

Minnesota Municipal Interconnection Process (M-MIP)

Booklet #4

Study Process

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

Contents

- 1 Applicability** 1
 - 1.1. Applicability 1
 - 1.2. Codes, Standards and Certification Requirements 1
- 2 Application Submission** 1
 - 2.1. Initial Interconnection Application for the Study Process 1
 - 2.2. Professional Licensed Engineer Signature 2
 - 2.3. Battery Storage 2
 - 2.4. Site Control..... 2
 - 2.5. Interconnection Applications from Other Processes..... 2
- 3 Initial Steps** 3
 - 3.1. Completeness Review and Queue Position 3
 - 3.2. Scoping Meeting..... 3
- 4 System Impact Study** 4
 - 4.1. Electric System Impacts..... 4
 - 4.2. System Impact Study Agreement..... 4
 - 4.3. System Impact Study Costs 4
 - 4.4. System Impact Study Timelines 4
- 5 Transmission System Impact Study** 5
 - 5.1. Transmission System Impacts 5
 - 5.2. Transmission System Impact Study Timelines 6
 - 5.3. Regional Transmission Operator Jurisdiction 6
- 6 Facilities Study** 6
 - 6.1. Construction of Facilities..... 6
 - 6.2. Facilities Study Agreement..... 6
 - 6.3. Facilities Study Timeline..... 7
 - 6.4. Identification of Construction of Facilities..... 7
 - 6.5. Facilities Study Report Timeline..... 8
- 7 Interconnection Agreement**..... 9
 - 7.1. Uniform Contract 9

7.2.	Minnesota Municipal Interconnection Agreement	9
7.3.	Completion of Agreement.....	9
8	Insurance	10
8.1.	Insurance Requirements	10
8.2.	Self-Insurance.....	10
8.3.	Proof of Insurance	11
9	Timeline Extensions	11
9.1.	Reasonable Efforts	11
9.2.	Extensions	11
10	Modifications to Application	11
10.1.	Procedures	11
10.2.	Timelines	12
11	Interconnection	12
11.1.	Interconnection Milestones	12
11.2.	Metering.....	13
11.3.	Inspection, Testing and Commissioning.....	13
11.4.	Interconnection Costs	14
11.5.	Security of Payment	15
11.6.	Non-Warranty	16
11.7.	Authorization for Parallel Operation.....	16
11.8.	Continual Compliance	17
11.9.	Disconnection of DER.....	17

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.

Study Process

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:

- Certified¹ 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.

¹ 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

Study Process

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,

Study Process

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

Study Process

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

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 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.

Study Process

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

Study Process

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

Study Process

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.

Pre-Application Report Request

Persons interested in additional information regarding the interconnection of a distributed energy resource to their utility's distribution system are to fill out this Pre-Application Report Request. The Pre-Application Report Request is to be filled out as completely as possible by the applicant. Please type or print clearly. The utility will provide the applicant with a Pre-Application Report within 15 business days once the completed Pre-Application Report Request and a \$300 fee is submitted to the utility.

Distributed Energy Resource Information		
Project address:		
City:	State:	Zip code:
GPS coordinates:	Nearby cross streets:	
Location of the proposed Point of Common Coupling (e.g., meter number or pole number):		
DER type <i>(Check all that apply)</i> :		
<input type="checkbox"/> Solar photovoltaic	<input type="checkbox"/> Wind	<input type="checkbox"/> Battery storage
<input type="checkbox"/> Combined Heat & Power	<input type="checkbox"/> Solar thermal	<input type="checkbox"/> Other (please specify)
Total aggregate nameplate rating of proposed DER system (kW AC):		
Phase configuration of proposed DER system	<input type="checkbox"/> Single	<input type="checkbox"/> Three
Service voltage of proposed DER system	Volts	
Will this be a stand-alone generator not interconnected to onsite load (not including station service)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Please attach copy of site map for proposed project and any additional information that may be helpful in fulfilling the pre-application request. Site map should include true north, proposed project location including general layout, proposed service point location and major roadways.

