Jim Wilcox, Manager,
Government & Regulatory Affairs
500 West Russell Street
P.O. Box 988
Sioux Falls, SD 57101-0988
Telephone (605) 339-8350 fax 612/573-9083
internet - james.c.wilcox@xcelenergy.com

April 3, 2008

Ms. Patricia Van Gerpen, Executive Director
South Dakota Public Utilities Commission
State Capitol Building
500 East Capitol Avenue
Pierre, South Dakota 57501-5070

Re: EL06-018 - In the Matter of the Consideration of the New PURPA Standards; Xcel Energy comments on the "Straw man" proposed Small Generation Interconnection Rules.

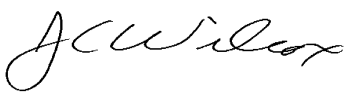
Dear Ms. Van Gerpen:

Attached is a Microsoft Word document containing Xcel Energy's proposed revisions to the "Straw man" document discussed at the technical conference in Pierre on March 18 and 19, 2008.

The Company looks forward to continuing the dialogue and moving toward a final version of the SD Administrative Rules in this matter.

If anyone has any questions, please call me at 339-8350

Sincerely,



Jim Wilcox

1. Scope and Applicability *Xcel Energy Comments & Language Proposals- April 3, 2008*

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 a combined facility electric nameplate capacity of 10 MW or less to the electric distribution system of a Public Utility. The SGIR is intended to be used as the basis for the interconnection process and technical framework for facilities greater than 10 MW. These rules apply to state jurisdictional Small Generator Facilities interconnecting with the electric distribution system.

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.

Formatted
Formatted
Deleted: n
Deleted: 2
Deleted: transmission and
Deleted:
Comment: Page: 1
Very few feeders can accommodate DGs greater than 10 MW. Very few DGs will be rated over 10 MW. The IEEE 1547 series cover only up to 10 MW but are good starting points for larger than 10 MW requirements. The SGIR and the Technical Standards are appropriated for smaller, less complex installations. Multi-MW installations usually push the envelop of what can be accommodated on distribution. This usually requires more extensive system modification, complex controls and relaying. Applicants for these large installations have retained skilled consultants and both parties understand what is needed and can negotiate these alternate approaches. These large Applicants have the business, legal, and technical resources to take care of themselves. The rules need to allow big players this option or the utility will be forced to reject some Applications that otherwise could be accommodated. It is appropriate to set the tone for the bigger units but not be rigid in process, time frames, or technical requirements.
Deleted: These rules do not apply if the small generator facility is producing electricity for resale to a person other than the interconnecting Public Utility.
Deleted: s
Deleted: g
Deleted: f
Comment: Page: 1
One possible approach to clarify the jurisdictional question. This, plus changing TDS to EDS and defining queue should keep clarify the intent and scope of this document and minimize confusion of the evolving FERC jurisdictional definitions.
Deleted: s
Deleted: i
Deleted: transmission and
Deleted: An Application must follow the standard form application developed by the Public Utility and filed with and approved by the 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.

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. Consistent with SDCL 49-34A-1 (7) "Electric utility," is 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;

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 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 by the Institute of Electrical and Electronics Engineers (IEEE) entitled "Conformance Test Procedures

Deleted: completion

Deleted: The Certificate of Completion must follow the standard form developed by the Public Utility and filed with the Commission.

Deleted: "Public

Deleted: u

Deleted: Utility" has the meaning set forth in **[substitute SD statutory citation]** and is limited to a public utility that provides electric service.

Inserted: U

Deleted: Transmission and

Deleted: T

Deleted: u

Deleted: p

Comment: Page: 2
If SD law permits, the standard year for all standards should be omitted or a phrase to the effect "and as updated". We desire the rules to stay current without re-opening.

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.

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.

3.22. "Interconnection Feasibility Study" means a preliminary evaluation of the system impact and cost of interconnecting the Small Generator Facility to the 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.

Deleted: agreement

Deleted: T

Deleted: small

Deleted: generator

Deleted: facility

Comment: Page: 3
The balance of the text and the attachments require use of agreements attached to SGIR, not utility written agreements.

Deleted: An interconnection agreement will follow the standard form agreement developed by the public utility and filed with the Commission

Deleted: .

Deleted: e

Deleted: small generator facility

Deleted: T

Deleted: f

Deleted: small generator facility

Deleted: T

Deleted: T

Deleted: s

Deleted: An Interconnection Facilities Study Agreement will follow the standard form agreement developed by the public utility and approved by the Commission.

Deleted: EDC's

Deleted: T

Deleted: T&D System.

Deleted: f

Deleted: s

Deleted: a

Deleted: 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).

Deleted:

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.

Deleted: T

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.

Deleted: An interconnection system impact study agreement will follow the standard form agreement developed by the public utility and approved by the 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.

Deleted: T

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

Deleted: T

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

Deleted: T&D System

Generator Facility to the EDS or for the Small Generator Facility and the 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 a facility combined electric nameplate capacity of 10 MW of 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.

Deleted: T&D System

Deleted: T&D System

Comment: Page: 5
This defines duration and limits applications to safe, UL listed equipment. The utility discretion can be delete with agreement of the WS participants.

