

Minnesota Municipal Interconnection Process (M-MIP)

Booklet #4

# Study Process

For interconnecting systems larger than 4 megawatts  
or in need of additional studies





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## **1 Applicability**

### **1.1. Applicability**

The Study Process is applicable to an Interconnection Customer proposing to interconnect a Distributed Energy Resource (DER) with the Area Electrical Power System (Area EPS) Operator's Distribution System, if the DER capacity is larger than 4 MW or is identified through the engineering screening process to need additional studies.

The majority of proposed DER interconnections will initially apply for interconnection under the Simplified or Fast Track Processes. Initial and supplemental screening results are to be considered throughout the Study Process.

### **1.2. Codes, Standards and Certification Requirements**

The Interconnection Customer's proposed DER must meet the codes, standards and certification requirements listed in Section 13, 14 and Section 15 of the Process Overview document. 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 to be safe to operate in parallel with the Distribution System.

## **2 Application Submission**

### **2.1. Initial Interconnection Application for the Study Process**

For proposed DER interconnections that are not initially applied for under the Fast Track Process, the Interconnection Customer shall complete the Standard Interconnection Application and submit it to the Area EPS Operator to initiate the Interconnection Process. A completed Interconnection Application will include the following:

- A completed Interconnection Application signed by the Interconnection Customer.
- A process fee not to exceed \$1,000, plus \$2.00 per kW, toward the deposit of the study(s) indicated in Section 4.
- A site layout drawing of the proposed DER system.
- A one-line diagram of the proposed DER system showing the Point of Common Coupling to the Area EPS Operator's Distribution System.
- All equipment manufacturer specification sheets.
- Documentation of site control as indicated in Section 2.4.

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### 2.2. Professional Licensed Engineer Signature

The one-line diagram submitted with the 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<sup>1</sup> equipment is greater than 250 kW.
- Non-certified equipment is greater than 20 kW.

### 2.3. Battery Storage

An inverter-based DER system may include battery storage. DER systems that include battery storage should complete the Energy Storage Application along with the Interconnection Application.

### 2.4. 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 DER system;
- An option to purchase or lease a site for constructing the DER system;
- An exclusivity or other business relationship between the Interconnection Customer and the entity having the right to sell, lease, or grant the Interconnection Customer the right to possess or occupy a site for constructing the DER system.

### 2.5. Interconnection Applications from Other Processes

Some Interconnection Applications submitted under the Fast Track Process may be moved into the Study Process due to issues with the DER interconnection identified by engineering screens. An Area EPS Operator cannot request a new Interconnection Application submission if the Interconnection Application has already been submitted through the Fast Track Process. The Interconnection Customer who had already paid a processing fee for the Fast Track Process is still responsible to make a deposit toward the applicable studies address in Section 4, 5 and 6, but does not need to submit an additional processing fee.

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<sup>1</sup> Additional information regarding certified equipment is found in Sections 14 and 15 of the Process Overview booklet.

### **3 Initial Steps**

#### **3.1. Completeness Review and Queue Position**

The Interconnection Application originally submitted under the Study Process shall be date- and time-stamped upon initial receipt, and if necessary, resubmission receipt. The Interconnection Customer shall be notified of receipt by the Area EPS Operator within ten (10) Business Days after receipt.

The Area EPS Operator shall notify the Interconnection Customer, within ten (10) Business Days, if the Interconnection Application is deemed incomplete, and provide a written list detailing all information that must be provided to complete the Interconnection Application. The Interconnection Customer has ten (10) Business Days, to provide the missing information, unless additional time is requested with a valid reason. Failure to submit the requested information, within the stated timeline, will result in the Interconnection Application being deemed withdrawn. The Area EPS Operator has an additional five (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 Interconnection Application shall be accepted as the qualifying date for the purpose of establishing a queue position, as described in Section 4.7 of the Overview Process document.

Interconnection Applications already screened in the Simplified Process or Fast Track Process shall retain their original queue position in the Study Process provided all applicable timelines were met.

