

## **1. Scope and Applicability**

- 1.1. These rules may be cited as the South Dakota Small Generation Interconnection Rules, (hereafter "SGIR") and govern the interconnection of small generator facilities with an electric nameplate capacity of 10 MW or less to the electric transmission and distribution system of a Public Utility under the jurisdiction of the South Dakota Public Utilities Commission. These rules do not apply if the small generator facility is producing electricity for resale to a person other than the interconnecting Public Utility.

## **2. Request for Waiver**

- 2.1. For good cause shown, a person may request that the Commission waive any of the SGIR.
  - 2.1.1. An interconnecting Public Utility and an interconnection applicant may mutually agree to reasonable extensions to the required times for notices and submissions of information set forth in the SGIR for the purpose of allowing efficient and complete review of an interconnection application.
  - 2.1.2. If an interconnecting Public Utility unilaterally seeks waiver of the timelines set forth in the SGIR, the Commission must consider the number of pending applications for interconnection and the type of applications, including review level, facility type, and facility size.
  - 2.1.3. The parties may also agree to mutually waive a section of the SGIR or an Interconnection Agreement entered in to pursuant to these Rules without the Commission's permission where the SGIR or Agreement expressly so provides.

## **3. Definitions**

- 3.1. "Adverse System Impact" means a negative effect caused by the proposed interconnection that may compromise the safety and reliability of an electric transmission and distribution system.
- 3.2. "Affected System" means an electric transmission and distribution system, not owned or operated by the interconnecting Public Utility, which may experience an Adverse System Impact from the proposed interconnection.
- 3.3. "Applicant" means a person or entity who has submitted an application to interconnect a Small Generator Facility to a Public Utility's electric transmission and distribution system.
- 3.4. "Application" means a request to interconnect a Small Generator Facility with a Public Utility's Electric Distribution System. An Application must follow the standard form application set forth by the South Dakota Public Utilities Commission.

- 3.5. "Area Network" means a type of electric distribution system served by multiple transformers interconnected in an electrical network circuit in order to provide high reliability of service. This term has the same meaning as the term "secondary grid network" as defined in IEEE standard 1547 Section 4.1.4 (published July 2003).
- 3.6. "Certificate of Completion" means a certificate signed by the Applicant and attesting that the Small Generator Facility is complete, meets the applicable requirements of the SGIR, and has been inspected, tested and certified as physically ready for operation. The Certificate of Completion must follow the standard form set forth by the South Dakota Public Utilities Commission.
- 3.7. "Electric Nameplate Capacity" means the net maximum electric output capability measured in watts, kilowatts or megawatts of a Small Generator Facility as designated by the facility's manufacturer.
- 3.8. "Electric Utility" means any person operating, maintaining, or controlling in this state, equipment or facilities for providing electric service to or for the public including facilities owned by a municipality, which is consistent with SDCL § 49-34A-1 (7).
- 3.9. "Electrical Service Agreement" means the agreement between a Public Utility and a customer providing for electricity and ancillary services according to provisions of a tariff.
- 3.10. "Electric Distribution System or "EDS" means the facilities and equipment used to transmit electricity to ultimate usage points.
- 3.11. "Fault Current" means electrical current that flows through a circuit and is produced by an electrical fault, such as to ground, double-phase to ground, three phase to ground, phase-to-phase, and three-phase.
- 3.12. "Field Tested Equipment" means Interconnection Equipment that is identical to equipment that:
  - 3.12.1. Was approved for another interconnection under a Tier 4 study review and;
  - 3.12.2. Has successfully completed a Witness Test within 36 months from the date of the submission of the current application.
- 3.13. "Good Utility Practice" means a practice, method, policy, or action engaged in or accepted by a significant portion of the electric industry in a region, which a reasonable utility official would expect, in light of the facts reasonably discernable at the time, to accomplish the desired result reliably, safely and expeditiously.
- 3.14. "IEEE 1547" means the Standard 1547 published in 2003, as amended and revised, by the Institute of Electrical and Electronics Engineers (IEEE) entitled "Interconnecting Distributed Resources with Electric Power Systems."

- 3.15. "IEEE 1547.1" means the Standard 1547.1 published in 2005, as amended and revised, by the Institute of Electrical and Electronics Engineers (IEEE) entitled "Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems."
- 3.16. "Interconnection Agreement" means an agreement between an applicant or interconnection customer and the interconnecting Public Utility that governs the connection of the small generator facility to the Public Utility's EDS, as well as the ongoing operation of the small generator facility after it is connected to the system. An interconnection agreement will follow the standard form set forth by the South Dakota Public Utilities Commission.
- 3.17. "Interconnection Customer" means a person or an entity with one or more Small Generator Facilities that is interconnected to a Public Utility in accordance with the SGIR. (Note: Staff is currently still evaluating the question of whether or not existing interconnection agreements are subject to these rules. Staff will comment more fully on this matter shortly.)
- 3.18. "Interconnection Equipment" means a group of components or an integrated system provided by the interconnection customer to connect a small generator facility to a Public Utility's EDS, including all interface equipment such as 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.
- 3.19. "Interconnection Facilities" means the facilities and equipment required by the Public Utility to accommodate the interconnection of a small generator facility to the Public Utility's EDS and used exclusively to interconnect a specific small generator facility. Interconnection facilities do not include System Upgrades that may benefit the Public Utility, other customers (including other interconnection customers), or an owner of an Affected System.
- 3.20. "Interconnection Facilities Study" means a study conducted by a Public Utility or a third-party consultant retained by the Public Utility or the Applicant that determines the additional Interconnection Facilities and System Upgrades required to interconnect the Small Generator Facility to the Public Utility's EDS, the cost of the facilities and upgrades, and the time required to complete the interconnection.
- 3.21. "Interconnection Facilities Study Agreement" means a contract between the Applicant and the interconnecting Public Utility that provides a detailed scope and timeline for the Interconnection Facilities study and a good faith, non-binding estimate of the costs to perform the study. An Interconnection Facilities Study Agreement will follow the standard form set forth by the South Dakota Public Utilities Commission.

- 3.22. “Interconnection Feasibility Study” means a preliminary evaluation of the system impact and cost of interconnecting the Small Generator Facility to the EDC’s Public Utility’s EDS.
- 3.23. “Interconnection Feasibility Study Agreement” means a contract between the applicant and the interconnecting Public Utility that provides a scope, timeline and a good faith, non-binding estimate of the costs for the Public Utility to conduct an Interconnection Feasibility Study for the Applicant. An Interconnection Feasibility Study Agreement will follow the standard form agreement developed by the Public Utility and approved by the Commission.
- 3.24. “Interconnection Service” means service to an electric customer under which an on site generating facility on a customer’s premises shall be connected to the local distribution facilities and is the same meaning set forth in 16 U.S.C. 2621(d)(15).
- 3.25. “Interconnection System Impact Study” means an engineering study performed by the, Public Utility that evaluates the impact of the proposed interconnection on the safety and reliability of the EDS. The study focuses on the Adverse System Impacts identified in the Interconnection Feasibility Study and other potential impacts including those identified in the Scoping Meeting.
- 3.26. “Interconnection System Impact Study Agreement” means a contract between the Applicant and the interconnecting Public Utility that provides a statement of scope, timeline and a good faith, non-binding estimate of cost to conduct an Interconnection System Impact Study. An interconnection system impact study agreement will follow the standard form agreement set forth by the South Dakota Public Utilities Commission.
- 3.27. “Lab Tested Equipment” means the Interconnection Equipment which has been tested by the original equipment manufacturer in accordance IEEE 1547.1 and found to be in compliance with the appropriate codes and standards referenced therein and is labeled and listed by a Nationally Recognized Testing Laboratory (NRTL). For interconnection equipment to gain status as Lab Tested Equipment, its use must fall within the use or uses for which the interconnection equipment is labeled and listed by the NRTL; and the generator or other electric source being utilized must be compatible with the interconnection equipment and consistent with the testing and listing specified for the type of interconnection equipment.
- 3.28. “Line Section” means that portion of a Public Utility’s EDS connected to an Interconnection Customer and bounded by automatic sectionalizing devices or the end of the distribution line.
- 3.29. “Minor Equipment Modification” means a change to the proposed Small Generator Facility, the output capacity of the facility, or the proposed interconnection equipment that:
- 3.29.1. Does not affect the application of the screening criteria in Tiers 1, 2, or 3;