Deleted: Net Metering Facilities,

Deleted: s

Deleted: T

Comment: Page: 5
This is one possible approach to ensure timely treatment of state DGs without risking severe delays due to transmission generator applications.

Deleted: T

Deleted: 0

Deleted: n

Deleted: 20

Deleted: T

Deleted: T

Deleted: T

3.41. "Technical Standards" means IEEE 1547 and the 1547.1 - 1547.6 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.

Comment: Page: 6
The whole 1547 series needs to incorporated. While 1547 is the primarily document and the main basis for analyzing applications and specifying interconnection requirements, others in the series provide additional details. Some are under development but all will be relevant and should be used once approved. This is one proposed way of addressing the clarity of the technical requirements. Additional verbiage can be added in other parts instead or in addition .

Formatted: Bullets and Numbering

Deleted: operating at or above 50,000 volts

Comment: Page: 6
One possible approach to defining Transmission. This gives a publicly available source to determine if a line is T or D.

Deleted:

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.

Deleted:

Deleted: T&D System

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 25 kW or less must use application Form 1 which is a Tier 1 application form. Applications for all other Small Generator Facilities up to 20 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

Deleted: No fee required.

4.2.2. Tier 2: $500 $50 plus $1 per kW of rated generating facility output up to a maximum of $500.

4.2.3. Tier 3: $1000 $100 plus $2 per kW of rated generating facility output up to a maximum of $1,000.

4.2.4. Tier 4: $1000 $100 plus $2 per kW of rated generating output facility up to a maximum of $1,000.

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. By mutual agreement, the review process can move directly to the next tier without filing a separate formal 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. Tier 1 Interconnection for evaluation of all Applications to connect Small Generation Facilities

4.3.1.1. The Facility Electric Nameplate Capacity rating is 25 kW or less,

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 Tier 2 Interconnection for evaluating all Applications to connect Small Generation Facilities:

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;

Comment: Page: 7
The initial processing, technical review, and Scoping Meeting cost will exceed this fee amount. The formal studies should be charged separately as needed. For small DGs that are in Tier 4, often the initial technical review is adequate and no additional study is needed.

Deleted: Any Tier 4 deposit applies against the study fee

Deleted: .

Comment: Page: 7
In many cases, the extra time delay of a separate application to the new tier is unnecessary. The language should allow a shift on paper without a formal application when this is appropriate.

Comment: Page: 7
It is desirable to repeat the language that makes it clear that it is the facility rating, not the individual generator rating that sets the limit.

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. The Application does not qualify for a Tier 1 review.

4.3.3. Tier 3 Interconnection Review Procedures: An Applicant with a proposed project capacity of 2 MW or less that does not qualify for Tier 1 or Tier 2 review and does not export power beyond the Point of Interconnection may request to be evaluated under Tier 3 procedures more specifically set forth in Section 12 Tier 3 Interconnection.

Deleted: 10

4.3.4. Tier 4 Interconnection Review Procedures: an Public Utility must use the Tier 4 review procedures more specifically set forth in Section 13 Tier 4 Interconnection for evaluating all Applications to connect Small Generation Facilities that:

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,

Deleted: 2

4.3.4.3. Do not qualify for or have failed either the Tier 1, Tier 2 or Tier 3 interconnection review procedures.

4.3.4.4. Small Generator Facilities rated over 10 MW start with the Tier 4 process and modify it as needed by mutual agreement. The over 10 MW technical requirements start with the Technical Standards and are modified as needed by mutual agreement.

Formatted: Bullets and Numbering

Comment: Page: 8
The change of Tier 4 to 10 MW and the addition of this over 10 MW requirement ensures there is no size gap and provides workable rules scaled to the project size and the sophistication of the parties involved.

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:

Deleted: commiserate

4.5.1. The facility has not undergone anything other than minor modifications, as determined by the Public Utility, since the expired agreement was approved, and;

4.5.2. Conditions on the EDS are essentially the same as when the agreement was originally approved.

Deleted: T&D system

4.6. Use of Consultants: A Small Utility that uses a consultant to review a proposal to interconnect a Generating Facility with the Small Utility's System may extend each of the time deadlines for review of Tier 2 *and Tier 3* by a period not to exceed twenty (20) Business Days provided that the Small Utility shall make a good faith effort to complete the review sooner.[1]

Formatted: Bullets and Numbering

Formatted

Comment: Page: 9
This is the language used in the NM rule to accommodate utilities that were too small to have staff with the expertise necessary for the more complex reviews. Note that NM does not have a Tier 3. The NM rules did not accommodate workload issues.

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 capacity of its existing Small Generator Facility or if it changes its Small Generator Facility equipment or operations that increase its 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 capacity of its proposed Small Generator Facility, it must submit a new application and will relinquish its original Queue Position. By mutual agreement, the review may proceed with the new capacity without filing a new formal application provided the new capacity does not materially change the review or the system impact.

5.3. Point of Contact:

5.3.1. 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.

Formatted: Bullets and Numbering

Deleted: T&D System

Deleted: T&D System

5.3.2. The Applicant must designate a contact person etc.

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

[1] Definition used in NM: **Small Utility** means a Utility that serves less than 50,000 customers.

