CONNEXUS® ENERGY

Fast-Track Process

ABSTRACT

Interconnection process for distributed energy resources less than 4 MW and meeting the screening process to be interconnected to the distribution system of a cooperative in the state of Minnesota.

Arrowhead Electric Cooperative, Inc. 40 kW Community Solar and Great River Energy 20 kW Solar System
Lutsen, Minnesota

1 Applicability

1.1. Capacity Limit

The *Fast-Track Process* is available to an interconnection member proposing to interconnect a distributed energy resource (DER) with the area electric power system (EPS) operator's distribution system, if the DER capacity does not exceed the size limits in Table 1.1 and does not qualify for the *Simplified Process*. The capacity is determined by the aggregated summation of the nameplate rating of all components that make up the DER system. Additional information regarding the capacity limits can be seen in *Cooperative-Minnesota Interconnection Process (C-MIP) Overview Process*, Section 6.

Table 1.1
Fast-Track Eligibility for DER

Line voltage	Fast-track eligibility[1] regardless of location	Fast-track eligibility for certified, inverter-based DER on a mainline[2] and ≤ 2.5 electrical circuit miles from substation[3]
< 5 kV	≤ 500 kW	≤ 500 kW
≥ 5 kV and < 15 kV	≤ 1 MW	≤ 2 MW
≥ 15 kV and < 30 kV	≤ 3 MW	≤ 4 MW
≥ 30 kV and ≤ 69 kV	≤ 4 MW	≤ 5 MW

Fast-track eligibility for DERs is determined based upon the generator type, the size of the generator, voltage of the line, and the location of and the type of line at the point of common coupling. All synchronous and induction machines must be no larger than 2 MW to be eligible for fast-track process consideration. Fast-track eligibility does not imply or indicate that a DER will pass the engineering screens or be exempt from the proposed DER interconnection being placed into the study process.

1.2. Codes, Standards, and Certification Requirements

The interconnection member's proposed DER must meet the codes, standards, and certification requirements listed in the *Overview Process*, Section 14 and Section 15. The area EPS operator may allow DER systems that do not meet codes, standards, and certification only if the DER system design is reviewed, tested, and determined that it is safe to operate in parallel with the distribution system.

[1]Synchronous and induction machine eligibility is limited to no more than 2 MW even when line voltage is greater than 15 kV.

[2]For purposes of this table, a mainline is the three-phase backbone of a circuit. It will typically constitute lines with wire sizes of 4/0 American wire gauge, 266 kcmil, 336.4 kcmil, 397.5 kcmil, 477 kcmil, and 795 kcmil.

[3]An interconnection member can determine this information about its proposed interconnection location in advance by requesting a *pre-application report* described in *C-MIP Overview*.

2 Application Submission

2.1. Fast-Track Process Application

The interconnection member shall complete the *Standard Interconnection Application* and submit it to the area electric power system (EPS) operator to initialize the interconnection process. A completed interconnection application will include the following:

- A completed *Standard Interconnection Application* signed by the interconnection member.
- A non-refundable processing fee indicated in Section 2.3.
- A site layout drawing of the proposed distributed energy resource (DER) system.
- A one-line diagram of the proposed DER system showing the point of common coupling (PCC) to the area EPS operator's distribution system.
- All equipment manufacturer specification sheets.
- Documentation of site control indicated in Section 2.5.

2.2. Professional Licensed Engineer Signature

The one-line diagram submitted with the *Standard Interconnection Application* will require a signature from a professional engineer licensed in the State of Minnesota certifying the DER was designed in conformance to the Minnesota technical requirements for the following conditions:

- Certified[4] equipment is greater than 250 kW.
- Non-certified equipment is greater than 20 kW.

2.3. Processing Fee

The processing fee will differ for a fast-track interconnection application dependent on the type of equipment utilized as seen in Table 2.1.