- 3.29.2. In the Public Utility's reasonable opinion, does not have a material impact on safety or reliability of the Public Utility's EDS or an Affected System; and
- 3.29.3. Does not include a change in the Electric Nameplate Capacity of an existing Small Generator Facility.
- 3.30. "Nationally Recognized Testing Laboratory" or "NRTL" means a qualified private organization that performs independent safety testing and product certification. Each NRTL must meet the requirements as set forth by OSHA for a NRTL program.
- 3.31. "Parallel Operation" or "Parallel" means a Small Generator Facility is connected electrically to a EDS and the potential exists for electricity to flow from the Small Generator Facility to the Public Utility's EDS or for the Small Generator Facility and the Public Utility's EDS to simultaneously feed the same load. A UL listed closed transition transfer switch (100 msec or less) with suitable synchronizing equipment and interlocks may be excluded from parallel operation requirements at the sole discretion of the Utility.
- 3.32. "Pending Completed Applications" means applications for interconnection of other Small Generator Facilities, or FERC wholesale generators that the Public Utility has deemed completed, but have not yet been reviewed or approved pursuant to applicable procedures. FERC jurisdictional applications shall be considered but shall not unduly delay review of other applications in the Queue.
- 3.33. "Point of Interconnection" means the point where the Small Generator Facility is electrically connected to the Public Utility's EDS. This term has the same meaning as "point of common coupling" as defined in IEEE Standard 1547, section 3.1.13.
- 3.34. "Primary Line" is a term that describes a distribution line with an operating voltage greater than 480 volts.
- 3.35. "Queue Position" means the order of a completed Application, relative to all other pending completed Applications, that is established based upon the date and time of the, interconnecting Public Utility's receipt of the completed Applications including application fees. The Queue is a SGIR EDS queue and separate from the FERC transmission queue.
- 3.36. "Scoping Meeting" means an initial meeting between representatives of the Applicant and the interconnection Public Utility that is conducted for the purpose of discussing alternative interconnection options, to exchange information, including any EDS data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, or to determine the potentially feasible Points of Interconnection.
- 3.37. "Secondary Line" is a term used to describe a service line subsequent to the Public Utility's primary line that has an operating voltage of 480 volts or less.

- 3.38. "Small Generator Facility" means a facility for the production of electrical energy that has an electric nameplate capacity of 10 MW or less and can operate in parallel with a Public Utility's EDS.
- 3.39. "Spot Network" means a type of electric EDS that uses two or more inter-tied transformers protected by network protectors to supply an electrical network circuit. A spot network may be used to supply power to a single customer or a small group of customers.
- 3.40. "System Upgrades" means additions or modifications to the interconnecting Public Utility's EDS or to an Affected System that are required to accommodate the proposed interconnection. System upgrades do not include Interconnection Facilities.
- 3.41. "Technical Standards" means IEEE 1547 standard and series. As parts of this series are approved, they will become part of the SGIR requirements.
- 3.42. "Transmission Line" means any line required by FERC to be listed as transmission in Form 1 filings.
- 3.43. "Witness Test" means the on-site visual verification of the interconnection installation and commissioning as required in IEEE standard 1547 Sections 5.3 and 5.4. For interconnection equipment that does not meet the definition of Lab Tested Equipment, the Witness Test may, at the discretion of the Public Utility, also include a system design and production evaluation according to IEEE standard 1547 Sections 5.1 and 5.2 as applicable to the specific interconnection system technology employed. Additional detail is provided in IEEE 1547.1.
- 3.44. "Written Notice" means a required notice sent by the Public Utility or Applicant via electronic mail, if electronic mail addresses are provided. If any Party has not provided an electronic mail address, or has requested in writing to be notified by United States Mail, or a Party elects to provide Written Notice by United States mail, then written notices from the Party shall be sent via First Class United States mail. A Party will be deemed to have fulfilled its duty to respond under these rules on the day it sends the Written Notice via electronic mail or deposits such notice in First Class mail. Each Party will be responsible for informing other Parties of any change in its notification address.

#### **4. General Interconnection Provisions**

- 4.1. Application: A Party wishing to interconnect, make a capacity change or change the status of a proposed or operating facility, for example from FERC wholesale generator to a Small Generator Facility, must submit an Application to the Public Utility that owns and operates the EDS to which interconnection is sought.
- 4.1.1. The Application must be made using a standardized Application form found on the Commission's website as Form 1 or Form 2.

- 4.1.2. A Small Generator Facility that is Lab Tested, inverter-based and has an Electric Nameplate Capacity of 10 kW or less must use application Form 1 which is a Tier 1 Application form. Applications for all other Small Generator Facilities up to 10 MW in size must use Form 2, which is the Tier 2, Tier 3 and Tier 4 Application form.
- 4.2. Fees: A non-refundable application processing fee is required for all Applications. The amount of the fee is dependent upon the review Tier requested in the Application and is intended to cover reasonable costs for processing, minor study and evaluation of the Application. The Application fees are as follows:
  - 4.2.1. Tier 1: \$100 .
  - 4.2.2. Tier 2: \$100 plus \$1 per kW of rated generating facility output
  - 4.2.3. Tier 3: \$100 plus \$1 per kW of rated generating facility output
  - 4.2.4. Tier 4: \$100 plus \$2 per kW of rated generating output facility. The Tier 4 application fee will be applied against the study fee.
  - 4.2.5. Applications requiring detailed studies and engineering evaluations may incur costs that are not covered by the Application fee. Before any costs above the Application fee are assessed, the Applicant must authorize the Public Utility to continue by assuming responsibility for the additional costs, or the Application will be deemed withdrawn and the original Application fee forfeited.
  - 4.2.6. Should an Applicant fail to receive approval at one review Tier and make a subsequent Application for the same facility at a different Tier within the time frame for preserving the queue position, the original Application fee and any other fees paid in conjunction with the original Application will be applied to the fees for the updated Application.
- 4.3. Interconnection Application Review Procedures: Each Public Utility must review all Interconnection Requests duly submitted to the Public Utility at their authorized mailing address based on the following review procedures:
  - 4.3.1. Tier 1 Interconnection Review Procedures: A Public Utility must use the Tier 1 review procedures more specifically set forth in Section 10.
    - 4.3.1.1. The Electric Nameplate Capacity rating is 10 kW or less and;
    - 4.3.1.2. The interconnection equipment is inverter based and;
    - 4.3.1.3. The Customer Interconnection Equipment proposed for the Small Generator Facility is Lab Tested.

- 4.3.2. Tier 2 Interconnection Review Procedures: A Public Utility must use the Tier 2 review procedures more specifically set forth in Section 11:
  - 4.3.2.1. The Electric Nameplate Capacity is 2 MW or less and;
  - 4.3.2.2. The proposed connection is to a radial distribution circuit, or to a Spot Network that is serving one premise and;
  - 4.3.2.3. The Customer Interconnection Equipment proposed for the Small Generator Facility is either Lab Tested Equipment or Field Tested Equipment and;
  - 4.3.2.4. Did not qualify for or has failed the Tier 1 interconnection review procedure.
- 4.3.3. Tier 3 Interconnection Review Procedures: An Applicant may request to be evaluated under Tier 3 procedures more specifically set forth in Section 12:
  - 4.3.3.1. The Electric Nameplate Capacity is 10 MW or less and;
  - 4.3.3.2. The Small Generator Facility does not export power beyond the Point of Interconnection and;
  - 4.3.3.3. Did not qualify for or has failed either the Tier 1 or Tier 2 interconnection review procedures.
- 4.3.4. Tier 4 Interconnection Review Procedures: A Public Utility must use the Tier 4 review procedures more specifically set forth in Section 13:
  - 4.3.4.1. Sell power to the Public Utility and,
  - 4.3.4.2. Have an Electric Nameplate Capacity of 10 MW or less and,
  - 4.3.4.3. Did not qualify for or has failed either the Tier 1, Tier 2 or Tier 3 interconnection review procedures.
- 4.4. Agreement Term: Interconnection of a Small Generator Facility, under the provisions of the SGIR, is deemed to be in effect for a period of up to 20 years at the Applicant's option, unless terminated earlier by the default or voluntary termination by the Interconnection Customer or by action of the Commission. Interconnection Agreements entered in to before the effective date of this Rule will remain in effect until the term of the Agreement expires.
- 4.5. Renewal: The Public Utility will not unreasonably refuse to grant an expedited review of a request to renew an Interconnection Agreement and may waive all or part of the Application fee commensurate with less expenses incurred in renewing the Application provided:

- 4.5.1. The facility has not undergone any modifications other than Minor Equipment Modifications, as determined by the Public Utility, since the expired Interconnection Agreement was approved, and;
- 4.5.2. Conditions on the EDS are essentially the same as when the Interconnection Agreement was originally approved.