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 desired 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. By mutual agreement, the review may proceed with the proposed changes without filing a new formal application provided the changes do not materially change the review or the system impact.

Deleted:

5.6. Site Control: Documentation of site control must be available and, if the Applicant is not currently a customer of the Public Utility, 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 qualifying for interconnection under Tier 1, Tier 2, Tier 3 or Tier 4 interconnection review procedures 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 Tier 1 Small Generator Facilities interconnecting to a Secondary Line, the isolation must be by means of a lockable isolation device whose status is clearly indicated and is readily accessible by the Public Utility. An exception is allowed for a Small Generation Facility that has a maximum total output of 30 amperes or less, is connected to a Secondary Line of 240 V or less, utilizes

Comment: Page: 11
The 30 ampere and 240V limits are not needed if a separate accessible load break device is made available such as the breakers in the inverter as allowed in the NM approach, see footnote.

Lab Tested, inverter-based Interconnection Equipment and is interconnected to the EDS through a Public Utility-owned metered service using a self contained meter. In this case, the meter base may serve as the required isolation device, provided it is readily accessible to the Public Utility and its use does not interrupt service to the building load.[2]

Deleted: T&D System

Comment: Page: 11
This meter is between the PV and the house load center or connected between the PV and the incoming service upstream of the house meter. This is not clear as written. It would be clearer if this item were restructured like the NM language, see footnote.

5.9.3. 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.

5.9.3.1. A draw-out type circuit breaker with the provision for padlocking at the draw-out position can be considered an isolation device for purposes of this requirement. 24/7 access by the utility must be provided by either on-site personnel or in accordance with 5.9.3.2.

Comment: Page: 11
Draw out breakers are of no use if they cannot be accessed in an emergency.

5.9.3.2. Alternatively, 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.

Deleted: t

Deleted: s

Comment: Page: 12
This suggested wording change and approach requires the definition of Technical Standard that was added to the Definition section.

Deleted: IEEE standard 1547

[2] The following language was used in NM and serves the same intent, note this a 10 kW limit and all Tier 1 would be expected to be in a net metering configuration:

A visible-open, load break disconnect switch between the Generating Facility and the Utility System that is visibly marked "Generating Facility Generation Disconnect" and is accessible to and lockable by the Utility is required for all Generating Facilities except for those Generating Facilities with a maximum capacity rating of 10 kW or less that use a Certified Inverter including a self-contained renewable energy certificate (REC) meter and either:
1. a Utility accessible AC load break disconnect; or
2. a Utility accessible DC load break disconnect where there is no other source of generated or stored energy connected to the system.

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.

Deleted: IEEE Standard 1547

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 using an engineering cost not to exceed $100 per hour (a factor that may be escalated annually, at the Public Utility's election, for inflation at the CPI index).

Deleted: must be paid for by the Applicant

Deleted: s

Deleted: a

Comment: Page: 12
This may be reasonable compensation for utilities with in-house expertise. Small utilities, such as many munis and coops, do not have the expertise. Consultants that are competent in DG interconnections charge significantly more than the $100 limit. The utility and its other customers should not have to subsidize this. Also refer to proposed rule 4.6 on consultants.

7.1.1. ***See discussion in footnote for recovery of consultant fees.***[3]

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; are 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. The Applicant must agree to these costs in writing. If the costs are not authorized by the Applicant, the application will be deemed withdrawn.

Formatted

Formatted: Bullets and Numbering

Deleted: T&D System

Deleted: T&D Systems

Deleted: T&D

Deleted: T&D

Deleted: bare

Deleted: T&D

Deleted: as may be necessary to gain approval of an Application.

Comment: Page: 13
It is good practice to have the Applicant approve all expenditures that they will be billed for. This approval is part of their cost control and it should be their decision on go or no-go at such junctures.

7.3. Interconnection Facilities: The Public Utility must identify under the review procedures of a Tier 2 or 3 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.

Deleted: A

Comment: Page: 13
Tier 3 will have interconnection facility additional requirements in most cases.

[3] There are two ways to address the limit of $100 an hour being too low. One is to allow collection of the difference for only small utilities with limited staff. This is the approach used in NM:

In addition to the fees authorized by this rule, a Small Utility may collect from the Interconnection Customer the reasonable costs incurred to obtain necessary expertise from consultants to review Interconnection Applications for Generating Facilities with rated capacities greater than 10 kW. A Small Utility shall provide a good faith estimate of the costs of such consultants to an Interconnection Customer within ten (10) Business Days of the date the Interconnection Application is delivered to the Utility.

The second is to allow all utilities to collect. The utility would have to justify why outside consultants are required; i.e., why work load or lack of internal expertise make this necessary. This could be tempered by requiring the Applicant to agree to the extra or to expect extensive delays in review otherwise.

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 must design, procure, construct, install, and own any System Upgrades. The actual cost of the System Upgrades, including overheads, is directly assigned to the Applicant. The Applicant must agree to these costs in writing. If the costs are not authorized by the Applicant, the Application will be deemed withdrawn.

