooperative shall assign a queue position to it based upon the date the interconnection request is determined to be complete. When assigning a queue position, the Cooperative may consider whether there are any other interconnection projects on the same distribution circuit. If there are other interconnection projects on the same distribution circuit, the Cooperative may consider them together. If the Cooperative assigns a queue position based on the existence of interconnection projects on the same distribution circuit, the Cooperative shall notify the applicant of that fact when it assigns the queue position. The queue position of an interconnection request is used to determine the cost responsibility for the facilities necessary to accommodate the interconnection. The Cooperative shall notify the applicant as to its position in the queue. If the interconnection request is subsequently amended, it shall receive a new queue position based on the date that it was amended.
- d) After the interconnection request has been assigned to the queue, the following procedures shall be followed in performing a Level 4 study review:
- 1) By mutual agreement of the parties, the scoping meeting, interconnection feasibility study, interconnection impact study, or interconnection facilities study provided for in a Level 4 review and discussed in this Section may be waived or combined.
 - 2) If agreed to by the parties, a scoping meeting on a mutually agreed upon date and time shall be held, after the Cooperative has notified the applicant that the Level 4 interconnection request is deemed complete, or the applicant has requested that its interconnection request proceed under Level 4 review after failing the requirements of a Level 2 or Level 3 review. The meeting's purpose is to review the interconnection request, existing studies relevant to the interconnection request, and the results of the Level 1, Level 2 or Level 3 screening criteria.
 - 3) When the parties agree that an interconnection feasibility study shall be performed, the Cooperative shall provide to the applicant, no later than 15 business days after the receipt of a complete interconnection request or, if held, the scoping meeting, an interconnection feasibility study agreement, including an outline of the scope of the study and an estimate of the cost to perform the study. If the applicant does not sign and return the study agreement within 15 business days, the application shall be deemed withdrawn.
 - 4) When the parties agree that an interconnection feasibility study is not required, the Cooperative shall provide to the applicant, no later than 15 business days after the receipt of a complete interconnection request or, if held, the scoping meeting, an interconnection system impact study agreement, including an outline of the scope of the study and an

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estimate of the cost to perform the study. If the applicant does not sign and return the study agreement within 15 business days, the application shall be deemed withdrawn.

- 5) If the parties agree that neither an interconnection feasibility study nor a system impact study is required, the Cooperative shall provide to the applicant, no later than 15 business days after receipt of a complete interconnection request or, if held, the scoping meeting, an interconnection facilities study agreement including an outline of the scope of the study and an estimate of the cost to perform the study. If the applicant does not sign and return the study agreement within 15 business days, the application shall be deemed withdrawn.

e) The following guidelines shall govern all required interconnection studies:

- 1) An interconnection feasibility study shall include any necessary analyses for the purpose of identifying a potential adverse system impact to the Cooperative's electric distribution system that would result from the interconnection from among the following:
 - a. Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection.
 - b. Initial identification of any thermal overload or voltage limit violations resulting from the interconnection.
 - c. Initial review of grounding requirements and system protection.
 - d. Description and nonbinding estimated cost of facilities required to interconnect the distributed generation facility to the Cooperative's electric distribution system in a safe and reliable manner.
 - e. If an applicant requests that the interconnection feasibility study evaluate multiple potential points of interconnection, additional evaluations may be required. Additional evaluations shall be paid for by the applicant.
 - f. An interconnection system impact study is not required when the interconnection feasibility study concludes that there is no adverse system impact, or when the study identifies an adverse system impact, but the Cooperative is able to identify a remedy without the need for an interconnection system impact study.

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- b. An interconnection system impact study shall consider any necessary criteria from among the following:
 - i. A short circuit analysis;
 - ii. A stability analysis;
 - iii. Alternatives for mitigating adverse system impacts on affected systems;
 - iv. Voltage drop and flicker studies;
 - v. Protection and set point coordination studies;
 - vi. Grounding reviews.
 - c. The final interconnection system impact study shall provide the following:
 - i. The underlying assumptions of the study;
 - ii. The results of the analyses;
 - iii. A list of any potential impediments to providing the requested interconnection service;
 - iv. Required distribution upgrades; and
 - v. A non-binding estimate of cost and time to construct any required distribution upgrades.
- 3) The interconnection facilities study shall be conducted as follows:
- a. A report shall be transmitted to the applicant with an interconnection facilities study agreement that includes an outline of the scope of the study and a non-binding estimate of the cost to perform the study after completion of the interconnection system impact study.
 - b. The interconnection facilities study shall estimate the cost of the equipment, engineering, procurement and construction work, including overheads, needed to implement the conclusions of the interconnection feasibility study and the