## **5. General Requirements**

- 5.1. **Aggregating Multiple Generators:** If the Interconnection Request is for a Small Generator Facility that includes multiple Small Generator Facilities at a site for which the Applicant seeks a single Point of Interconnection, the Application must be evaluated for the purposes of the interconnection on the basis of the aggregate Electric Nameplate Capacity of the multiple Small Generator Facilities.
- 5.2. **Capacity Change:** An Interconnection Customer must submit a new Application if it proposes to increase the Electric Nameplate Capacity of its existing Small Generator Facility or if it changes its Small Generator Facility equipment or operations that increase its Electric Nameplate Capacity. The Application and Application fees are based on the new total Electric Nameplate Capacity of the Small Generator Facility. If an Applicant, after having its Application accepted by the Public Utility and being assigned a Queue Position, decides to increase the Electrical Nameplate Capacity of its proposed Small Generator Facility, it must submit a new Application and will relinquish its original Queue Position.
- 5.3. **Point of Contact:** The Public Utility must designate a contact person from whom information on the Application process and about the Public Utility's EDS may be obtained. Such information must include studies and other materials useful to an understanding of the feasibility of interconnecting a Small Generator Facility at a particular point on the Public Utility's EDS, except to the extent providing such materials would violate security requirements, confidentiality obligations or be contrary to state or federal regulations. The Public Utility must comply with reasonable requests for access to or copies of such studies, subject to any confidentiality agreements as may be required to protect the confidential or proprietary information interests of the Public Utility or third parties.
- 5.4. **Timeframes:** The Public Utility and Interconnection Customer must meet all time frames provided in the SGIR, unless the parties mutually agree to a different schedule. If a Party cannot meet a deadline provided herein, the Party must notify the other Party, explain the reason for the failure to meet the deadline, and provide an estimated time by which it will complete the applicable interconnection procedure in the process.
- 5.5. **Modifications:** Once an Application is deemed complete by the Public Utility and a Queue Position assigned, any modification to the Application, other than a Minor Equipment Modification, requires that a new Application be submitted and the original Queue Position be relinquished. If, after an Interconnection Agreement has

been entered in to under provisions of the SGIR, the Interconnection Customer desires to modify the Small Generator Facility, other than a Minor Equipment Modification, a new Application must be submitted and approved before the proposed modifications can take place.

- 5.6. Site Control: Documentation of site control must be provided with the Application. Site control may be demonstrated through ownership of, a leasehold interest in, or an option or other right to develop a site for the purpose of constructing the Small Generator Facility. Site control may be documented by a property tax bill, deed, a lease agreement or other legally binding contract.
- 5.7. Right of Access: The Public Utility must have access to the Applicant's premises for any reasonable purpose in connection with the Interconnection Application and any Interconnection Agreement pursuant to the SGIR or if necessary to meet the legal obligation to provide service to its customers. Access must be requested at reasonable hours and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition.
- 5.8. Multiple Interconnections: The Public Utility may propose to interconnect more than one Small Generator Facility at a single Point of Interconnection in order to minimize costs, and must not unreasonably refuse a request to do so. However, an Applicant or an Interconnection Customer may elect to pay the entire cost of separate Interconnection Facilities.
- 5.9. Isolation Device: Small Generator Facilities must be capable of being isolated from the Public Utility.
  - 5.9.1. For Small Generator Facilities interconnecting to a Primary Line, the isolation must be by means of a lockable, visible-break isolation device readily accessible by the Public Utility.
  - 5.9.2. For Small Generator Facilities interconnecting to a Secondary Line, the isolation must be by means of a lockable isolation device whose status is clearly indicated, located within 10' of the Public Utility-owned meter service, and is readily accessible by the Public Utility. The isolation device must be clearly marked "Generator Disconnect Switch". An exception is allowed for a Small Generation Facility that:
    - 5.9.2.1. Has a maximum total output of 2 kW or less and;
    - 5.9.2.2. Is connected to a Secondary Line and:
    - 5.9.2.3. Utilizes Lab Tested, inverter-based Interconnection Equipment and;
    - 5.9.2.4. Is interconnected to the Public Utility's EDS through a Public Utility-owned metered service.

- 5.9.3. If the above conditions are met, the meter base may serve as the required isolation device, provided it is readily accessible to the Public Utility.
- 5.9.4. All other Interconnection isolation devices must be installed, owned, and maintained by the owner of the Small Generator Facility and be capable of interrupting the full load of the Small Generator Facility and must be located between the Small Generator Facility and the Point of Interconnection.
  - 5.9.4.1. The Applicant or Interconnection Customer may elect to provide the Public Utility access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise readily accessible to the Public Utility, by providing a lockbox capable of accepting a lock provided by the Public Utility that will provide ready access to the isolation device. Where a lockbox is required, the Applicant or Interconnection Customer must install the lockbox in a location that is readily accessible by the Public Utility. The Applicant or Interconnection Customer must affix a placard in a location acceptable to the Public Utility that provides clear instructions to its operating personnel on how to gain access to the isolation device.

## **6. Technical Standard**

- 6.1. The primary Technical Standard to be used in evaluating all Applications, unless otherwise provided for in the SGIR, is IEEE 1547. Should a Public Utility wish to utilize other standards in addition to the Technical Standards, it may do so only after seeking and being granted a waiver from the Commission to do so.
- 6.2. The Applicant must construct, own, operate, and maintain its Small Generator Facility and associated Interconnection Facilities in accordance with the provisions of the Technical Standards, the safety standards required there in and with reasonable safety and reliability standards required by the Commission.

## **7. Cost Responsibility**

- 7.1. Study Costs: Whenever additional studies are required under provisions of the SGIR, the Applicant must pay the additional study costs above what is covered by the initial Application fee. Study costs must be based on the scope of work determined and documented in the Feasibility, Facilities and System Impact Study Agreements based on the estimated hours needed to complete the evaluation. .
- 7.2. Minor EDS Modifications: Modifications to the existing EDS identified by the Public Utility under a Tier 2 or Tier 3 review; such as changing meters, fuses, or relay settings; may be deemed Minor EDS Modifications. It is at the Public Utility's sole discretion to decide what constitutes a Minor EDS Modification. The Applicant must bear the costs of making such Minor EDS Modifications as may be necessary to gain approval of an Application.

- 7.3. Interconnection Facilities: The Public Utility must identify under the review procedures of a Tier 2 review or under a Tier 4 Facilities Study, the Interconnection Facilities necessary to safely interconnect the Small Generator Facility with the Public Utility. The Public Utility must itemize the Interconnection Facilities for the Applicant including the cost of the facilities and the time required to build and install those facilities. The Interconnection Customer is responsible for the cost of the Interconnection Facilities.
- 7.4. Interconnection Equipment: The Interconnection Customer is responsible for all expenses, including overheads, associated with owning, operating, maintaining, repairing, and replacing its Interconnection Equipment.
- 7.5. System Upgrades: The Public Utility shall design, procure, construct, install, and own any System Upgrades. The actual cost of the System Upgrades, including overheads, shall be the responsibility of the Applicant.
- 7.6. Adverse System Impact: The Public Utility is responsible for identifying Adverse System Impacts on any Affected Systems and for determining what mitigation activities or upgrades may be required to accommodate a Small Generator Facility. The actual cost of any actions taken to address the Adverse System Impacts, including overheads, is the responsibility of the Applicant
  - 7.6.1. The Applicant may be entitled to financial compensation from another Public Utility or other Interconnection Customers who, in the future, utilize the upgrades paid for by the Applicant, only to the extent as may be provided for by the Commission.
- 7.7. Billings: The Public Utility may require a deposit of 50% of the cost estimate, to be paid in advance by the Applicant for studies necessary to complete an interconnection to the EDS.
- 7.8. The Public Utility may require a deposit of 25% of the estimated costs for Interconnection Facilities and System Upgrades necessary to reliably interconnect the Small Generating Facility to the EDS. Progress billing, final billing and payment schedules must be agreed to by Parties prior to commencing work.

## **8. Insurance**

- 8.1. Proof of general liability insurance is required prior to execution of the Interconnection Agreement in the following amounts:
  - 8.1.1. 10kW or less—not less than \$300,000
  - 8.1.2. Greater than 10kW up to 200 kW—not less than \$500,000
  - 8.1.3. Greater than 200 kW--not less than \$1,000,000

## **9. Damage Limitation**

- 9.1. Neither Party may seek redress from the other party in an amount greater than the amount of direct damage actually incurred.

## **10. Tier 1 Interconnection**

- 10.1. **Applicability:** The Public Utility must use the Tier 1 review procedures for an Application that meets all of the following:
  - 10.1.1. The Small Generator Facility is inverter-based and;
  - 10.1.2. The Small Generator Facility has an Electric Nameplate Capacity of 10 kW or less and;
  - 10.1.3. The Interconnection Equipment proposed for the Small Generator Facility is Lab Tested Equipment.
- 10.2. **Approval:** For a Small Generator Facility described in Section 10.1, the Public Utility must approve an Application under the requirements set forth in Section 10.4 if all the screening criteria set forth in Section 10.3 are met. A Public Utility may not impose additional requirements to a Tier 1 interconnection not specifically authorized under Section 10.4.
- 10.3. **Tier 1 Evaluation and Screening Criteria:**
  - 10.3.1. For interconnection of a proposed Small Generator Facility to a radial distribution circuit, the aggregated generation, which includes the proposed Small Generator Facility as well as existing FERC wholesale generators and FERC wholesale generators with a higher Queue Position, must not exceed 15 percent of the Line Section annual peak load as most recently measured at the sub-station or calculated for the Line Section.
  - 10.3.2. For interconnection of a proposed Small Generator Facility to the load side of Spot Network protectors, the proposed Small Generator Facility and the aggregated other generation and applications with a higher Queue Position must not exceed the lesser of five percent of a Spot Network's maximum load or 50 kW.
  - 10.3.3. If the proposed Small Generator Facility is to be interconnected on a single-phase secondary service line, the aggregate generation capacity on the secondary, which includes the proposed Small Generator Facility and applications with a higher Queue Position, must not exceed the service transformer nameplate rating or the conductor rating.
  - 10.3.4. If the proposed Small Generator Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service line, its addition must not create a current imbalance between the two sides of the 240 volt service of more than 20 percent of the nameplate rating of the service transformer.