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 who may be entitled to financial compensation from other Public Utility's, 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 not more than 50 percent of the cost estimate, to be paid in advance by the Applicant for studies necessary to complete an interconnection to the EDS. For interconnection applications for 500 kW or less, the deposit shall not to exceed $1000.

7.8. The Public Utility may require an initial deposit of no more than 25% of the estimated costsfor Interconnection Facilities necessary to complete an interconnection to theEDS. Progress billing, final billing and payment schedules must be agreed to by Parties prior to commencing work. For interconnection applications for 500 kW or less, the deposit shall not to exceed $10,000

8. Insurance[4]

[4] **Insurance Proposal 1 (Text used in the MN state rules:)**

1) At a minimum, in connection with the Interconnection Customer's performance of its duties and obligations under the Interconnection Agreement, the Interconnection Customer shall maintain, during the term of the Agreement, general liability insurance, from a qualified insurance agency with a B+ or better rating by "Best" and with a combined single limit of not less than:

   a) Two million dollars ($2,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is greater then 250 kW.

   b) One million dollars ($1,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is between 20 kW and 250 kW.

   c) Three hundred thousand ($300,000) for each occurrence if the Gross Nameplate Rating of the Generation System is less than 20 kW.

Comment: Page: 13
It is good practice to have the Applicant approve all expenditures that they will be billed for. This approval is part of their cost control and it should be their decision on go or no-go at such junctures.

Deleted: , not to exceed $1000,

Deleted: T

Comment: Page: 13
For larger interconnection studies, such as 2-20 MW, the studies are extensive. $1000 will not begin to pay for the studies specified under Tier 4. The large DGs are multi-million dollar projects and the utility should not be taking the financial risk for them. The language proposed is one approach to addressing this.

Deleted: , not to exceed $10,000

Deleted: T&D System

Comment: Page: 13
For larger interconnection studies, such as 2-20 MW, the modification cost can be up into the multi-million dollar range. $10000 will not begin to pay for the project cancellation costs for these. The large DGs are multi-million dollar projects and the utility should not be taking the financial risk for them. The language proposed is one approach to addressing this.

Comment: Page: 14
The insurance requirements should reflect the insurance that any responsible home owner or business would normally carry. In most cases, there is little or no added cost incurred due to the proposed requirements. Some customers are self insured such as large corporations and government entities. The insurance requirements need to reflect the needs of these customers. The CO and the MN text are included in two footnotes as possible wording. Both take a graduated approach.

Formatted

Formatted: Bullets and Numbering

8.1.

8.2. [5]

Deleted: General liability insurance is not required for approval of an interconnection Application, or for the related Interconnection Agreement, for a Small Generator Facility with an Electric Nameplate Capacity of 200 KW or smaller

Deleted: All other Interconnection Customers must obtain prudent amounts of general liability insurance to protect any person who may be affected by their Small Generator Facility and its operation.

Deleted:

d) Such general liability insurance shall include coverage against claims for damages resulting from (i) bodily injury, including wrongful death; and (ii) property damage arising out of the Interconnection Customer's ownership and/or operation of the Generation System under this agreement.

2) The general liability insurance required shall, by endorsement to the policy or policies, (a) include the Company Operator as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that the Company Operator shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for the payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to the Company Operator prior to cancellation, termination, alteration, or material change of such insurance.

3) If the Generation System is connected to an account receiving residential service from the Company Operator and it total generating capacity is 20 kW or smaller, then the endorsements required in Section 2 shall not apply.

4) The Interconnection Customer shall furnish the required insurance certificates and endorsements to the Company Operator prior to the initial operation of the Generation System. Thereafter, the Company Operator shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance

5) Evidence of the insurance required in Section 1 shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by the Company Operator.

6) If the Interconnection Customer is self-insured with an established record of self-insurance, the Interconnection Customer may comply with the following in lieu of Section 1 - 5:

7) Interconnection Customer shall provide to the Company Operator, at least thirty (30) days prior to the date of initial operation, evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under Section 1 - 5.

8) If Interconnection Customer ceases to self-insure to the level required hereunder, or if the Interconnection Customer is unable to provide continuing evidence of it's ability to self-insure, the Interconnection Customer agrees to immediately obtain the coverage required under Section 1 - 5.

Failure of the Interconnection Customer or Company Operator to enforce the minimum levels of insurance does not relieve the Interconnection Customer from maintaining such levels of insurance or relieve the Interconnection Customer of any liability.

[5] Insurance Proposal 2 (Text in CO rules:)

(A) For systems of ten kW or less, the customer, at its own expense, shall secure and maintain in effect during the term of the agreement liability insurance with a combined single limit for bodily injury and property damage of not less than $300,000 for each occurrence. For systems above ten kW and up to two 2 MW, customer, at its own expense, shall secure and maintain in effect during the term of the agreement liability insurance with a combined single limit for bodily injury and property damage of not less than $2,000,000 for each occurrence. Insurance coverage for systems greater than two MW shall be determined on a case-by-case basis by the utility and shall reflect the size of the installation and the potential for system damage.