#### **3.2. Scoping Meeting**

A scoping meeting shall be held within ten (10) Business Days after the Interconnection Application submitted under the Study Process is deemed complete. For Interconnection Applications that were submitted under or put through the Fast Track Process, the scoping meeting will occur within ten (10) Business Days after the Interconnection Customer has elected to continue with the Study Process. The scoping meeting timeline may be extended upon mutual agreement of both Parties. The scoping meeting may also be omitted by mutual agreement.

The purpose of the scoping meeting is to discuss the Interconnection Application and review existing study results relevant to the Interconnection Application. The Parties shall further discuss whether the Area EPS Operator should perform a System Impact

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Study or Studies, or proceed directly to a Facilities Study or an Interconnection Agreement. If the Area EPS Operator determines there is no potential for Transmission System or Distribution System adverse system impacts, the Interconnection Application shall proceed directly to a Facilities Study or an executable Interconnection Agreement, as agreed to by the Parties.

### **4 System Impact Study**

#### **4.1. Electric System Impacts**

A System Impact Study shall identify and detail the electric system impacts that would result if the proposed DER(s) were interconnected without project modifications or electric system modifications. The System Impact Study is also to study the potential impacts, including but not limited to, those identified in the scoping meeting. A System Impact Study shall evaluate the impacts of the proposed interconnection on the reliability of the electric system.

#### **4.2. System Impact Study Agreement**

If the Parties agree at the scoping meeting that a System Impact Study should be performed, the Area EPS Operator shall provide the Interconnection Customer a System Impact Study Agreement, not later than five (5) Business Days after the scoping meeting. If the scoping meeting was omitted by mutual agreement, the Area EPS Operator shall provide the Interconnection Customer a System Impact Study Agreement within ten (10) Business Days after the Interconnection Customer waives the scoping meeting.

The System Impact Study Agreement shall include an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study. If applicable, the System Impact Study Agreement shall list any additional and reasonable technical data on the DER needed to perform the study. The scope and cost responsibilities are to be described in the System Impact Study Agreement.

#### **4.3. System Impact Study Costs**

A deposit of the good faith estimated cost for each System Impact Study shall be provided by the Interconnection Customer with the return of a signed System Impact Study Agreement.

#### **4.4. System Impact Study Timelines**

Both the Area EPS Operator and the Interconnection Customer has timeline responsibilities under the System Impact Study.

#### 4.4.1. Interconnection Customer Timelines

In order to remain in consideration for interconnection, an Interconnection Customer who has requested a System Impact Study shall meet the following conditions within twenty (20) Business Days of being provided a System Impact Study Agreement:

- Return a signed System Impact Study Agreement.
- Provide to the Area EPS Operator any requested additional and reasonable technical data on the DER needed to perform the System Impact Study.
- Pay the required study deposit.

Upon the Interconnection Customer's request, the Area EPS Operator shall grant a time frame extension as described in Section 9.2, if additional technical data is requested.

#### 4.4.2 Area EPS Operator Timelines

A System Impact Study shall be completed within thirty (30) Business Days after the System Impact Study Agreement has been signed by both Parties and delivered with the deposit and requested technical information to the Area EPS Operator. The results of the System Impact Study shall be delivered to the Interconnection Customer within five (5) Business Days of completion of the System Impact Study. Upon request, the Area EPS Operator shall provide the Interconnection Customer supporting documentation developed in the preparation of the System Impact Study, subjected to confidentiality arrangements consistent with Section 12.1 of the Overview Process and terms of the System Impact Study Agreement.

## 5 Transmission System Impact Study

### 5.1. Transmission System Impacts

In instances where the System Impact Study shows potential for Transmission System adverse system impacts, the Area EPS Operator shall contact the appropriate Transmission Provider within five (5) Business Days following the identification of such impacts. The Area EPS Operator shall coordinate with the Area EPS Operator's Transmission Provider to have the necessary studies to determine if the DER causes any adverse transmission impacts. The appropriate Transmission Provider shall provide a Transmission System Impact Study Agreement for the Interconnection Customer. Included in the Transmission System Impact Study Agreement will be a non-binding,

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good faith estimate of cost for the study, along with a scope outline of the study and any additional technical data required to complete the Transmission System Impact Study.