- 10.3.5. The proposed interconnection must use existing Public Utility facilities.
- 10.4. Tier 1 Interconnection Review Procedure:
  - 10.4.1. The Applicant must submit its Application and appropriate fees to the Public Utility at its designated address. The appropriate application is available at the Commission web site, Form 1.
  - 10.4.2. The Public Utility must, within 10 business days of receipt of the Application, inform the Applicant that the Application is either complete or incomplete. If the application is incomplete, the Public Utility must indicate what information is missing. In the event the Applicant does not receive notification within 10 business days, the Applicant may contact the Public Utility to determine the status of the Application. If the Public Utility notified the Applicant that the Application is incomplete, the Applicant must provide the required information within 10 business days (or such other time as the parties mutually agree) or the Application is deemed to be withdrawn.
  - 10.4.3. If the Public Utility does not have a record of receipt of the Application, the Applicant must provide the Public Utility with an additional copy of the Application. If the Applicant can demonstrate that the original completed Application was delivered to the Public Utility, the Public Utility must forgo the initial 10 business day response period and complete its review within 15 business days.
  - 10.4.4. Queuing Priority: Once the Public Utility deems the Application to be complete, it must assign the project a Queue Position. The Queue Position of each Application is used to determine any potential Adverse System Impacts of the proposed Small Generator Facility based on the relevant screening criteria set forth in Section 10.1.3. The Applicant must proceed under the timeframes of this section. The Public Utility must schedule a Scoping Meeting to notify the Applicant about other higher-queued Applications including, but not limited to, FERC wholesale generator Interconnection Applications on the same radial line or Spot Network to which the Applicant is seeking interconnection.
  - 10.4.5. If, in the process of evaluating a completed Application, the Public Utility determines that supplemental or clarifying information is required, the Public Utility must request the information from the Applicant. The time required for the receipt of the additional information may extend the time necessary to complete the evaluation, but only to the extent of the time required for the receipt of the additional information. The Public Utility may not alter the Applicant's Queue Position.
  - 10.4.6. The Public Utility must evaluate the proposed Small Generator Facility equipment using Tier 1 screening criteria set forth in Section 10.3. No later than 15 business days from the date the Application is deemed complete; the

Public Utility must notify the Applicant whether the Small Generator Facility meets the screening criteria.

- 10.4.7. The Applicant must provide the Public Utility at least 20 business days notice of the planned commissioning for the Small Generator Facility. The Public Utility has the option of conducting a Witness Test at a mutually agreeable time within 10 business days prior to the scheduled commissioning or waiving the Witness Test and notifying the Applicant. If the Public Utility does not conduct the Witness Test within 10 business days prior to the scheduled commissioning date or within a time otherwise mutually agreed upon by the Parties, the Witness Test is deemed waived.
- 10.5. Interconnection of a Tier 1 Small Generation Facility: The interconnection is not complete until:
  - 10.5.1. The Application has passed the Tier 1 screening criteria;
  - 10.5.2. The Small Generator Facility installation is approved by the electric code inspector with jurisdiction over the interconnection;
  - 10.5.3. The Witness Test, if conducted by the Public Utility, is successful;
  - 10.5.4. The Parties execute a Certificate of Completion; and
  - 10.5.5. The Parties execute an Interconnection Agreement.
- 10.6. Witness Test Not Acceptable: If the Witness Test is conducted and is not acceptable to the Public Utility, the Applicant must be granted a period of 30 calendar days to resolve any deficiencies. The Parties may mutually agree to extend the time period for resolving any deficiencies. A request for extension may not be unreasonably denied by the Public Utility. If the Applicant fails to address and resolve the deficiencies to the satisfaction of the Public Utility within the agreed upon time period, the Application is deemed withdrawn.
- 10.7. Non-approval: If the Small Generator Facility is not approved under a Tier 1 review, the Applicant may submit a new Application, including the difference in the application fee or deposit, for consideration under Tier 2, Tier 3 or Tier 4 procedures specified in Sections 11 through 13 without losing its original Queue Position if the new Application is submitted within 15 business days of notice that the original Application was not approved. If requested, the Public Utility must provide a written explanation of why the Application was not approved.
- 10.8. Operation: The Applicant must notify the Public Utility before commencing operation.

## **11. Tier 2 Interconnection**

- 11.1. Applicability: The Public Utility must use the Tier 2 review procedures for an Application that does not qualify for Tier 1 review and meets the requirements for a Tier 2 interconnection as set forth in Subsections 11.1.1 through 11.1.3 below:
  - 11.1.1. The Small Generator Facility has an Electric Nameplate Capacity of 2 MW or less and;
  - 11.1.2. The proposed Point of Interconnection is to either:
    - 11.1.2.1. A radial distribution circuit, or
    - 11.1.2.2. A Spot Network distribution circuit limited to serving one premise and;
  - 11.1.3. The Interconnection Equipment proposed for the Small Generator Facility is either Lab Tested Equipment or Field Tested Equipment. For equipment to gain Field Tested Equipment status, the Applicant must provide all the documentation of the prior Tier 4 study, review and approval, as well as any interconnection studies, and the Certificates of Completion.
- 11.2. Approval: The Public Utility must approve interconnection under the Tier 2 interconnection review process set forth in Section 11.4 of this rule if the Small Generator Facility qualifies as a Tier 2 facility as specified in Section 11.1 and all of the Tier 2 screening criteria set forth in Section 11.3 are met. A Public Utility may not impose additional requirements not specifically authorized under Section 11.4.
- 11.3. Tier 2 Evaluation and Screening Criteria:
  - 11.3.1. For interconnection of a proposed Small Generator Facility to a radial distribution circuit, the aggregated generation, which includes the proposed Small Generator Facility as well as existing FERC wholesale generators and FERC wholesale generators with a higher Queue Position, on the circuit must not exceed the lesser of:
    - 11.3.1.1. 15 percent of the Line Section annual peak load as most recently measured at the substation or calculated for the Line Section.
    - 11.3.1.2. 200 percent of the Line Section annual minimum load as most recently measured at the sub-station or calculated for the Line Section.
  - 11.3.2. For interconnection of a proposed Small Generator Facility to the load side of Spot Network protectors, the aggregated other generation which includes the proposed Small Generator Facility as well as existing FERC wholesale generators and FERC wholesale generators with a higher Queue Position must not exceed the lesser of five percent of a Spot Network's maximum load or 50 kW.

- 11.3.3. The proposed Small Generator Facility, in aggregation with other generation on the distribution circuit, must not contribute more than ten percent to the distribution circuit's maximum Fault Current at the point on the primary voltage distribution line nearest the Point of Interconnection.
- 11.3.4. The proposed Small Generator Facility, in aggregate with other generation and existing FERC wholesale generators and FERC wholesale generators with a higher Queue Position, on the distribution circuit, must not cause any distribution protective devices and equipment (including, but not limited, to substation breakers, fuse cutouts, and line reclosers), or other equipment on the Public Utility's EDS to be exposed to Fault Currents exceeding 90 percent of the short circuit interrupting capability. Additionally, the Small Generator Facility's Point of Interconnection must not be located on a circuit that already exceeds 90 percent of the short circuit interrupting capability.
- 11.3.5. The Small Generator Facility, in aggregate with other generation and existing FERC wholesale generators and FERC wholesale generators with a higher Queue Position, interconnected to the distribution side of a substation transformer feeding the circuit where the Small Generator Facility proposes to interconnect, must not exceed 10 MW in an area where there are known, or posted, transient stability limitations to generating units located in the general electrical vicinity (e.g., three or four distribution buses from the Point of Interconnection).
- 11.3.6. If the proposed Small Generator Facility interconnection is to a Primary Line on the distribution system, the interconnection must be according to the screening criteria set forth in paragraphs 11.3.6.1 and 11.3.6.2 of this subsection, depending on the type of electrical service provided by the Public Utility.
  - 11.3.6.1. If the Small Generator Facility is 3-phase or single-phase and is to be connected to a 3-phase 3 wire Primary Line, it must be connected phase-to-phase.
  - 11.3.6.2. If the Small Generator Facility is 3-phase or single-phase and is to be connected to a 3-phase 4-wire Primary Line, it must be connected line to neutral and effectively grounded. The single-phase Small Generation Facility does not increase the Primary Line phase current imbalance by more than 20%.
- 11.3.7. If the Small Generator Facility is to be interconnected on single-phase service line on the EDS, the aggregate Electric Nameplate Capacity on the secondary line, including the proposed Small Generator Facility, must not exceed the service transformer nameplate rating or conductor rating.
- 11.3.8. If the proposed Small Generator Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service line, its addition

must not create a current imbalance between the two sides of the 240 volt service of more than 20 percent of the nameplate rating of the service transformer.