Table 2.1
Interconnection Application Process Fee

Equipment type	Process fee
Certified system	$100 + $1/kW
Non-certified system	$100 + $2/kW

2.4. Battery Storage

An inverter-based DER system may include battery storage. DER systems that include battery storage must complete the *Energy Storage Application* along with the interconnection application.

[4]Additional information regarding certified equipment is found in the *Overview Process*, Section 14 and Section 15.

2.5. Site Control

Documentation of site control must be submitted with the interconnection application. Site control may be demonstrated by any of the following:

- Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the distributed energy resource (DER) system.
- An option to purchase or acquire a leasehold site for constructing the DER system.
- An exclusivity or other business relationship between the interconnection member and the entity having the right to sell, lease, or grant the interconnection member the right to possess or occupy a site for constructing the DER system.

3 Application Review

3.1. Timelines

The interconnection application shall be date- and time-stamped upon initial and if necessary, resubmission receipt. The interconnection member shall be notified of receipt by the area electric power system (EPS) operator within 10 business days of receipt of the interconnection application.

The area EPS operator shall notify the interconnection member if the interconnection application is deemed incomplete within 10 business days and provide a written list detailing all information that must be provided to complete the interconnection application. The interconnection member has 10 business days to provide the missing information unless additional time is requested with valid reasons. Failure to submit the requested information within the stated timeline will deem the interconnection application withdrawn. The area EPS operator has an additional 5 business days to review the additionally provided information for completeness.

An interconnection application will be deemed complete upon submission to the area EPS operator provided all documents, fees, and information required with the interconnection application adhering to Minnesota technical requirements is included. The date- and time-stamp of the completed *Standard Interconnection Application* shall be accepted as the qualifying date for the purpose of establishing a queue position as described in the *Overview Process*, Section 4.7.

The area EPS operator has a total of 25 business days to complete the interconnection application, review, and submit notice back to the interconnection member stating the proposed DER system may proceed with the interconnection process, or a supplemental review offer is to be made, or the proposed DER system has been moved into a different process track. The duration period waiting for the interconnection member to provide missing information is not included in the area EPS operator's 25-business day review timeline.

3.2. Initial Review Screens

The area electric power system (EPS) operator shall determine if the distributed energy resource (DER) can be interconnected safely and reliably without the construction of facilities by the area EPS operator and by using a set of initial review screens. The initial review screens include the following engineering screens:

- The proposed DER's point of common coupling (PPC) must be on a portion of the area EPS operator's distribution system.
- For interconnection of a proposed DER to a radial distribution circuit, the aggregated generation, including the proposed DER on the circuit, shall not exceed 15 percent of the line section annual peak load as most recently measured or 100 percent of the substation aggregated minimum load. A line section is that portion of an area EPS operator's electric system connected to a member bounded by automatic sectionalizing devices or the end of the distribution line. The area EPS operator may consider 100 percent of applicable loading (i.e., daytime minimum load for solar), if available, instead of 15 percent of line section peak load.
- For interconnection of a proposed DER to the load side of network protectors, the proposed DER must utilize an inverter-based equipment package and together with the aggregated other inverter-based DERs shall not exceed the smaller of 5 percent of a network's maximum load or 50 kW.[5]
- The proposed DER, in aggregation with other DERs on the distribution circuit, shall not contribute more than 10 percent to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed PCC.
- The proposed DER in aggregate with other DERs on the distribution circuit, shall not cause any distribution protective devices and equipment (including but not limited to substation breakers, fuse cutouts, and line reclosers) or interconnection member equipment on the system to exceed 87.5 percent of the short circuit interrupting capability, nor shall the interconnection be proposed for a circuit that already exceeds 87.5 percent of the short-circuit interrupting capability.
- Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the interconnecting member, including line configuration and the transformer connection to limit the potential for creating over-voltages on the area EPS operator's electric power system, due to a loss of ground during the operating time of any anti-islanding function.

[5]Network protectors are protective devices used on secondary networks (spot and grid networks) to automatically disconnect its associated transformer when reverse power flow occurs. Secondary networks are most often used in densely populated downtown areas.