### 5.2. Transmission System Impact Study Timelines

In order to remain in consideration for interconnection, an Interconnection Customer must return the executed Transmission System Impact Study Agreement, along with the study deposit, within fifteen (15) Business Days. The Transmission System Impact Study shall be completed and the results provided to the Interconnection Customer in as timely a manner as possible, after the Transmission System Impact Study Agreement is signed by the Parties. The Area EPS Operator shall be responsible for coordination with the Transmission Provider as needed. Affected Systems shall participate in the study and provide all information necessary to prepare the study.

### 5.3. Regional Transmission Operator Jurisdiction

In certain circumstances the Transmission Provider may not be able to study a proposed DER system if there is a possible affect to the bulk Transmission System. In these situations, the Area EPS Operator will coordinate with the Transmission Provider to inform the Interconnection Customer that the proposed DER system will need to follow the Regional Transmission Operator's interconnection process. For most of Minnesota, the Regional Transmission Operator is Midcontinent Independent System Operator (MISO).

## 6 Facilities Study

### 6.1. Construction of Facilities

If construction of facilities is required, a Facility Study may be necessary to specify and estimate the cost of the equipment, engineering, procurement and construction work. A Facility Study is identified by an Initial Review, Supplemental Review or the Study Process to provide interconnection and interoperability of the DER with the Area EPS Operator's Distribution System as required by Minnesota Technical Requirements. At the determination of the Area EPS Operator, Interconnection Applications reviewed in the Simplified Process or the Fast Track Process that require construction of facilities may forgo a Facilities Study.

### 6.2. Facilities Study Agreement

The Area EPS Operator shall provide the Interconnection Customer a Facilities Study Agreement either:

- in tandem with the results of the Interconnection Customer's System Impact Study, or
- in tandem with a Transmission System Impact Study, or
- if no System Impact Study is required, within five (5) Business Days after the scoping meeting, or
- within ten (10) Business Days after the Interconnection Application is deemed complete and approved through the Simplified Process or Fast Track Process.

The Facilities Study Agreement shall be accompanied by an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the Facilities Study. The scope of and cost responsibilities for the Facilities Study are to be described in the Facilities Study Agreement. A deposit of the good faith estimated costs for the Facilities Study shall be provided by the Interconnection Customer at the time it returns the Facilities Study Agreement.

### 6.3. Facilities Study Timeline

In order to remain under consideration for interconnection, the Interconnection Customer must return the executed Facilities Study Agreement and pay the required study deposit within fifteen (15) Business Days.

### 6.4. Identification of Construction of Facilities

The Facilities Study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overheads), needed to implement the conclusions of the System Impact Study(-ies). Design for any required Interconnection Facilities and/or Upgrades shall be performed under the Facilities Study Agreement unless the Facilities Study Agreement was deemed unnecessary by the Area EPS Operator. However, in the event that the Interconnection Customer did not provide the Area EPS Operator all required Conditional Use Permits at the time of entering into the Facilities Study Agreement, any such Design and/or Upgrades by the Area EPS Operator may be delayed until after the Interconnection Customer has provided to the Area EPS Operator all required Conditional Use Permits or provides a final design. The information in the Conditional Use Permits, or changes to the design, may result in significant modifications to the planned design and/or Upgrades. The Interconnection Customer may send to the Area EPS Operator a redacted version of the Conditional Use Permit(s) to ensure confidentiality, but any and all information that the Area EPS Operator would reasonably need to perform an accurate Facilities Study shall not be redacted. If necessary to comply with these requirements, a confidential version of the

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Conditional Use Permit(s) may be provided to the Area EPS Operator, with the confidential information being clearly marked and subjected to Confidentiality provisions in the Overview Process document Section 12.1.