- 11.3.9. Except as provided in Subsection 11.4.7, the interconnection must only use existing Public Utility facilities and the Applicant's proposed facilities.
- 11.3.10. The Small Generator Facility, in aggregate with existing FERC wholesale generators and FERC wholesale generators with a higher Queue Position, and exiting transmission loads must not cause any transmission system circuit to exceed its design capacity on the transmission system circuit directly connected to the distribution circuit where the interconnection is proposed.
- 11.3.11. If the Public Utility's distribution circuit utilizes high speed reclosing with less than 2 seconds of interruption the proposed generator must not be a synchronous machine.

#### 11.4. Tier 2 Interconnection Review Procedure

- 11.4.1. The Applicant must submit its Application and appropriate fees to the Public Utility at its designated address. The Application form is available on the Commission web site as Form 2. The Applicant may request, from the Public Utility, non-confidential from the Public Utility for an identified, approved interconnection to facilitate obtaining Field Tested status. The Public Utility may charge a nominal processing fee but will not unreasonably refuse to provide such information if requested.
- 11.4.2. The Public Utility must, within 10 business days of receipt of the Application, inform the Applicant that the Application is either complete or incomplete. If the application is incomplete, the Public Utility must indicate what information is missing. In the event the Applicant does not receive notification within 10 business days, the Applicant may contact the Public Utility to determine the status of the Application.
- 11.4.3. If the Public Utility does not have a record of receipt of the Application, the Applicant must provide the Public Utility with an additional copy of the Application. If the Applicant can demonstrate that the original completed Application was delivered to the Public Utility, the Public Utility must forgo the initial 10 business day response period and complete its review within 20 business days of its receipt.
- 11.4.4. **Queuing Priority:** Once the Public Utility deems the Application to be complete, it must assign the project a Queue Position. The Queue Position of each Application is used to determine any potential Adverse System Impacts of the proposed Small Generator Facility based on the relevant screening criteria summarized in Section 11.3. The Parties must proceed under the timeframes of this section to maintain queue position. The Public Utility must schedule a Scoping Meeting to notify the Applicant about other higher-queued

Applications including, but not limited to, FERC Interconnection Applications on the same radial line or Spot Network to which the Applicant is seeking to interconnect.

- 11.4.5. Initial Review: Within 20 business days after the Public Utility notifies the Applicant that it has received a completed Interconnection Request, or within a time period mutually agreed to by Parties, the Public Utility must:
  - 11.4.5.1. Evaluate the Application using the Tier 2 screening criteria set forth in Section 11.3 and;
  - 11.4.5.2. Review any independent analysis that may be provided by the Applicant using the same criteria, and;
  - 11.4.5.3. Provide the Applicant the results of its review, including a comparison of these results and the independent analysis provided by the Applicant (if applicable).
- 11.4.6. If in the process of evaluating the completed Application, the Public Utility determines that supplemental or clarifying information is required, the Public Utility must request the information from the Applicant. The time required for the receipt of the additional information may extend the time necessary to complete the review, but only to the extent of the time required for the receipt of the additional information. The Public Utility may not alter the Applicant's Queue Position.
- 11.4.7. If the Small Generator Facility fails to meet one or more of the Tier 2 screening criteria, but the Public Utility determines that the Small Generator Facility could be interconnected safely if minor modifications to the EDS (for example, changing meters, fuses, or relay settings) were made; it must offer the Applicant a non-binding, good faith estimate of the costs of such proposed minor modifications and proceed with the minor modifications if authorized by the Applicant.
- 11.4.8. The Public Utility must approve the Application if:
  - 11.4.8.1. The Public Utility determines that the Application passes the Tier 2 screening criteria, or
  - 11.4.8.2. The Application initially fails one or more of the Tier 2 screening criteria but the Public Utility determines that the Small Generator Facility passes the screens and can be interconnected safely and reliably after making the modifications described in Subsection 11.4.7, and the Public Utility has received authorization from the Applicant to implement the minor modifications.
- 11.4.9. The Applicant must provide the Public Utility at least 20 business days notice of the planned commissioning for the Small Generator Facility. The Public

Utility has the option of conducting a Witness Test at a mutually agreeable time within 10 business days prior to the scheduled commissioning. If the Public Utility does not conduct the Witness Test within 10 business days prior to the scheduled commissioning date, or within the time otherwise mutually agreed upon by the parties, or if the Public Utility notifies the Applicant of its intent not to perform the test, the Witness Test is deemed waived.

- 11.5. Interconnection of a Tier 2 Small Generator Facility: The interconnection is not complete until:
  - 11.5.1. All Tier 2 screening criteria are satisfied and any minor EDS modifications, are implemented;
  - 11.5.2. The Small Generator Facility installation is approved by electric code inspector with jurisdiction over the interconnection;
  - 11.5.3. The Witness Test, if conducted by the Public Utility, is successful;
  - 11.5.4. The Parties execute a Certificate of Completion; and
  - 11.5.5. The Parties execute an Interconnection Agreement.
- 11.6. Witness Test Not Acceptable: If the Witness Test is conducted and is not acceptable to the Public Utility, the Applicant must be allowed a period of 30 calendar days to resolve any deficiencies. A request for extension may not be unreasonably denied by the Public Utility. The Parties may mutually agree to extend the time period for resolving any deficiencies. If the Applicant fails to resolve the deficiencies to the satisfaction of the Public Utility within the agreed upon time period, the Application is deemed withdrawn.
- 11.7. Non-approval: If the Small Generator Facility is not approved under a Tier 2 review, the Applicant may submit a new Application including the difference in the application fee or deposit, for consideration under Tier 3 or Tier 4 procedures specified in Sections 12 through 13 without losing its original Queue Position provided the new Application is submitted within 15 business days of notice that the Application was not approved. If requested, the Public Utility must provide a written explanation of why the Application was not approved.
- 11.8. Operation: The Applicant must notify the Public Utility before commencing operation.

## **12. Tier 3 Interconnection**

- 12.1. Applicability: The Public Utility must use the Tier 3 interconnection review procedures for an Application that does not qualify for Tier 1 or Tier 2 review and meets all the requirements set forth in subsections 12.1.1 through 12.1.3 below:

- 12.1.1. The Small Generator Facility has an Electric Nameplate Capacity rating of 10 MW or less; and
  - 12.1.2. The proposed Point of Interconnection is not to a Transmission Line; and
  - 12.1.3. The Small Generator Facility does not export power beyond the point of interconnection and utilizes low forward power relays or other protection functions that prevent power flow onto the EDS;
- 12.2. Approval: A Tier 3 Small Generator Facility, as defined in Section 12.1 of this rule, meeting the screening criteria set forth in Sections 12.3 and 12.4 below must be further evaluated using Tier 2 Screening Criteria set forth in Section 11.3 except that the screen of Section 11.3.1 shall not apply to Tier 3 Small Generator Facilities. Once the Tier 2 Screening Criteria are met, the Application must be reviewed using the procedure set forth in Section 12.5 of this rule. Tier 3 interconnections do not require an Interconnection Feasibility Study; however, the Public Utility may choose to conduct such a study at its own expense, and it must complete the Interconnection Feasibility Study within 25 calendar days.
- 12.3. Tier 3 Evaluation and Screening Criteria - Area Networks: For a Small Generator Facility to interconnect to the load side of an Area Network distribution circuit, the criteria set forth in Subsections 12.3.1 through 12.3.5 below must be met:
- 12.3.1. The Electric Nameplate Capacity of the Small Generator Facility is 50 kW or less and;
  - 12.3.2. The proposed Small Generator Facility utilizes a Lab Tested, inverter-based equipment package for interconnection and;
  - 12.3.3. The Small Generator Facility utilizes reverse power relays or other protection functions that prevent power flow on to the Area Network and;
  - 12.3.4. The aggregated other generation on the Area Network, including existing FERC wholesale generators and FERC wholesale generators with a higher Queue Position, does not exceed the lesser of 5 percent of an Area Network's maximum load or 50 kW and;
  - 12.3.5. The interconnection must use only existing Public Utility facilities and the Applicant's proposed facilities.
- 12.4. Tier 3 Alternative Evaluation and Screening Criteria - Not Networked: For a Small Generator Facility to interconnect to a distribution circuit that is not networked, the criteria set forth in Subsections 12.4.1 through 12.4.5 below must be met:
- 12.4.1. The Small Generator Facility has an Electric Nameplate Capacity of 10 MW or less and;