Table 3.1 Type of Primary Distribution Line Interconnections		
Primary distribution line type	**Type of interconnection to primary distribution line**	**Results**
Three-phase, three-wire	Three-phase or single-phase, phase-to-phase	Pass screen
Three-phase, four-wire	Effectively-grounded three-phase or single-phase, line-to-neutral	Pass screen

- If the proposed distributed energy resource (DER) is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed DER, shall not exceed 20 kW or 65 percent of the transformer nameplate rating.
- If the proposed DER is single-phase and is to be interconnected on a center tap neutral of a 240-volt service, its addition shall not create an imbalance between the two sides of the 240-volt service of more than 20 percent of the nameplate rating of the service transformer.

The technical screens listed shall not preclude the area electric power system (EPS) operator from using tools that perform screening functions using different methodologies provided the analysis is targeted to maintain the voltage, thermal, and protection objectives as the listed screen.

3.3. Notification of Approval of Application

Provided the *Standard Interconnection Application* passes the initial screens or if the proposed interconnection fails the screens but the area EPS operator determines that the DER may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the area EPS operator shall provide notice to the interconnection member that their interconnection application has been approved. The area EPS operator shall provide the interconnection member with an interconnection agreement as outlined in Section 5.

3.4. Failure of Review Screens

If the proposed interconnection fails the screens and the area EPS operator does not or cannot determine from the initial review that the DER may nevertheless be interconnected consistent with safety, reliability, and power quality standards unless the interconnection member is willing to consider minor modifications or further study, the area EPS operator shall provide the interconnection member the opportunity to attend a member options meeting.

The area EPS operator shall notify the interconnection member of the determination and provide copies of all directly pertinent data and analyses underlying its conclusion, subject to confidentiality provisions in the *Overview Process*, Section 12.1.

3.5. Customer Options Meeting

Within 10 business days of the area electric power system (EPS) operator's notification to the interconnection member of the proposed interconnection's failure of the engineering screens, the area EPS operator and the interconnection member shall schedule a member options meeting to review possible facility modification, screen analysis, and related results to determine what further steps are needed to permit the distributed energy resource (DER) to be interconnected safely and reliably to the distribution system. At the member options meeting the area EPS operator shall:

- Offer to perform a supplemental review in accordance with Section 4 and provide a non-binding good faith estimate of the cost of such review; or
- Obtain the interconnection member's agreement to continue evaluating the interconnection application under the *Study Process* track.

4 Supplemental Review

4.1. Acceptance of Supplemental Review

To accept the offer of a supplemental review, the member shall agree in writing and submit a deposit for the estimated costs of the supplemental review in the amount of the area EPS operator's good faith estimate of the costs of such review within 15 business days once the supplemental review offer is made by the EPS operator. If the written agreement and deposit have not been received by the area EPS operator within that time frame, the interconnection application can only continue being evaluated under the *Study Process* or it can be withdrawn by the member.

The member may specify within the written agreement the order in which the area EPS operator will complete the supplemental review screens listed in Section 4.4.

4.2. Supplemental Review Costs

The interconnection member shall be responsible for the area EPS operator's actual costs for conducting the supplemental review. The interconnection member shall pay any review costs that exceed the deposit within 20 business days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, the area EPS operator will return such excess within 20 business days of the invoice without interest.

4.3. Supplemental Review Timelines

Within 30 business days following the receipt of the deposit for a supplemental review, the area EPS operator shall:

- Perform the supplemental review using the screens in Section 4.4.
- Notify the interconnection member of the results in writing.
- Include copies of the area EPS operator's analysis under the screens with the written notification.

Unless the interconnection member provides instruction for how to respond to a failure of any of the supplemental review screens in the written acceptance of supplemental review, the area electric power system (EPS) operator shall notify the interconnection member within 2 business days if a supplemental review screen is failed or if the area EPS operator is unable to perform the supplemental review screen. The area EPS operator shall then obtain the interconnection member's permission to either:

- Continue evaluating the proposed interconnection using the supplemental review screens in Section 4.4.
- Terminate the supplemental review and continue evaluating the interconnection application in the *Study Process* track.
- Terminate the supplemental review upon withdrawal of the interconnection application by the interconnection member.