(B) Except for those solar systems installed on a residential premise which have a design capacity of ten kW or less, the utility shall be named as an additional insured by endorsement to the insurance policy and the policy shall provide that written notice be given to the utility at least 30 days prior to any cancellation or reduction of any coverage. Such liability insurance shall provide, by endorsement to the policy, that the utility shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for the payment of premium of such insurance. For all solar systems, the liability insurance shall not exclude coverage for any incident related to the subject generator or its operation.

9. Damage Limitation

9.1. Neither Party may seek redress from the other counter 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;

10.1.2. The Small Generator Facility has an Electric Nameplate Capacity of 25 kW or less

10.1.3. The Interconnection Equipment proposed for the Small Generator Facility is Lab Tested Equipment; and

10.1.4.

Comment: Page: 15
Not needed with earlier changes deleting transmission references.

Deleted: The proposed Point of Interconnection is not to a Transmission Line

Deleted: .

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 Net Metering Facilities and FERC wholesale generators and Net Metering Facilities 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.[6] (see footnote for proposed additional language)

(C) Certificates of Insurance evidencing the requisite coverage and provision(s) shall be furnished to utility prior to the date of interconnection of the generation system. Utilities shall be permitted to periodically obtain proof of current insurance coverage form the generating customer in order to verify proper liability insurance coverage. Customer will not be allowed to commence or continue interconnected operations unless evidence is provided that satisfactory insurance coverage is in effect at all times.

[6] The 15% criteria is not adequate for feeders with exceptionally large seasonal loading variations such is common with irrigation feeders in sparse rural areas. One approach is to provide a definition and an alternate screening criteria such as the following from the NM rules:

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 shared secondary service line, the aggregate generation capacity on the shared secondary, which includes the proposed Small Generator Facility and applications with a higher Queue Position, must not exceed the lesser of 20 kW or the service transformer nameplate rating.

Comment: Page: 16
The 20 kW assumes >= 25 kVA transformers. This is not the case in many rural areas.

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 3 business days of receipt of the Application, acknowledge receipt of the application and, within 10 business days of receipt, 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 of receipt of notification (or such other time as the parties mutually agree) or the Application is deemed to be withdrawn.

Deleted: 5

Comment: Page: 17
The notification of receipt and intervals are the method and intervals used in the FERC SGIP, the CO rules, and the NM rules. The 10 days matches the original OR rule. The notification of receipt both acknowledges the receipt of the application and when the 10 day clock began. This ensures the application is not lost in the mail and allows timely follow-up if there is a problem.

Deleted:

Deleted: 5

Comment: Page: 17
Allowances for delivery of notification or applications time lags should be bi-lateral.

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

---

Highly Seasonal Circuit means a circuit with a ratio of annual peak load to off-season peak load greater than six (6).

For Highly Seasonal Circuits only, the "aggregate Generation Facility capacity", including the proposed Generating Facility, on the Line Section shall not exceed 15% of two times the Minimum Daytime Loading.

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, Net Metering Facilities and 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 10 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 of 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 of the scheduled commissioning date or within a time otherwise mutually agreed upon by the Parties, the Witness Test is deemed waived.

Comment: Page: 18
Present and possible future metering requirements are likely to require one or more meter installations and/or replacements. This would be needed if RECs are allowed or self generation or net generation are allowed. This work normally is done as part of the start-up and testing process. 5 days is not adequate to handle meter needs and is very difficult to meet certain times of the year due to vacations and work loads.

Deleted: 5

10.5. Interconnection of a Tier 1 Small Generation Facility: The interconnection process 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; and

10.5.4. The Parties execute a Certificate of Completion and;

10.5.5. The Interconnection Agreement has been signed by both parties.

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. By mutual agreement, the review process can move directly to the next tier without filing a separate formal application.

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;

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

Deleted: .

Formatted: Bullets and Numbering

Comment: Page: 18
In many cases, the extra time delay of a separate application to the new tier is unnecessary. The language should allow a shift on paper without a formal application when this is appropriate.

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 Net Metering Facilities and FERC wholesale generators and Net Metering Facilities and FERC wholesale generators with a higher Queue Position, on the circuit must not exceed 15 percent of the Line Section annual peak load as most recently measured at the substation or calculated for the Line Section. .[7] (see footnote for proposed additional language)

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 Net Metering Facilities and FERC wholesale generators and Net Metering Facilities 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 Net Metering Facilities and FERC wholesale generators and Net Metering Facilities 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 Public Utility equipment on the EDS to be exposed to Fault Currents exceeding 90 percent of the short circuit interrupting capability; and the Small Generator Facility's Point of

Deleted:

Deleted: T&D System

[7] The 15% criteria is not adequate for feeders with exceptionally large seasonal loading variations such is common with irrigation feeders in sparse rural areas. One approach is to provide a definition and an alternate screening criteria such as the following from the NM rules:

Highly Seasonal Circuit means a circuit with a ratio of annual peak load to off-season peak load greater than six (6).

For Highly Seasonal Circuits only, the "aggregate Generation Facility capacity", including the proposed Generating Facility, on the Line Section shall not exceed 15% of two times the Minimum Daytime Loading.

Interconnection must not be located on a circuit that already exceeds 90 percent of the short circuit interrupting capability.