- 12.4.2. The aggregated total of the Electric Nameplate Capacity of all of the generators on the circuit including existing FERC wholesale generators and FERC wholesale generators with a higher Queue Position, and the proposed Small Generator Facility, is 10 MW or less and;
  - 12.4.3. The Small Generator Facility does not export power beyond the point of interconnection and employs reverse power relays or other protection functions that prevent power flow onto the EDS and;
  - 12.4.4. The Small Generator Facility's proposed interconnection must be to a radial distribution circuit and;
  - 12.4.5. The Small Generator Facility is not served by a shared transformer and;
  - 12.4.6. Except as allowed in subsection 12.5.7, the interconnection must use only existing Public Utility facilities and the Applicant's proposed facilities and;
  - 12.4.7. If the Public Utility's distribution circuit utilizes high speed reclosing with less than 2 seconds of interruption the proposed generator must not be a synchronous machine.
- 12.5. Tier 3 Interconnection Review Procedure:
- 12.5.1. The Applicant must submit its Application and appropriate fees to the Public Utility at its designated address. The Application form is available on the Commission web site as Form 2.
  - 12.5.2. The Public Utility must, within 10 Business Days of receipt of the Application, inform the Applicant that the Application is either complete or incomplete. If the Application is incomplete, the Public Utility must indicate what information is missing. In the event the Applicant does not receive notification within 10 business days, the Applicant may contact the Public Utility to determine the status of the Application.
  - 12.5.3. If the Public Utility does not have a record of receipt of the Application, the Applicant must provide the Public Utility with an additional copy of the Application. If the Applicant can demonstrate that the original completed Application was delivered to the Public Utility, the Public Utility must forgo the initial 10 business day response period; and complete its review within 20 business days of its receipt.
  - 12.5.4. Queuing Priority: Once the Public Utility deems the Application to be complete, it must assign the project a Queue Position. The Queue Position of each Application is used to determine any potential Adverse System Impacts of the proposed Small Generator Facility based on the relevant screening criteria summarized in Sections 12.3 and 12.4. The Applicant must proceed under the timeframes of this section. The Public Utility must schedule a Scoping Meeting to notify the Applicant about other higher-queued

Applications including, but not limited to, FERC Interconnection Applications on the same radial line or Area Network to which the Applicant is seeking to interconnect.

- 12.5.5. Initial Review: Within 20 business days after the Public Utility notifies the Applicant that it has received a completed Interconnection Request or within a time period mutually agreed to by Parties, the Public Utility must:
  - 12.5.5.1. Evaluate the Application using the Tier 3 screening criteria set forth in sections 12.3 and 12.4 and;
  - 12.5.5.2. Review any independent analysis that may be provided by the Applicant using the same criteria and;
  - 12.5.5.3. Provide the Applicant the results of its review, including a comparison of these results and the independent analysis provided by the Applicant (if applicable).
- 12.5.6. If in the process of evaluating the interconnection request, the Public Utility determines that supplemental or clarifying information is required, the Public Utility must request the information from the Applicant. The time required for the receipt of the additional information may extend the time necessary to complete the review, but only to the extent of the time required for the receipt of the additional information. The Public Utility may not alter the Applicant's Queue Position.
- 12.5.7. If the Small Generator Facility fails to meet one or more of the Tier 3 screening criteria, but the Public Utility determines that the Small Generator Facility could likely be interconnected safely if minor modifications to the EDS (for example, changing meters, fuses, or relay settings) were made, it must offer the Applicant a non-binding, good faith estimate of the costs of such proposed minor modifications and proceed with the minor modifications if authorized by the Applicant.
- 12.5.8. The Public Utility must approve the Application if the Public Utility determines that the Application:
  - 12.5.8.1. Passes the Tier 3 screening criteria in Sections 12.3 or 12.4; or
  - 12.5.8.2. Fails one or more of the Tier 3 screening criteria, or does not meet every approval requirement in section 12.2, but the Public Utility determines that the Small Generator Facility can be interconnected safely and reliably after making the modifications described in subsection 12.5.7 above and the Public Utility has received authorization from the Applicant to implement the minor modifications.
- 12.5.9. The Applicant must provide the Public Utility at least 20 business days notice of the planned commissioning for the Small Generator Facility. The Public

Utility has the option of conducting a Witness Test at a mutually agreeable time within 10 business days prior to the scheduled commissioning. If the Public Utility does not conduct the Witness Test within 10 business days prior to the scheduled commissioning date, or within the time otherwise mutually agreed upon by the parties, or if the Public Utility notifies the Applicant of its intent not to perform the test, the Witness Test is deemed waived.

12.5.10. Non-approval:

12.5.10.1. If the Small Generator Facility fails to pass the screening criteria set forth in sections 12.3 or 12.4, or is not approved under a Tier 3 review; then the Public Utility must provide, at the request of the Applicant, a written justification for denying the Application.

12.5.10.2. If the Small Generator Facility is not approved under a Tier 3 review, the Applicant may submit a new Application including the difference in the application fee or deposit, for consideration under Tier 4 review procedures specified in Section 13 without losing its original Queue Position provided the new Application is submitted within 15 business days of notice that the Application was not approved. Any previous application fee or deposit must be applied toward the Tier 4 application fee.

12.6. Interconnection of a Tier 3 Small Generator Facility: The interconnection is not complete until:

12.6.1. All Tier 3 screening criteria are satisfied and any minor modifications to the EDS that may have been identified are implemented;

12.6.2. The Small Generator Facility installation is approved by electric code inspector with jurisdiction over the interconnection;

12.6.3. There is a successful completion of the Witness Test, if required;

12.6.4. The Parties execute a Certificate of Completion; and

12.6.5. The Parties execute an Interconnection Agreement.

12.7. Witness Test Not Acceptable: If the Witness Test is conducted and is not acceptable to the Public Utility, the Applicant must be allowed a period of 30 calendar days to resolve any deficiencies. A request for extension may not be unreasonably denied by the Public Utility. The Parties may mutually agree to extend the time period for resolving any deficiencies. If the Applicant fails to resolve the deficiencies to the satisfaction of the Public Utility within the agreed upon time period, the Application is deemed withdrawn.

12.8. Operation: The Applicant must notify the Public Utility prior to commencing operation.

### 13. Tier 4 Interconnection

- 13.1. Applicability: The Public Utility must use the Tier 4 interconnection review procedures for an Application that does not qualify for Tier 1, Tier 2, or Tier 3 review and for which the Small Generator Facility has an Electric Nameplate Capacity that is 10 MW or less.
- 13.2. Approval: The Public Utility must approve interconnection under the Tier 4 interconnection review procedure set forth in section 13.3 and studies set forth in Sections 13.4 through 13.6 of this rule. The Public Utility may not impose requirements in addition to those set forth in the SGIR except as mutually agreed upon by the parties.
- 13.3. Tier 4 Interconnection Review Procedure
  - 13.3.1. The Applicant must submit its Application and appropriate fees to the Public Utility at its designated address. The Application form is available on the Commission web site as Form 2.
  - 13.3.2. The Public Utility must, within 10 business days of receipt of the Application, inform the Applicant that the Application is either complete or incomplete. If the application is incomplete, the Public Utility must indicate what information is missing. In the event the Applicant does not receive notification within 10 business days, the Applicant may contact the Public Utility to determine the status of the Application.
  - 13.3.3. If the Public Utility does not have a record of receipt of the Application, the Applicant must provide the Public Utility with an additional copy of the Application. If the Applicant can demonstrate that the original completed Application was delivered to the Public Utility, the Public Utility must forgo the initial 10 business day response period and complete its review within 20 business days of its receipt.
  - 13.3.4. Queuing Priority: Once the Public Utility deems the Application to be complete, it must assign the project a Queue Position unless a queue position was already assigned under a previous lower-Tier Application that was not approved. The Queue Position of each Application is used to determine any potential Adverse System Impacts of the proposed Small Generator Facility based on the relevant data contained in the Application, the outcomes of the various studies and the Applicant's desired interconnection location. The Applicant must proceed under the timeframes of this section. The Public Utility must schedule a Scoping Meeting to notify the Applicant about other higher-queued Applications including, but not limited to, FERC Interconnection Application on the same radial line or Area Network to which the Applicant is seeking to interconnect.