The interconnection member shall respond with its choice within 5 business days of notification from the area EPS operator.

4.4. Supplemental Review Screens

The three supplemental review screens are the minimum load screen, the voltage and power quality screen, and the safety and reliability screen.

4.4.1. Minimum Load Screen

The aggregate distributed energy resource (DER) capacity on the line section is less than 100 percent of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the proposed DER. If minimum load data is not available or cannot be calculated, estimated, or determined, the area EPS operator shall include the reason(s) that it is unable to calculate, estimate, or determine minimum load in its supplemental review results notification under Section 4.3. The line section minimum load data shall include onsite load but not station service load served by the proposed DER in this screen.

The type of generation used by the proposed DER will be considered when calculating, estimating, or determining circuit or line section minimum load relevant for the application of this screen. Solar photovoltaic (PV) generation systems with no battery storage use daytime minimum load (i.e., 10:00 a.m. to 4:00 p.m. for fixed panel systems and 8:00 a.m. to 6:00 p.m. for PV systems utilizing tracking systems) while all other generation uses absolute minimum load.

When this screen is being applied to a DER that serves some station service load, only the net injection into the area EPS operator's electric system will be considered as part of the aggregate generation.

Area EPS (electric power system) operator will not consider as part of the aggregate generation for purposes of this screen (distributed energy resource (DER) capacity known to be already reflected in the minimum load data.

4.4.2. Voltage and Power Quality Screen

In aggregate with existing generation on the line section, the following conditions shall be met for the screen to be passed:

- The voltage regulation on the line section can be maintained in compliance with relevant requirements under all system conditions.
- The voltage fluctuation is within acceptable limits as defined by Institute of Electrical and Electronics Engineers (IEEE) Standard 1453 or utility practice similar to IEEE Standard 1453.
- The harmonic levels meet IEEE Standard 519 limits.

4.4.3. Safety and Reliability Screen

The location of the proposed DER and the aggregate generation capacity on the line section do not create impacts to safety or reliability that cannot be adequately addressed without application of the *Study Process*. The area EPS operator shall give due consideration to the following and other factors in determining potential impacts to safety and reliability in applying this screen:

- Whether the line section has significant minimum loading levels dominated by a small number of members (e.g., several large commercial members).
- Whether the loading along the line section is uniform or even.
- Whether the proposed DER is located in close proximity to the substation (i.e., less than 2.5 electrical circuit miles) and whether the line section from the substation to the point of common coupling (PCC) is a main line rated for normal and emergency ampacity.
- Whether the proposed DER incorporates a time-delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time.
- Whether operational flexibility is reduced by the proposed DER such that transfer of the line section(s) of the DER to a neighboring distribution circuit/substation may trigger overloads or voltage issues.
- Whether the proposed DER employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, islanding, reverse power flow, or voltage quality.

4.5. Identification of Construction of Facilities

If the proposed interconnection requires the construction of any distribution or transmission facilities, the area electric power system (EPS) operator shall notify the interconnection member of the requirement when it provides the supplemental review results. The area EPS operator may include a non-binding good faith estimate to construct the facilities included with the supplemental review results. In lieu of providing a non-binding good faith estimate to construct the necessary facilities, the area EPS operator may require the proposed interconnection to move to the *Study Process* for a facility study instead.

Upon being presented with either the non-binding good faith estimate or the requirement for a facility study, the interconnection member has 5 business days to inform the area EPS operator to proceed with the proposed interconnection or withdraw the interconnection application.

4.6. Supplemental Review Results

If the proposed interconnection passes the supplemental review screens in Section 4.4 and does not require construction of distribution or transmission facilities by the area EPS on its own system, the EPS operator shall provide an executable interconnection agreement within 5 business days after the supplemental review screens are completed. Information regarding the interconnection agreement is detailed in Section 5.