11.3.5.

11.3.6. The Small Generator Facility, in aggregate with other generation and existing Net Metering Facilities and FERC wholesale generators and Net Metering Facilities 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 busses from the point of interconnection).

11.3.7. 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 11.3.7.1 and 11.3.7.2 of this subsection, depending on the type of electrical service provided by the Public Utility.

11.3.7.1. 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.

11.3.7.2. 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%.

11.3.8. If the Small Generator Facility is to be interconnected on single-phase shared secondary service line on theEDS, the aggregate generation capacity on the shared secondary line, including the proposed Small Generator Facility, must not exceed the lesser of 20 kW or the service transformer nameplate rating.

11.3.9. 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.

11.3.10. Except as provided in Subsection 11.4.7, the interconnection must only use existing Public Utility facilities and the Applicant's proposed facilities.

11.3.11. The Small Generator Facility, in aggregate with existing Net Metering Facilities and FERC wholesale generators and Net Metering Facilities and FERC wholesale generators with a higher Queue Position, and exiting transmission loads must not cause a transmission system circuit to exceed its

Comment: Page: 20
Not needed with earlier changes deleting transmission references.

Deleted: The proposed Small Generator Facility's Point of Interconnection must not be on a Transmission Line

Deleted: .

Deleted:

Comment: Page: 21
This restriction is needed for weak feeders for the same reasons as 11.3.9 for secondary circuits. Excessive neutral shift or phase voltage imbalance may result and this need to be studied. This limit will seldom be triggered but it is important to service quality when it does get triggered.

Deleted: T&D System

Comment: Page: 21
The 20 kW assumes >= 25 kVA transformers. This is not the case in many rural areas.

Deleted:

design capacity on the transmission system circuit directly connected to the distribution circuit where the interconnection is proposed.

11.3.12. If the Public Utility's distribution circuit utilizes high speed reclosing with less than 2 seconds of interruption and 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 3 business days of receipt of the Application, acknowledge receipt of the application and, within 10 business days of receipt, 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 20 business days of receipt of notification (or such other time as the parties mutually agree) or the Application is deemed to be withdrawn.

Deleted: 5

Comment: Page: 21
10 days is adequate, as long as a consultant is not needed, up to about 500 kW. The 500 kW – 2 MW range should have 15 days, as long as a consultant is not needed. Either a two step time frame or 15 days is preferred. Provision should be made to extend this as necessary to accommodate use of a consultant when necessary. The consultant concern goes away if the proposed rule 4.6 is adopted.

Deleted: 5

Comment: Page: 22
There must be comparable time limits on the Applicant to supply the missing information.

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:

Comment: Page: 22
Time is suitable for in-house review but needs a provision for consultants when necessary. The consultant concern goes away if the proposed rule 4.6 is adopted.

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.

Deleted: T&D System

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 of the scheduled commissioning. If the Public Utility does not conduct the Witness Test within 10 business days of the scheduled commissioning date, or within the time otherwise mutually agreed

Deleted: 5

Comment: Page: 23
10 days would be adequate up to about 500 kW. Above this, the complexity of the design and testing needs 20 days to schedule the additional parties that will be needed.

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 and;

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

11.5.3. The Witness Test, if conducted by the Public Utility, is successful and;

11.5.4. The Parties execute a Certificate of Completion And;

11.5.5. The Interconnection Agreement has been signed by both parties.

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. By mutual agreement, the review process can move directly to the next tier without filing a separate formal application.

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 2 MW or less; and

Deleted: T&D

Deleted: ,

Deleted: .

Formatted: Bullets and Numbering

Comment: Page: 24
In many cases, the extra time delay of a separate application to the new tier is unnecessary. The language should allow a shift on paper without a formal application when this is appropriate.

Comment: Page: 24
Proposal 1 is to delete the Tier 3 section and process and add language to Tier 4 to clarify that skipping studies and steps as needed is to be done when these are not needed in order to expedite approval for simpler and smaller applications. Proposal 2 is provided in the following text. The proposal attempts to plug the serious gaps in the existing process.

Deleted: 10

Comment: Page: 24
10 MW is too large to safely screen by this method. Few non-urban feeders can handle the impacts of this size generation and the screening criteria is not adequate to ensure few hazardous cases are caught. Mandatory approval is required if the screens are passed regardless of wisdom of this.

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 15 percent 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. If the results of the study conclude the Small Generator Facility cannot be safely interconnected or will cause excessive degradation service quality, regardless of whether or not the other screens were passed, the Application will be deemed as failing the screens. Study cost for Feasibility Studies revealing a problem despite passing the other screens will become the responsibility of the Applicant.

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;

12.3.2. The proposed Small Generator Facility utilizes a Lab Tested, inverter-based equipment package for interconnection;

12.3.3. The Small Generator Facility utilizes low forward power relays or other protection functions that prevent power flow on to the Area Network;

12.3.4. The aggregated other generation on the Area Network, including existing Net Metering Facilities and FERC wholesale generators and Net Metering Facilities 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:

Deleted: T

Deleted:

Comment: Page: 24
As written, conducting a feasibility study that has negative results has no clear outcome. The following sentence spells out the outcome and ensures no mandatory approval is given to inappropriate Applications.