The Area EPS Operator may contract with consultants to perform activities required under the Facilities Study Agreement. The Interconnection Customer and the Area EPS Operator may agree to allow the Interconnection Customer to separately arrange for the design of some of the Interconnection Facilities. In such cases, facilities design will be reviewed and/or modified prior to acceptance by the Area EPS Operator, under the provisions of the Facilities Study Agreement. The Area EPS Operator shall make sufficient information available to the Interconnection Customer, in accordance with confidentiality and critical infrastructure requirements, to permit the Interconnection Customer to obtain an independent design and cost estimate for any necessary facilities.

### 6.5. Facilities Study Report Timeline

In cases where Upgrades are required, the Facilities Study must be completed within forty-five (45) Business Days of the receipt of the executed Facilities Study Agreement and deposit. In cases where no Upgrades are necessary, and the required facilities are limited to Interconnection Facilities, the Facilities Study must be completed within thirty (30) Business Days of the receipt of the executed Facilities Study Agreement and deposit.

Once the Facilities Study is completed, a draft Facilities Study Report shall be prepared and transmitted to the Interconnection Customer. Upon request, the Area EPS Operator shall provide the Interconnection Customer supporting documentation developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with these procedures and the Facilities Study Agreement.

Within ten (10) Business Days of providing a draft Facilities Study Report to the Interconnection Customer, the Area EPS Operator and Interconnection Customer shall meet to discuss the results of the Facilities Study. This meeting may be omitted by mutual agreement. The Interconnection Customer may, within twenty (20) Business Days after receipt of the draft report, provide written comments to the Area EPS Operator, which the Area EPS Operator shall address in the final report.

The Area EPS Operator shall issue the final Facilities Study Report within fifteen (15) Business Days of receiving the Interconnection Customer's comments, or promptly upon receiving the Interconnection Customer's statement that they will not provide comments. The Area EPS Operator may reasonably extend the time frame, upon notice

to the Interconnection Customer, if the Interconnection Customer's comments require additional analyses or lead to significant modifications by the Area EPS Operator prior to issuance of the final Facilities Study Report.

## **7 Interconnection Agreement**

### **7.1. 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 Customer with an executable copy of the Area EPS Operator's Uniform Contract for Cogeneration and Small Power Production Facilities (Uniform Contract), within five (5) Business Days after the completion of the applicable study(-ies).

### **7.2. Minnesota Municipal 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 Customer in lieu of signing the Uniform Contract, the Area EPS Operator shall provide the Interconnection Customer an executable Minnesota Municipal Interconnection Agreement (MMIA) within five (5) Business Days after the completion of the applicable study(-ies).

### **7.3. Completion of Agreement**

The Interconnection Customer must return a signed Interconnection Agreement at least thirty (30) Business Days prior to the requested in-service date of the propose DER. The Area EPS Operator shall sign and return a copy of the fully executed Interconnection Agreement, back to the Interconnection Customer.

The Interconnection Customer may update the requested in-service date submitted on the Interconnection Application to a date thirty (30) Business Days or later from the date on which the Interconnection Customer submits a signed Interconnection Agreement and payment if required unless the Area EPS Operator agrees to an earlier date.

Upon receipt of the signed Interconnection Agreement, the Area EPS Operator may schedule appropriate metering replacements and construction of facilities, if necessary.

## 8 Insurance

### 8.1. Insurance Requirements

At minimum, the Interconnection Customer 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 those described in Table 8.1. 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 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 8.1 Liability Insurance Requirements*

<b>DER System Size</b>	<b>Liability Insurance Requirement</b>
< 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 DER systems, except those that are qualifying systems less than 40 kW AC, the general liability insurance shall, by endorsement to the policy or policies:

- Include the Area EPS Operator as additionally insured.
- Contain severability of interest clause or cross-liability clause.
- Provide that the Area EPS Operator shall not by reason of its inclusion as an additional insured 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.