- 13.3.5. If in the process of evaluating the completed Application, the Public Utility determines that supplemental or clarifying information is required, the Public Utility must request the information. The time required for the receipt of the additional information may extend the time before the Scoping Meeting can be convened but only to the extent of the time required for the receipt of the additional information. The Public Utility may not alter the Applicant's Queue Position. Supplemental or clarifying information can be provided in the scoping meeting.
- 13.3.6. Studies: By mutual agreement of the Parties, the Scoping Meeting, Interconnection Feasibility Study, Interconnection Impact Study, or Interconnection Facilities Studies (or any combination thereof) as set forth in these Tier 4 procedures may be waived.
- 13.3.7. Scoping Meeting: A Scoping Meeting must be held within 10 business days, or as agreed upon by the Parties, after the Public Utility has notified the Applicant that the Application is deemed complete. The purpose of the meeting is to review the Application including any existing studies relevant to the Application, (such as the results from the Tier 1, Tier 2 or Tier 3 screening criteria and studies or, if available, the Applicant's analysis of the proposed interconnection using the same criteria as the Public Utility applies to the Application). Parties are expected to bring to the Scoping Meeting such personnel, including system engineers and other resources, as may be reasonably required to accomplish the purpose of the meeting. Some Scoping Meeting outcomes may include:
  - 13.3.7.1. An identification of the need for further studies as described in sections 13.4, 13.5 and 13.6 and a mutually agreed to study timeline based on the Public Utility resources and work load;
  - 13.3.7.2. Possible changes or modifications to the Application to facilitate the interconnection or reduce costs; or
  - 13.3.7.3. No changes at all and the Public Utility being able to proceed with the Application without further studies. In any case, where changes result from the scoping meeting, the Applicant maintains the assigned queue position so long as the additions or changes to the Application can be rectified within a 10 business day window, or a period mutually agreed upon by parties, from the date of notification.
- 13.3.8. If the Parties agree at the Scoping Meeting that a Study as described in Sections 13.4, 13.5 and 13.6 needs to be performed, the Public Utility shall provide the appropriate Study Agreement to the Applicant which specifies an outline of the study scope, a good faith, non-binding estimate of the cost to perform the study and any study deposit per Section 7.7 within 15 business days. The Applicant shall return an executed copy of the Study Agreement along with the required study deposit within 60 calendar days of receipt of the

Agreement, or as mutually agreed by the Parties, or the Application shall be deemed withdrawn. A model form of the Study Agreements are provided on the Commission's website.

13.4. Interconnection Feasibility Study:

- 13.4.1. The Public Utility must commence the Interconnection Feasibility Study upon receipt of an executed Interconnection Feasibility Study Agreement and study deposit. The study shall be completed within the timeline agreed to between the parties at the Scoping Meeting. The study must evaluate the effects of the proposed Small Generator Facility on the existing Public Utility's EDS and look for possible Adverse System Impacts. Some Feasibility Study outcomes may include:
  - 13.4.1.1. Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
  - 13.4.1.2. Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;
  - 13.4.1.3. Initial review of grounding requirements and system protection; and
  - 13.4.1.4. Description and estimated cost of Interconnection Facilities and System Upgrades required to interconnect the Small Generator Facility to the Public Utility in a safe and reliable manner.
- 13.4.2. If the Applicant asks that the Interconnection Feasibility Study evaluate multiple potential points of interconnection, the Public Utility will perform the additional evaluations at the Applicant's expense.
- 13.4.3. The Interconnection Facility Study report must, at a minimum:
  - 13.4.3.1. State the underlying assumptions of the study,
  - 13.4.3.2. Show the results of the analyses, and
  - 13.4.3.3. Identify any possible Adverse System Impacts or other potential impact.
- 13.4.4. If the Interconnection Feasibility Study identifies possible Adverse System Impacts caused by the Small Generator Facility, an Interconnection System Impact Study will be required.
  - 13.4.4.1. The Public Utility shall contact the Applicant to schedule an optional Interconnection Feasibility Study results meeting to review the Feasibility Study report and discuss the identified possible Adverse System Impacts along with any other potential impacts. The Parties may also mutually agree to adjust the study timeline determined at the Scoping Meeting based upon the Interconnection Feasibility Study results.

- 13.4.4.2. Within 15 business days of the Feasibility Study results meeting, the Public Utility shall provide an Interconnection System Impact Study Agreement to the Applicant which specifies an outline of the study scope, a good faith, non-binding estimate of the cost to perform the study and any required study deposit per Section 7.7. The Applicant shall return an executed copy of the Interconnection System Impact Study Agreement along with the required study deposit within 60 calendar days of receipt of the Agreement, or as mutually agreed to by the Parties, or the Application shall be deemed withdrawn. A model form of an Interconnection System Impact Study Agreement is provided on the Commission's website.

### 13.5. Interconnection System Impact Study

- 13.5.1. The Public Utility must commence the Interconnection System Impact Study upon receipt of an executed Interconnection System Impact Study Agreement and study deposit. The study shall be completed within timeline agreed to between the parties at the Scoping Meeting or Interconnection Feasibility Study results meeting. The study must evaluate the Adverse System Impacts identified in the Interconnection Feasibility Study, and study other potential impacts including, but not limited to, those identified in the Feasibility Study results meeting or Scoping Meeting.
- 13.5.2. The study must consider all generating facilities that, on the date the Interconnection System Impact Study is commenced:
  - 13.5.2.1. Are directly interconnected with the Public Utility's system or;
  - 13.5.2.2. Have a pending higher Queue Position to interconnect to the system or;
  - 13.5.2.3. Have a signed Interconnection Agreement.
- 13.5.3. The study may include, among other things:
  - 13.5.3.1. A short circuit analysis,
  - 13.5.3.2. A stability analysis,
  - 13.5.3.3. A power flow analysis,
  - 13.5.3.4. Voltage drop and flicker studies,
  - 13.5.3.5. Protection and set point coordination studies, and
  - 13.5.3.6. Grounding reviews.
- 13.5.4. The Interconnection System Impact Study report must:
  - 13.5.4.1. State the underlying assumptions of the study,

- 13.5.4.2. Show the results of the analyses,
- 13.5.4.3. Identify any Interconnection Facilities and System Upgrades required to allow the proposed interconnection to occur, and
- 13.5.4.4. A good faith, non-binding estimate of the identified Interconnection Facilities and System Upgrades and an estimated delivery schedule.
- 13.5.5. If the Applicant sponsored a separate independent system impact study, the Public Utility must also evaluate and address any alternative findings from that study at the Applicants expense.
- 13.5.6. If Interconnection Facilities or System Upgrades are found to be necessary in the System Impact Study, a Facilities Study will be required.
  - 13.5.6.1. The Public Utility shall contact the Applicant to schedule an optional Interconnection System Impact Study results meeting to review the Interconnection System Impact Study report and discuss the identified Interconnection Facilities and System Upgrades. The Parties may also mutually agree to adjust the study timeline determined at the Scoping Meeting based upon the Interconnection System Impact Study results.
  - 13.5.6.2. Within 15 business days, or a period mutually agreed upon by the parties, the Public Utility shall provide an Interconnection Facilities Study Agreement to the Applicant which specifies the study scope, a good faith, non-binding estimate of the cost to perform the study and any required study deposit per Section 7.7. The Applicant shall return an executed copy of the Interconnection Facilities Study Agreement along with the required study deposit within 60 calendar days of receipt of the Agreement, or as mutually agreed to by the Parties, or the Application shall be deemed withdrawn. . A model form of an Interconnection Facilities Study Agreement is provided on the Commission's website.
- 13.6. Interconnection Facilities Study
  - 13.6.1. The Public Utility must commence the Interconnection Facilities Study upon receipt of an executed Interconnection Facilities Study Agreement and study deposit. The study shall be completed within timeline agreed to between the parties at the Scoping Meeting, or Interconnection System Impact Study results meeting.
  - 13.6.2. The Interconnection Facilities Study shall evaluate the cost of equipment, engineering, procurement and construction work (including overheads) needed to implement the interconnection of the proposed Small Generator Facility as identified in the Scoping Meeting and any completed studies.
  - 13.6.3. The Interconnection Facilities Study must identify, at a minimum:

- 13.6.3.1. The electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment;
  - 13.6.3.2. The nature and estimated cost of the Public Utility's Interconnection Facilities;
  - 13.6.3.3. The nature and estimated cost of the Public Utility's or Affected System's EDS System Upgrades; and
  - 13.6.3.4. A detailed estimate of the time required to procure materials and equipment and complete the construction and installation of such facilities.
- 13.6.4. Parties may agree to permit the Applicant to separately arrange for a third party to design and estimate the construction costs for the required Interconnection Facilities. In such a case, the Public Utility must review the design and cost estimates of the facilities, under the provisions of the Interconnection Facilities Study Agreement. If the Parties agree to separately arrange for design and construction estimates, and comply with any security and confidentiality requirements, the Public Utility must make all relevant information and required specifications available to the Applicant at no cost in order to permit the Applicant to obtain an independent design and cost estimate for the facilities, to be built in accordance with such specifications.
- 13.7. Approval: Upon completion of the Interconnection Facilities Study and execution of an agreement between the Parties detailing progress billing, final billing, payment schedules and deposit per Section 7.8, the Public Utility must approve the Application.
- 13.7.1. The interconnection customer must provide the Public Utility at least 20 days notice of the planned commissioning for the small generator facility.
  - 13.7.2. The Public Utility has the option of conducting a witness test at a mutually agreeable time within 10 business days prior to the scheduled commissioning or waiving the test and notifying the Applicant. If the Public Utility does not conduct the witness test within 10 business days prior to the scheduled commissioning or within the time otherwise mutually agreed upon by the parties, or if the Public Utility notifies the Applicant of its intent not to perform the test, the witness test is deemed waived.
- 13.8. Non-Approval: If the Application is denied, the Public Utility must provide a written explanation explaining why the Application was denied.
- 13.9. Interconnection of the Small Generator Facility: The Interconnection is not complete until:
- 13.9.1. All Interconnection Facilities and System Upgrades identified through Sections 13.3 through 13.6 are completed and operational;