Comment: Page: 24
This is the main safeguard against hazardous units or installations which will unduly degrade service quality for other customers. No study is needed and no issues should occur for short, higher capacity, urban feeders. The few installations that could be a problem will be larger DGs, usually inverter based, on long, weak, rural feeders. The issue is of greatest concern with sparse, low density service areas.

Comment: Page: 24
The risk of doing an unnecessary study can be assigned to the utility but the applicant should pay for the study in those rare cases where there is a problem. In most of these cases, the probable negative outcome will be recognized in advance by the utility and communicated to the applicant. The risk of proceeding should not be on the utility.

Deleted: r

Deleted:

12.4.1. The Small Generator Facility has an Electric Nameplate Capacity of 2 MW or less and;

Deleted: 10

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 2 MW or less and;

Deleted:

Deleted: 10

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;

Deleted: T&D System

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 and 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 5 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. *(Replace with 11.4.2.)*

Formatted

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 5 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 T&D system (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 including the Feasibility Study, if conducted, 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

Deleted: s

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 of the scheduled commissioning. If the Public Utility does not conduct the Witness Test within 10 business days of 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.

Deleted: 5

Comment: Page: 27
10 days would be adequate up to about 500 kW. Over this, additional coordination time is needed due the additional parties needed. Either 20 days or a tiered time would be appropriate.

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 Feasibility Study 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. By mutual agreement, the review process can move directly to the next tier without filing a separate formal application.

Comment: Page: 28
In many cases, the extra time delay of a separate application to the new tier is unnecessary. The language should allow a shift on paper without a formal application when this is appropriate.

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

12.6.1. All Tier 3 screening criteria are satisfied and any minor modifications to the T&D System 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;

Deleted: and

12.6.4. The Parties execute a Certificate of Completion; and

Deleted: .

12.6.5. The parties have signed the Interconnection Agreement.

Formatted: Bullets and Numbering

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. Generators larger than 10 MW still subject to state jurisdiction will be handled in a manner similar to and in the spirit of Tier 4 applications.

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. *(Replace with 11.4.2.)*

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

Comment: Page: 28
Very few feeders can accomodate DGs greater than 10 MW. Very few DGs will be rated over 10 MW. The IEEE 1547 series cover only up to 10 MW but are good starting points for larger than 10 MW requirements.

Deleted: 2

Deleted: 2

Deleted: as

Comment: Page: 28
The SGIR and the Technical Standards are appropriated for smaller, less complex installations. Multi-MW installations usually push the envelop of what can be accommodated on distribution. This usually requires more extensive system modification, complex controls and relaying. Applicants for these large installations have retained skilled consultants and both parties understand what is needed and can negotiate these alternate approaches. The rules need to allow big players this option or the utility will be forced to reject some Applications that otherwise could be accommodated.

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 an outline of the expected 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 an Interconnection Feasibility Study needs to be performed, the Public Utility has up to 15 business days to complete an Interconnection Feasibility Study Agreement that provides the Applicant with an outline of the scope and a good faith, non-binding estimate of the cost to perform the study. A model form of an Interconnection Feasibility Study Agreement is provided on the Commission's website.

13.4. Interconnection Feasibility Study:

13.4.1. If the Applicant agrees to the cost estimate, the Public Utility must perform an Interconnection Feasibility Study. 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:

Deleted: T&D System

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. If the Interconnection Feasibility Study identifies possible Adverse System Impacts from the Small Generator Facility, an Interconnection System Impact Study is required. The Public Utility has up to 15 business days to complete an Interconnection System Impact Study Agreement that provides the Applicant with an outline of the scope and a good faith, non-binding estimate of the cost to perform the study. 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. If the Applicant agrees to the cost estimate, the Public Utility must conduct an Interconnection System Impact Study. 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 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;

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 typically includes, among other things:

Comment: Page: 31
Some of these studied are gross over-kill except for the biggest, most unusual interconnections. This needs to be worded to allow flexibility and not mandated by "must".

Deleted: must

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 must:

13.5.4.1. State the underlying assumptions of the study,

13.5.4.2. Show the results of the analyses, and

13.5.4.3. List any potential impediments to providing the requested interconnection service.

13.5.5. If the Applicant sponsored a separate independent impact study, the Public Utility must also evaluate and address any alternative findings from that study.

13.5.6. The outcome of the System Impact Study must include a report of any Interconnection Facilities and System Upgrades to the Public Utility's EDS and any System Upgrades to Affected Systems required to allow the proposed interconnection to occur including an estimate of the equipment costs and standard delivery schedules.

Deleted: T&D system

13.5.7. If Interconnection Facilities are found to be necessary in the System Impact Study, the Public Utility must determine the price and delivery of the facilities. The Public Utility has up to 15 business days after completion of the Interconnection System Impact Study, or a period mutually agreed upon by parties, to develop an Interconnection Facilities Study Agreement that provides the Applicant with the scope and a good faith, non-binding estimate of the cost to perform the study. A model form of an Interconnection Facilities Study Agreement is provided on the Commission's website.