### 8.2. Self-Insurance

The Interconnection Customer may choose to be self-insured provided there is an established record of self-insurance. The Interconnection Customer shall supply the Area EPS Operator at least twenty (20) Business 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 8.1. Failure of the Interconnection Customer or the Area EPS 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.

### 8.3. Proof of Insurance

The Interconnection Customer 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. Additionally, 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.

## 9 Timeline Extensions

### 9.1. Reasonable Efforts

The Area EPS Operator shall make Reasonable Efforts to meet all the time frames provided in these procedures. If the Area EPS Operator cannot meet a deadline provided herein, it must notify the Interconnection Customer in writing within three (3) Business Days after the deadline, explaining the reason for the failure to meet the deadline and providing an estimated time by which it will complete the applicable interconnection procedure in the process.

### 9.2. Extensions

For applicable time frames described in these procedures, the Interconnection Customer may request in writing one extension equivalent to half of the time originally allotted (e.g., ten (10) Business Days for a twenty (20) Business Days 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.

## 10 Modifications to Application

### 10.1. Procedures

At any time after the Interconnection Application is deemed complete, the Interconnection Customer or the Area EPS Operator may identify modifications to the proposed DER system that may improve costs and benefits. This includes reliability of the proposed DER system and the ability for the Area EPS Operator to accommodate the proposed DER system. The Interconnection Customer 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.

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### 10.2. Timelines

Within ten (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 Section 13 Glossary of the Process Overview document includes examples of what does and does not constitute a Material Modification.

The Area EPS Operator shall notify the Interconnection Customer in writing of the final determination of the proposed modification. For proposed modifications that are determined to be a Material Modification the Interconnection Customer may choose to either: 1) withdraw the proposed modification; or 2) proceed with a new Interconnection Application. The Interconnection Customer shall provide its choice in writing to the Area EPS Operator within ten (10) Business Days after being provided the Material Modification determination. If the Interconnection Customer does not provide its choice within the timeline, the Interconnection Application shall be considered withdrawn.

If the proposed modification is not determined to be a Material Modification, then the Area EPS Operator shall notify the Interconnection Customer in writing that the modification has been accepted and the Interconnection Customer shall retain its eligibility for interconnection, including its position in the queue.

## 11 Interconnection

### 11.1. Interconnection Milestones

For DER systems that are not a qualifying facility less than 40 kW AC, the Interconnection Customer and the Area EPS Operator shall agree on milestones for which each Party is responsible and list them in Attachment IV in the Interconnection Agreement. To the greatest extent possible, the Parties will identify all design, procurement, installation and construction requirements associated with the project while also clearly identifying associated timelines, at the beginning, or as early within the process as possible, of the design, procurement, installation and construction phase.

A Party's obligation under this provision may be extended by agreement. If a Party anticipates that they will be unable to meet a milestone for any reason other than a Force Majeure Event, they shall immediately notify the other Party of the reason(s) for not meeting the milestone, then 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, or
- Attainment of the same milestone has previously been delayed, or
- 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 document.

### 11.2. Metering

Any metering requirements necessitated by the use of the DER system shall be installed at the Interconnection Customer's expense. The metering-related costs will be included in the final invoice of interconnection costs to the Interconnection Customer. The Interconnection Customer is also responsible for metering replacement costs not covered in the Interconnection Customer's general customer charge. The Area EPS Operator may charge Interconnection Customers an ongoing metering-related charge for an estimate of ongoing metering-related costs specifically demonstrated.

### 11.3. Inspection, Testing and Commissioning

Upon completing construction of the DER system, the Interconnection Customer will cause the DER system to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction. The Interconnection Customer shall then arrange for the inspection and testing of the DER system and the Customer's Interconnection Facilities prior to interconnection pursuant to Minnesota Technical Requirements. Commissioning tests of the Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards of Minnesota's Technical Requirements and Section 15 in the Overview Process.