If the proposed interconnection passes the supplemental review screens in Section 4.4 and the interconnection member agrees to the non-binding good faith estimate of construction of any distribution or transmission facilities by the EPS operator, the EPS operator shall provide an executable interconnection agreement within 20 business days. Included with the interconnection agreement shall be a non-binding good faith estimate of construction costs and construction schedule for the facilities. Information regarding the interconnection agreement is detailed in Section 5.

If the proposed interconnection does not pass the supplemental review screens in Section 4.4, the EPS operator shall provide the interconnection member with the option of commencing the *Study Process*. The member shall notify the area EPS operator within 15 business days if they wish to proceed with the *Study Process* to retain their queue position or the interconnection application will be deemed withdrawn.

5 Interconnection Agreement

5.1. Uniform Contract

For a proposed interconnection that meets the conditions of being classified as a qualifying facility less than 40 kW, the area EPS operator shall provide the interconnection member with an executable copy of the area EPS operator's *Uniform Contract for Cogeneration and Small Power Production Facilities (Uniform Contract)*.

5.2. Cooperative Interconnection Agreement

For proposed interconnections that do not meet the conditions of being classified as a qualifying facility less than 40 kW or if requested by the interconnection member in lieu of signing the *Uniform Contract*, the area electric power system (EPS) operator shall provide an executable copy of the *C-MIP Agreement (Interconnection Agreement)*.

5.3. Completion of Agreement

The interconnection member must return a signed *Uniform Contract* or *Interconnection Agreement* 30 business days prior to the requested in-service date of the propose distributed energy resource (DER). The area EPS operator shall sign and return a copy of the fully executed *Uniform Contract* or the *Interconnection Agreement* back to the interconnection member.

The interconnection member may update the requested in-service date submitted on the interconnection application to a date 30 business days or later from the date on which the interconnection member submits a signed *Uniform Contract* or *Interconnection Agreement* and payment, if required, unless the area EPS operator agrees to an earlier date.

Upon receipt of the signed *Uniform Contract* or *Interconnection Agreement*, the area EPS operator may schedule appropriate metering replacements and construction of facilities, if necessary.

6 Insurance

6.1. Insurance Requirements

At minimum the interconnection member shall maintain for the duration the DER system is interconnected to the area EPS operator's distribution system, general liability insurance from a qualified insurance agency with a B+ or better rating by "Best" with a combined single limit of not less than described in Table 6.1. Such general liability insurance shall include coverage against claims for damages resulting from: 1) bodily injury, including wrongful death, and 2) property damage arising out of the interconnection member's ownership and/or operation of the DER under this agreement. Evidence of the insurance shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance by the area EPS operator.

Table 6.1
Liability Insurance Requirements

DER system size	Liability insurance requirement
< 40 kW AC	$300,000
≥ 40 kW AC and < 250 kW AC	$1,000,000
≥ 250 kW AC and < 5 MW AC	$2,000,000
≥ 5 MW AC	$3,000,000

For all proposed distributed energy resource (DER) systems, except those that are qualifying systems less than 40 kW alternating current (AC), the general liability insurance shall by endorsement to the policy or policies include:

- The area electric power system (EPS) operator as additionally insured.
- Contain severability of interest clause or cross-liability clause.
- Provide that the area EPS operator shall not by reason incur liability to the insurance carrier for the payment of premiums for such insurance if the area EPS operator is included as an additionally insured.

6.2. Self-Insurance

The interconnection member may choose to be self-insured provided there is an established record of self-insurance. The interconnection member shall supply the area EPS operator at least 20 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 in Section 6.1. Failure of the interconnection member or the area EPS operator to enforce the minimum levels of insurance does not relieve the interconnection member from maintaining such levels of insurance or relieve the interconnection member of any liability.