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interconnection system impact study. The interconnection facilities study shall identify:

- i. The electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment;
 - ii. The nature and estimated cost of the Cooperative's interconnection facilities and distribution upgrades necessary to accomplish the interconnection; and
 - iii. An estimate for the time required to complete the construction and installation of the facilities.
- c. Upon completion of the interconnection facilities study, and after the applicant agrees to pay for the interconnection facilities and distribution upgrades identified in the interconnection facilities study, the Cooperative shall provide a standard distributed generation interconnection agreement for the applicant to sign
- d. In the event that distribution upgrades are identified in the impact study that shall be added only in the event that higher-queued applicants not yet interconnected eventually complete and interconnect their generation facilities, the applicant may elect to interconnect without paying for such upgrades at the time of the interconnection, provided that it agrees to pay for such upgrades at the time the higher-queued applicant is ready to interconnect. If the applicant does not pay for such upgrades at that time, the Cooperative shall require the applicant to immediately disconnect its distribution generation facility to accommodate the higher-queued applicant.
- f) When the Cooperative determines, as a result of the studies conducted under a Level 4 review, that it is appropriate to interconnect the distributed generation facility, the Cooperative shall provide the applicant with a standard distributed generation interconnection agreement. If the interconnection request is denied, the Cooperative shall provide the applicant with a written explanation as to its reasons for denying interconnection. If denied, the interconnection request does not retain its position in the queue.
- g) Within 30 business days after receipt of the standard distributed generation interconnection agreement, the applicant shall provide all necessary information required of the applicant by the agreement, and the Cooperative shall develop all other information required of the Cooperative by the agreement. After completing the agreement with the additional information, the applicant shall sign and return the agreement to the Cooperative. If the applicant does not sign and return

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the agreement within 30 business days after its completion, the interconnection request shall be deemed withdrawn, unless the applicant requests in writing to have the deadline extended by no more than 15 business days. The initial request for extension may not be denied by the Cooperative. If the applicant does not sign the agreement after the 15 business day extension, the interconnection request shall be deemed withdrawn. If withdrawn, the interconnection request does not retain its position in the queue. When construction is required, the interconnection of the distributed generation facility shall proceed according to milestones agreed to by the parties in the standard distributed generation interconnection agreement.

- h) The standard distributed generation interconnection agreement is not final until:
- a. The requirements of the interconnection agreement are satisfied; and
 - b. The distributed generation facility is approved by electric code officials with jurisdiction over the interconnection.
 - i. If no local inspection or code enforcement exists, applicant shall provide a Distributed Generation Wiring Statement Card signed by the electrician doing the work on the distributed generation facility.
 - c. The applicant provides a certificate of completion to the Cooperative. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
 - d. The witness test is successfully completed if required by the Cooperative or if the witness test is waived.

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Appendix Listing

Appendix A – Review Level Fee

Appendix A.1 – Engineering Study Review

Appendix B – Certificate of Completion

Appendix C – Level 1 Application and Contract

Appendix D – Level 2 to 4 Application

Appendix E – Level 2 to 4 Contract

Attachment 1 – Definitions

Attachment 2 – Construction Schedule Proposed Equipment and Settings

Attachment 3 – Descriptions, Costs and Time

Attachment 4 – Operating Requirements

Attachment 5 – Monitoring and Control

Attachment 6 – Metering Requirements

Attachment 7 – As Built Documents

Appendix F – Interconnection Feasibility Study Agreement

Appendix G – Interconnection System Impact Study Agreement

Appendix H – Interconnection Facilities Study Agreement

Version History			
Version	Date	Revised By	Change Description
4	04-01-22	B. Pelelo	-Revised for Level 1 size limits.
3	08-30-16	J. Shekleton	- Update policy layout to new format. Inserted version history. Revise 'Subject'
2	07-26-11	K. Buros	- Revised
1	04-01-95	C. Shireman	- Revised
Original	05-28-86	Board	- Policy Bulletin 318 Adopted by the Board of Directors (Replaces No. 407)