The Interconnection Customer shall notify the Area EPS Operator of testing and inspection no fewer than five (5) Business Days in advance, or as may be agreed to by the Parties. The Interconnection Customer 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 (10) Business Days prior to the testing and inspection date. The testing procedure should include tests and/or inspections to confirm the DER system will meet the technical requirements of interconnection. The Area EPS Operator shall review the testing procedure for completeness and notify the Interconnection Customer if the

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testing procedure fails to address components of the technical requirements 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 Business Day at a mutually agreed upon date and time. The Area EPS Operator may waive the right to witness the testing.

### 11.4. Interconnection Costs

#### 11.4.1 Estimation of Interconnection Costs

The Interconnection Customer 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 in the MMIA in Attachment II, Interconnection Facilities and Upgrades, 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 Customer pursuant to the Transmission Provider and associated agreements.

#### 11.4.2 Progressive Payment of Interconnection Costs

The Area EPS Operator shall invoice the Interconnection Customer for the design, engineering, construction and procurement costs of the Interconnection Facilities and Upgrades described in the MMIA Attachment II, on a monthly basis, or other manner agreed upon by both Parties in the MMIA, or as described in the Uniform Contract. The Interconnection Customer shall pay each invoice within twenty-one (21) Business Days or as agreed to in the MMIA or Uniform Contract.

#### 11.4.3 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 Customer within eighty (80) Business Days (approximately four calendar months) of completing the construction and installation of the Area EPS Operator's Interconnection Facility and Upgrades. The Area EPS Operator shall provide the Interconnection Customer with a final accounting report identifying the difference between the actual Interconnection Customer's cost responsibility and the Interconnection Customer's previous aggregate payments to the Area EPS Operator for the specific DER system interconnection. Upon the final accounting submitted to the Interconnection Customer, the balance between the actual cost and previously

aggregated payments shall be paid to the Area EPS Operator within twenty (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 Customer within twenty (20) Business Days.

#### 11.4.4 Final Interconnection Costs without Facilities and Upgrades Needed

Within thirty (30) Business Days the final invoice for the interconnection costs shall be rendered to the Interconnection Customer 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 Customer shall make payment to the Area EPS Operator within twenty-one (21) Business Days of receipt, or as otherwise stated in the Uniform Contract or MMIA.

### 11.5. 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 Customer 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 Customer signs the Interconnection Agreement.
- An additional one-third of estimated costs, shall be due prior to initial energization of the DER with the Area EPS Operator.
- After the project completion, the remainder of actual costs, incurred by Area EPS Operator, shall be due within thirty (30) Business Days from the date the invoice is mailed.

Under the Modified Security method, at least twenty (20) Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete

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portion of the Area EPS Operator's Interconnection Facilities and Upgrades, the Interconnection Customer shall provide the Area EPS Operator, at the Interconnection Customer's option, a guaranty, 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 guaranty 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 Customer, 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 not sooner than sixty (60) Business Days, (three calendar months), after the due date of the final accounting report and invoice described in Section 11.4.

### 11.6. Non-Warranty

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 Customer, 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 customer base.

### 11.7. Authorization for Parallel Operation

The Interconnection Customer 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 three (3) Business Days from when the Area EPS Operator receives notification that the Interconnection Customer has complied with all applicable parallel operations requirements and commissioning has been successfully completed. Such authorization shall not be unreasonably withheld, conditioned or delayed.

### 11.8. Continual Compliance

The Interconnection Customer shall operate its DER system in compliance with the Area EPS Operator's technical requirements referred to in the executed Interconnection Agreement. The Area EPS Operator may periodically inspect, at its own expense, the operation of DER system as it relates to power quality, thermal limits and reliability. Failure by the Interconnection Customer 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.

### 11.9. 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 IEEE 1547 settings approved by the Area EPS Operator as indicated by the adopted technical requirements.
- Does not meet all the requirements of the Study 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 Study Process.

The Area EPS Operator shall inform the Interconnection Customer in advance of any scheduled disconnections, or as reasonable, after an unscheduled disconnection.