6.3. Proof of Insurance

The interconnection member shall furnish the required insurance certificates and endorsements to the area EPS operator prior to the initial operation of the DER. A copy of the declaration page of the homeowner's insurance policy is a common example of an insurance certificate. Thereafter, the area EPS operator shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance. In addition, the area EPS operator may request to be additionally listed as an interested third party on the insurance certificates and endorsements for qualifying facilities less than 40 kW AC, to meet the right to periodically obtain a copy of the policy or policies of insurance.

7 Timeline Extensions

7.1. Reasonable Efforts

The area EPS operator shall make reasonable efforts to meet all time frames provided in these procedures. If the area EPS operator cannot meet a deadline provided herein, it must notify the interconnection member in writing within 3 business days after the deadline to explain the reason for the failure to meet the deadline and provide an estimated time by which it will complete the applicable interconnection procedure in the process.

7.2. Extensions

For applicable time frames described in these procedures, the interconnection member may request in writing one extension equivalent to half of the time originally allotted (e.g., 10 business days for a 20-business day original time frame)

which the area EPS operator may not unreasonably refuse. No further extensions for the applicable time frame shall be granted absent a force majeure event or other similarly extraordinary circumstance.

8 Modifications to Application

8.1. Procedures

At any time after the interconnection application is deemed complete, the interconnection member or the area electric power system (EPS) operator may identify modifications to the proposed distributed energy resource (DER) system that may improve costs and benefits (including reliability) of the proposed DER system and the ability for the area EPS operator to accommodate the proposed DER system. The interconnection member shall submit to the area EPS operator in writing all proposed modifications to any information provided in the interconnection application. The area EPS operator cannot unilaterally modify the interconnection application.

8.2. Timelines

Within 10 business days of receipt of the proposed modification, the area EPS operator shall evaluate whether the proposed modification to the interconnection application constitutes a material modification. The definition in the *Overview Process*, Section 13, includes examples of what does and does not constitute a material modification.

The area EPS operator shall notify the interconnection member in writing of the final determination of the proposed modification. For proposed modifications that are determined to be a material modification, the interconnection member may choose to either withdraw the proposed modification or proceed with a new interconnection application. The interconnection member shall provide its determination in writing to the area EPS operator within 10 business days after being provided the material modification determination. If the interconnection member does not provide its determination within the timeline, the interconnection application shall be considered withdrawn.

If the proposed modification is not determined to be a material modification, the area EPS operator shall notify the interconnection member in writing that the modification has been accepted and the interconnection member shall retain its eligibility for interconnection, including its place in the queue.

9 Interconnection

9.1. Interconnection Milestones

For DER systems that are not a qualifying facility, less than 40 kW AC (alternating current), the interconnection member and the area EPS operator shall agree on milestones for which each party is responsible and list them in the *Interconnection Agreement, Attachment IV*. To the greatest extent possible, the parties will identify all design, procurement, installation, and construction requirements associated with

the project and clear associated timelines at the beginning of the design, procurement, installation, and construction phase or as early within the process as possible.

A party's obligation under this provision may be extended by agreement. If a party anticipates that it will be unable to meet a milestone for any reason other than a force majeure event, it shall immediately notify the other party of the reason(s) for not meeting the milestone, propose the earliest reasonable alternative date in which this and future milestones will be met, and request appropriate amendments to the interconnection agreement and its attachments. The party affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless:

- The party will suffer significant uncompensated economic or operational harm from the delay.
- Attainment of the same milestone has previously been delayed.
- The party has reason to believe the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstance explained by the party proposing the amendment.

If the party affected by the failure to meet a milestone disputes the proposed extension, the affected party may pursue dispute resolution as described in the *Overview Process*.

9.2. Metering

Any metering requirements necessitated by the use of the distributed energy resource (DER) system shall be installed at the interconnection member's expense. The metering requirement costs will be included in the final invoice of interconnection costs to the interconnection member. The interconnection member is also responsible for metering replacement costs not covered in the interconnection member's general member charge. The area electric power system (EPS) operator may charge interconnection members an ongoing metering-related charge for an estimate of ongoing metering-related costs specifically demonstrated.