For Office Use Only	
Date received:	Application fee received: <input type="checkbox"/> Yes <input type="checkbox"/> No
Date completed Pre-Application Report sent to applicant:	

Point of Interconnection – Additional Information	
Is the proposed interconnection to an existing service? (If no, applicant is to skip to the next section.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Customer name:	Customer account number:
Existing loads at site (<i>kW AC</i>):	
List future additional loads planned for at site (<i>in kW AC</i>):	

Project Contact Information		
Full name:		
Name of business:		
Street address:		
City:	State:	Zip code:
Email:	Phone:	

Payment and Agreement	
<p>There is a non-refundable \$300 fee for the construction of a pre-application report. By signing this document, I acknowledge and understand that:</p> <ul style="list-style-type: none"> • Neither review of this application nor construction of any report shall begin until the full amount of the fee has been paid to my utility. • My utility shall provide a report with only the available information on the proposed point of interconnection. • The information provided by my utility may become outdated and not useful at the time of submission of a complete Interconnection Application. • The confidentiality provisions in Section 12.1 of the Overview Process of the Minnesota Municipal Interconnection Process apply. • Upon receipt of the report no guarantee is made by my utility that a future Interconnection Application will be approved for this proposed site. 	
_____	_____
Applicant signature	Date
Please return completed along with any additional documentation	

Pre-Application Report

This report summarizes information available to the utility regarding the potential interconnection of a distributed energy resource to the utility's distribution system. The report includes only information that is readily available to the utility. This report is not a guarantee by the utility that a future interconnection application will be approved for the proposed site. Information provided in this report is subject to change as modifications are made to the utility's distribution system.

Pre-Application Request			
Pre-application ID:			
Project address:			
DER size:		kW _{ac}	DER type:
Project contact:			
Email:		Phone:	

Electric Distribution System Information			Info not available
Total capacity of the circuit based on normal conditions likely to serve the proposed PCC*		MW _{ac}	
Existing aggregate generation capacity interconnected to the circuit likely to serve the proposed PCC		MW _{ac}	
Aggregate queued generation capacity for the circuit likely to serve the proposed PCC		MW _{ac}	
Available capacity of the circuit most likely to serve the proposed PCC		MW _{ac}	
Estimated peak load of relevant line sections		kW _{ac}	
Estimated minimum load of relevant line sections (Daytime minimum load to be specified for solar DER if available)		kW _{ac}	
Substation voltage (Nominal distribution)		kV	
Substation voltage (Nominal transmission)		kV	
Nominal distribution circuit voltage at proposed PCC		kV	

*PCC = Point of Common Coupling

Electric Distribution System Information - Continued			
			Info not available
Approximate circuit distance between the proposed PCC and the substation		Miles	
Distance to three-phase circuit (If not already located on a three-phase circuit)		Miles	
Limiting conductor ratings from the proposed PCC to the substation		Amps	
Number of available phases on the area EPS at the proposed PCC		Phases	
Is the proposed point of common coupling located on a spot network, grid network, or radial supply?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is the proposed PCC located behind a line voltage regulator?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Type of voltage regulating devices between substation and proposed PCC	Device A		
	Device B		
	Device C		
Number and type of protection devices between substation and proposed PCC	Device A		
	Device B		
	Device C		
Any additionally known distribution system constraints?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Additional known constraints that could affect installation or operation of the DER or Area EPS at the proposed PCC are attached to this report. Constraints may include, but are not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

Utility Information			
Report completed by:			
Company:			
Project contact:			
Email:		Phone:	

Simplified Interconnection Application

Persons interested in applying for the interconnection of a distributed energy resource (DER) to the utility’s distribution system through the Simplified Process are to fill out this Simplified Interconnection Application. This application is to be used for inverter-based DER technologies with the capacity of 20 kW_{ac} or less and is to be filled out completely by the applicant. The application shall be returned to the utility with the requested information and material and a non-refundable \$100 application fee.