13.6. Interconnection Facilities Study

13.6.1. If the Applicant agrees to the cost estimate, an Interconnection Facilities Study must be performed by the Public Utility to evaluate the cost of equipment, and the engineering, procurement and construction work (including overheads) needed to implement the conclusions of the Interconnection Feasibility Study and Interconnection System Impact Study for interconnection of the proposed Small Generator Facility. The Interconnection Facilities Study typically also identifies:

Deleted: must

Deleted: y

13.6.1.1. The electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment;

13.6.1.2. The nature and estimated cost of the Public Utility's Interconnection Facilities;

13.6.1.3. System Upgrades required at the Public Utility and on Affected System that are necessary to accomplish the interconnection; and

13.6.1.4. A detailed estimate of the time required to procure materials and equipment and complete the construction and installation of such facilities.

13.6.2. Parties may agree to permit the Interconnection Customer 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 with the agreement of Applicant to pay for necessary Interconnection Facilities and System Upgrades identified in the Interconnection Facilities Study as approved by the Public Utility, and provided the Public Utility determines, based in the studies in Sections 13.4 through 13.6, that safety and reliability will not be compromised from interconnecting the Small Generator Facility, 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. By mutual agreement, the commissioning and witnessing may be performed in stages.

Comment: Page: 33
For large units, commissioning and the associated witnessing is done in stages. To restrict this to be done at one time will delay the in-service date.

13.7.2. The Public Utility has the option of conducting a witness test(s) at mutually agreeable time(s) within 10 business days of the scheduled commissioning(s) or waiving the test and notifying the Applicant. If the Public Utility does not conduct the witness test within the 10 business days 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 final until:

13.9.1. Any facilities and upgrades agreed upon in sections 13.3 through 13.6 are satisfied;

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. The Parties execute a Certificate of Completion;

13.9.4. There is a successful completion of the Witness Test, if conducted by the Public Utility; and

13.9.5. The Parties have signed the 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 file of all Applications received.

14.2. The Public Utility must maintain, for as long as the interconnection is in place, a file of all Interconnection Agreements completed. The utility must provide a copy

Deleted: a

Deleted: and

Formatted: Bullets and Numbering

Comment: Page: 34
These requirements place an undue burden on the utility for record keeping and reporting. It is not clear that there is need for such extensive records. The following suggest a simpler approach.

Deleted: record

Deleted: , the time required to complete its review of each Application, and reasons for the actions taken on the Applications

Deleted: record

Deleted: and including the related "As Built" Form 7 that records equipment specifications and initial settings

of these records to the Applicant or Interconnection Customer within 15 business days upon receipt of a written request.

14.3. The Public Utility must prepare and submit to the Commission, an annual report summarizing the Public Utility's interconnection activities including the following information:

Deleted: , but not necessarily limited to,

14.3.1. For all Tiers of Interconnection Applications:

14.3.1.1. A list of the Interconnection Applications made,

Deleted: The number

14.3.1.2. A list of the interconnections established,

Deleted: The number

14.3.1.3. The individual types of generators applying for interconnection and their capacity, and

14.3.1.4.

Deleted: Interconnection Application location by Zip code.

14.3.1.5. A report of any disputes and their resolution.

14.3.2. For each Tier 2 through Tier 4 Interconnection Applications:

14.3.2.1.

Deleted: Estimated facilities costs from studies,

14.3.2.2.

Deleted: Whether telemetry is required and if so, its basic configuration, and

14.3.2.3. System upgrades required and their estimated costs.

14.3.3.

Deleted: For all applications that led to successful interconnections:

14.3.3.1.

Deleted: Whether or not timelines were met and if not an explanation of why they were not met, and

14.3.3.2.

Deleted: A record of any item(s) that Parties mutually agreed to waive.

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 theEDS, 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:

Deleted: T&D System

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:

Deleted: T&D System

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 Public Utility must notify the large Interconnection Customer promptly when it becomes aware of an emergency condition that may reasonably be expected to affect the Small Generator Facility operation. 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'sEDS.

Deleted: T&D System

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 large Small Generator Facility or Public Utility's EDS and must use reasonable efforts to coordinate such interruption.

Deleted: T&D system

16.1.3. In the case forced outages of theEDS, the-Public Utility must use reasonable efforts to provide the large Interconnection Customer with prior notice of forced outages to effect immediate repairs to theEDS. 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.

Deleted: T&D System

Deleted: T&D System

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.

Deleted: T&D System

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.

16.1.4.3. The Public Utility shall notify large Interconnection Customer as specified above. The Utility shall establish a policy that sets the thresholds of size and nature of Small Generator Facilities identified as "large". This policy shall at a minimum the same size and nature other customers that are normally notified of similar outage events.

Formatted: Bullets and Numbering

Comment: Page: 38
The utility does not normally notify small customers of outages or maintenance. As the numbers of DG increases, keeping track of all interconnections and issuing pre or post outage notifications will be burdensome and not practical. The notification requirements are appropriate for larger, more important customers. The proposed language is an attempt to balance these concerns in a manner that comparable to treatment given non-DG customers.

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 T&D System 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

End of Comments and Review