9.3. Construction

The interconnection member may proceed to construct (including operational testing not to exceed two hours) the DER system when the area EPS operator has approved the interconnection application. Upon receipt of a signed *Uniform Contract* or *Interconnection Agreement*, the area EPS operator shall schedule and execute appropriate construction of facilities.

9.4. Inspection, Testing, and Commissioning

Upon completing construction of the DER system the interconnection member will cause the DER system to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction. The interconnection member shall then arrange for the inspection and testing of the DER system and the member's

interconnection facilities prior to interconnection, pursuant to Minnesota interconnection technical requirements. Commissioning tests of the interconnection member's installed equipment shall be performed pursuant to applicable codes and standards of Minnesota's technical requirements and the *Overview Process*, Section 15.

The interconnection member shall notify the area electric power system (EPS) operator of testing and inspection no fewer than five business days in advance or as may be agreed to by the parties. The interconnection member shall provide to the area EPS operator a testing procedure that will be followed on the day of testing and inspection no fewer than ten business days prior to the testing and inspection date. The testing procedure should include tests and/or inspections to confirm the distributed energy resource (DER) system will meet the technical requirements of interconnection. The area EPS operator shall review the testing procedure for completeness and notify the interconnection member if the testing procedure fails to address components of the technical requirement for interconnection.

The area EPS operator shall send qualified personnel to the DER site to inspect the interconnection and witness the testing. Testing and inspection shall occur on a mutually agreed upon business day and time. The area EPS operator may waive the right to witness the testing.

9.5. Interconnection Costs

9.5.1. Estimation of Interconnection Costs

The interconnection member shall pay for the actual cost of the interconnection facilities and distribution upgrades along with the area EPS operator's cost to commission the proposed DER system. An estimate of the interconnection costs shall be stated in the *Uniform Contract* or *Interconnection Agreement*, *Attachment II*, as a detailed itemization of such costs. If network upgrades are required, the actual cost of the network upgrades, including overheads, shall be borne by the interconnection member, pursuant to the transmission provider and associated agreements.

9.5.2 Progressive Payment of Interconnection Costs

The area EPS operator shall bill the interconnection member for the design, engineering, construction, and procurement costs of the interconnection facilities and upgrades described in the *Interconnection Agreement*, *Attachment II*, on a monthly basis or otherwise agreed upon manner by both parties in the *Interconnection Agreement* or as listed in the *Uniform Contract*. The interconnection member shall pay each bill within 21 business days or as agreed to in the *Interconnection Agreement* or *Uniform Contract*.

9.5.3 Final Accounting of Interconnection Facilities and Upgrade Costs

If distribution or transmission facilities required upgrades to accommodate the proposed DER system, the area EPS operator shall render the final interconnection cost invoice to the interconnection member within 80

business days (approximately 4 calendar months) of completing the construction and installation of the area electric power system (EPS) operator's interconnection facility and upgrades. The area EPS operator shall provide the interconnection member with a final accounting report identifying the difference between the actual interconnection member's cost responsibility and the interconnection member's previous aggregate payments to the area EPS operator for the specific distributed energy resource (DER) system interconnection. Upon the final accounting submitted to the interconnection member, the balance between the actual cost and previously aggregated payments shall be paid to the area EPS operator within 20 business days. If the balance between the actual cost and previously aggregated payments is a credit, the area EPS operator shall refund the interconnection member within 20 business days.

9.5.4 Final Interconnection Costs without Facilities and Upgrades Needed

Within 30 business days, the final invoice for the interconnection costs shall be rendered to the interconnection member once the proposed DER system has been commissioned by the area EPS operator or upon the commissioning being waived by the area EPS operator. The interconnection member shall make payment to the area EPS operator within 21 business days of receipt or as otherwise stated in the *Uniform Contract* or *Interconnection Agreement*.