- 13.9.2. The Small Generator Facility installation is inspected and approved by the electric code inspector with jurisdiction over the interconnection;
  - 13.9.3. There is a successful completion of the Witness Test, if conducted by the Public Utility;
  - 13.9.4. The Parties execute a Certificate of Completion; and.
  - 13.9.5. The Parties execute an Interconnection Agreement.
- 13.10. **Witness Test Not Acceptable:** If the Witness Test is conducted and is not acceptable to the Public Utility, the Applicant must be allowed a period of 30 calendar days to resolve any deficiencies. The Parties may mutually agree to extend the time period for resolving any deficiencies. If the Applicant fails to resolve the deficiencies to the satisfaction of the Public Utility within the agreed upon time period, the Application is deemed withdrawn. The Applicant has the right to submit a new Interconnection Request for consideration at a later time but relinquishes the current Small Generation Facility's position in the queue.
- 13.11. **Operation:** The Applicant must notify the Public Utility prior to commencing operation and must operate the Small Generator Facility in accordance with the executed Interconnection Agreement and the executed Power Purchase Agreement.

#### **14. Recordkeeping and Reporting Requirements**

- 14.1. The Public Utility must maintain, for a period of not less than two years, a record of all Applications received, the time required to complete its review of each Application, and reasons for the actions taken on the Applications.
- 14.2. The Public Utility must maintain, for as long as the interconnection is in place, a record of all Interconnection Agreements completed, including the related "As Built" Form 7 that records equipment specifications and initial settings. The utility must provide a copy of these records to the Applicant or Interconnection Customer within 15 business days upon receipt of a written request.

#### **15. Metering and Monitoring**

- 15.1. **Metering:** The Interconnection Customer is responsible for the cost of the purchase, installation, operation, maintenance, testing, repair, and replacement of any special metering and data acquisition equipment deemed necessary by the terms of the (separate) Power Purchase Agreement except that Tier 1 customers may use existing metering equipment unless the Public Utility elects to install metering equipment at its expense. The Public Utility must install, maintain and operate the metering equipment. Parties must be granted unrestricted access to such equipment as may be necessary for the purposes of conducting routine business.
- 15.2. **Monitoring:** Small Generator Facilities approved and interconnected to the Public Utility under a Tier 1, Tier 2 or Tier 3 Interconnection Application, and under a Tier

4 Interconnection Application, up to an Electric Nameplate Capacity rating of 3 MW, except as noted herein, are not required to provide for remote monitoring of the electric output by the Public Utility. Tier 4 Interconnection Applications with Electric Nameplate Capacities greater than 3 MW or Tier 3 Interconnection Applications where the aggregated generation on the circuit, including the Applicant's Small Generator Facility, would exceed 50 percent of the line section annual peak load may be required to provide remote monitoring at the Public Utility's discretion. For Small Generator Facilities required to provide remote monitoring pursuant to provisions this subsection, the data acquisition and transmission to a point where it can be used by the Public Utility's control system operations must meet the performance based standards described in Section 15.3. Any data acquisition and telemetry equipment required by this rule must be installed, operated and maintained at the Interconnection Customer's expense.

- 15.3. Telemetry is the remote communication from a Small Generator Facility to a point on the Public Utility's communication network where the data can be assimilated into the Public Utility's grid operations if desired.
  - 15.3.1. Parties may mutually agree to waive or modify any of the telemetry requirements contained in Section 15.3 of this rule.
  - 15.3.2. The communication must take place via a Private Network Link using a Frame Relay or Fractional T-1 line or other such suitable device. Dedicated Remote Terminal Units, from the Interconnected Small Generator Facility to a Public Utility's substation and Energy Management System are not required.
  - 15.3.3. A single communication circuit from the Small Generator Facility to the Public Utility is sufficient.
  - 15.3.4. Communications protocol must be DNP 3.0 or other standard used by the Public Utility.
  - 15.3.5. The Small Generator Facility must be capable of sending telemetric monitoring data to the Public Utility at a minimum rate of every 2 seconds (from the output of the Small Generator Facility's telemetry equipment to the Public Utility's Energy Management System).
  - 15.3.6. The minimum data points that a Small Generator Facility is required to provide telemetric monitoring to the Public Utility on are:
    - 15.3.6.1. Net real power flowing out or into the Small Generator Facility (analog);
    - 15.3.6.2. Net reactive power flowing out or into the Small Generator Facility (analog);
    - 15.3.6.3. Bus bar voltage at the point of common coupling (analog);

- 15.3.6.4. Data Processing Gateway (DPG) Heartbeat (used to certify the telemetric signal quality); and
- 15.3.6.5. On-line or off-line status (digital).
- 15.3.7. If an Interconnection Customer operates the equipment associated with the high voltage switchyard interconnecting the Small Generator Facility to the EDS, and is required by this rule to provide monitoring and telemetry, the Interconnection Customer must provide the following monitoring to the Public Utility in addition to provisions in Subsection 15.3.5 above:
  - 15.3.7.1. Switchyard Line and Transformer MW and MVAR values;
  - 15.3.7.2. Switchyard Bus Voltage; and
  - 15.3.7.3. Switching Devices Status.

## **16. Temporary Disconnection**

- 16.1. The Public Utility or Interconnection Customer may temporarily disconnect the Small Generator Facility from its EDS at any time and for as long as reasonably necessary in the event one or more of the following conditions or events occurs:
  - 16.1.1. Under emergency conditions, the Public Utility or the Interconnection Customer may immediately suspend interconnection service and temporarily disconnect the Small Generator Facility.
    - 16.1.1.1. The Interconnection Customer must notify the Public Utility promptly when it becomes aware of an emergency condition that may reasonably be expected to affect the Public Utility's EDS.
    - 16.1.1.2. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.
  - 16.1.2. Parties must make reasonable efforts to provide 5 business days notice prior to interruption caused by routine maintenance or construction and repair to the Small Generator Facility or Public Utility's EDS and must use reasonable efforts to coordinate such interruption.
  - 16.1.3. In the case forced outages of the EDS, the Public Utility must use reasonable efforts to provide the Interconnection Customer with prior notice of forced outages to effect immediate repairs to the EDS. If prior notice is not given, the Public Utility must, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

- 16.1.4. If the Public Utility determines that operation of the Small Generator Facility will likely cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generator Facility could cause damage to the Public Utility's EDS then the Public Utility may disconnect the Small Generator Facility under the procedures of this section.
  - 16.1.4.1. The Public Utility must provide the Interconnection Customer supporting documentation used to reach the decision to disconnect upon request.
  - 16.1.4.2. The Public Utility may disconnect the Small Generator Facility if, after receipt of the notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, no less than 5 business days from the date the Interconnection Customer receives the Public Utility's written notice supporting the decision to disconnect, unless emergency conditions exist, in which case the Temporary Disconnection provisions of Interconnection Agreement apply.
- 16.2. If the Interconnection Customer makes any change other than Minor Equipment Modifications without prior written authorization of the Public Utility, the Public Utility has the right to temporarily disconnect the Small Generator Facility.

## **17. Termination and Default**

- 17.1. No termination is effective until the Parties have executed provisions of this section applicable to such termination.
  - 17.1.1. The Interconnection Customer may terminate the Interconnection at any time by giving the Public Utility 20 business days' written notice.
  - 17.1.2. Either Party may terminate their Interconnection after default pursuant to section 17.2 of this rule.
  - 17.1.3. The Commission may terminate the Interconnection
  - 17.1.4. Upon termination of the Interconnection, any Small Generator Facility Interconnection Equipment must be disconnected from the Public Utility's EDS at the Interconnection Customer's expense. The termination of the Interconnection does not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.
- 17.2. Default: Failure of a Party or Parties to meet the obligations of the SGIR may constitute Default. Upon a default, the non-defaulting Party must give written notice of such default to the defaulting Party. The defaulting Party has 60 calendar days from receipt of the default notice within which to cure such default. If a default is not capable of being cured within 60 calendar days, the non-defaulting Party has the right to terminate the Interconnection Agreement by written notice.

## **18. Dispute Resolution**

- 18.1. Before filing a Complaint with the Commission, the Public Utility, Applicant or Interconnection Customer must first provide the other Party and Commission Staff with a written Notice of Dispute (Notice). Such Notice may describe in detail the nature of the dispute and a proposed resolution. Commission Staff may assist the parties in informal resolution if so requested. In the event the parties are unable to resolve the dispute within 30 calendar days or such other period as the Parties may agree upon by mutual agreement, the complaining party may formally file a Complaint with the Commission according to ARSD 20:10:01:08.01.

**End**