9.6. Security of Payment

At the option of the area EPS operator, either the "traditional security" or the "modified security" method shall be used for assurance of payment of interconnection cost.

Under the traditional security method, the interconnection member shall provide reasonable, adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under the area EPS operator credit policy. The letter of credit shall also include procedures for the unpaid balance of the estimated amount shown in the *Interconnection Agreement* for the totality of all anticipated work or expense incurred by the area EPS operator associated with the interconnection application. The payment for these estimated costs shall be as follows:

- One-third of estimated costs shall be due no later than when the interconnection member signs the *Interconnection Agreement*.
- An additional one-third of estimated costs shall be due prior to initial energization of the generation system with the area EPS operator.
- Remainder of actual costs incurred by area EPS operator shall be due within 30 days from the date the bill is mailed by the area EPS operator after project completion.

Under the modified security method, at least 20 business days prior to the commencement of the design, procurement, installation, or construction of a

discrete portion of the area EPS operator's interconnection facilities and upgrades, the interconnection member shall provide the area electric power system (EPS) operator at the interconnection member's option, a guarantee, letter of credit, or other form of security that is reasonably acceptable to the area EPS operator and is consistent with the Minnesota Uniform Commercial Code. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the area EPS operator's interconnection facilities and upgrades and shall be reduced on a dollar-for-dollar basis for payments made to the area EPS operator under the interconnection agreement during its term.

The guarantee must be made by an entity that meets the creditworthiness requirements of the area EPS operator and contain terms and conditions that guarantee payment of any amount that may be due from the interconnection member, up to an agreed to maximum amount.

The letter of credit must be issued by a financial institution or insurer reasonably acceptable to the area EPS operator and must specify a reasonable expiration date no sooner than 60 business days (3 calendar months) after the due date of the final accounting report and bill described in Section 9.5

9.7. Non-Warrantee

Area EPS operator does not give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances, or devices owned, operated, installed, or maintained by the interconnection member, including without limitation the DER and any structures, equipment, wires, appliances, or devices not owned, operated, or maintained by the area EPS operator. The area EPS operator does not guarantee uninterrupted power supply to the DER and will operate the distribution system with the same reliability standards for the entire membership base.

9.8. Authorization for Parallel Operation

The interconnection member shall not operate its DER system in parallel with the area EPS operator's distribution system without prior written authorization from the area EPS operator. The area EPS operator shall provide such authorization within 3 business days from when the area EPS operator receives notification that the interconnection member has complied with all applicable parallel operations requirements and commissioning has been successfully completed. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

9.9. Continual Compliance

The interconnection member shall be fully responsible to operate, maintain, and repair the DER as required to ensure that it complies at all times with the interconnection standards to which it has been certified. The interconnection member shall also operate its DER system in compliance with the area EPS operator's technical requirements version listed in the executed *Uniform Contract* or

Interconnection Agreement. The area electric power system (EPS) operator may periodically inspect at its own expense the operation of distributed energy resource (DER) system as it relates to power quality, thermal limits, and reliability. Failure by the interconnection member to remain in compliance with the technical requirements will result in the disconnection of the DER system from the area EPS operator's distribution system.

9.10. Disconnection of DER

The area EPS operator has the right to disconnect the DER in the event of the following:

- Does not continue to follow and maintain Electrical and Electronics Engineers (IEEE) 1547 settings approved by the area EPS operator, as indicated by the adopted technical requirements.
- Does not meet all the requirements of the *Fast-Track Process*.
- Refuses to sign either the *Interconnection Agreement* or the area EPS operator's *Uniform Contract*.

The area EPS operator may temporarily disconnect the DER upon the following conditions:

- For scheduled outages upon reasonable notice.
- For unscheduled outages or emergency conditions.
- If the DER does not operate in the manner consistent with the *Fast-Track Process*.

The area EPS operator shall inform the interconnection member in advance of any scheduled disconnection or as reasonable after an unscheduled disconnection.