Proposed DER interconnections to the utility’s distribution system submitted under the Simplified Process may be moved into the Fast Track Process if engineering screens are failed during the Simplified Interconnection Application review. The timeline for review of this application is as follows:

- Upon receipt of a Simplified Interconnection Application the utility has 10 business days to review the application for completeness.
- If the application is deemed incomplete, the utility shall notify the applicant of what additional information or material is required.
- The applicant has 5 business days to return the missing information and/or material or their application may lose its queue position and be deemed withdrawn.
- The utility shall have a total of 20 business days to review the Simplified Interconnection Application, not including time waiting for additional information or material necessary for the application to be deemed complete.
- The utility will notify the applicant if the proposed DER system is preliminarily approved for interconnection or if the proposed DER system will need to be moved into the Fast Track Process.

The Simplified Interconnection Application is to be filled out clearly and completely by the applicant or as noted in each section of the application. Sections that are noted with an asterisk (*) are required to be filled out along with **bolded items**.

Checklist for Submission to Utility	
<i>The items below shall be included with submittal of this Simplified Interconnection Application to the utility. Applications that fail to include all items will be deemed incomplete.</i>	
	Included
\$100 non-refundable processing fee	<input type="checkbox"/> Yes
One-line diagram (See Technical Specification Manual (“TSM”) for more details)	<input type="checkbox"/> Yes
Documentation showing site control	<input type="checkbox"/> Yes
Site diagram showing DER system layout (See TSM for more details)	<input type="checkbox"/> Yes
Possible Additional Documentation (See TSM for more details)	
<ul style="list-style-type: none"> • If requesting the DER export capacity to be limited, include information material explaining the limiting capabilities. • Schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable). • Documentation that describes and details the operation of protection and control schemes (if applicable). • Inverter specification sheet(s). 	

Applicant *	
First and last name:	
Name on electric service account, if different:	
Account number:	Meter number:
Mailing address:	
Email:	Phone:

Application Agent *	
Is the applicant using an application agent for this application? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If Applicant is not using an application agent, please continue to next section.</i>	
Agent name:	
Agent's company name:	
Email:	Phone:

DER Location *	
Is the proposed DER system to be located at the applicant's mailing address: <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If yes, please continue to the next section.</i>	
If no, will the proposed DER system be interconnected to an existing electric service? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Please provide the address or GPS coordinates:	
If not an existing service, please state the proposed service entrance size (amps):	

General *	
Choose one of the following and provide applicable data:	
<input type="checkbox"/> Application is for a new DER	
Aggregate DER nameplate rating of all generation and storage types (kW _{ac}):	
<input type="checkbox"/> Application is for a capacity addition to an existing DER	
Capacity of existing DER (kW _{ac}):	Capacity proposed to be added (kW _{ac}):
<input type="checkbox"/> Application is for a "Material Modification" to an existing DER (See M-MIP Process Overview, p. 21)	
If Material Modification to existing facility, please describe:	
Distributed Energy Resource will be used for what reason? (Check all that apply):	
<input type="checkbox"/> Net metering	<input type="checkbox"/> Only to supply power to applicant
<input type="checkbox"/> Only to supply power to Area EPS	
Installed DER system cost (before incentives): \$	

Distributed Energy Resource Information *			
Phase configuration of Distributed Energy Resource(s): <input type="checkbox"/> Single-phase <input type="checkbox"/> Three-phase			
DER type (Check all that apply and list aggregate capacity of each type):			
<input type="checkbox"/> Solar photovoltaics	Size (kW _{ac}):	<input type="checkbox"/> Wind	Size (kW _{ac}):
<input type="checkbox"/> Storage	Size (kW _{ac}):	<input type="checkbox"/> Other	Size (kW _{ac}):
Please specify other:			

Export Capacity Limitation *	
Is the maximum physical export capacity request the same as the nameplate capacity? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If yes, please continue to the next section.</i>	
If no, what is the maximum physical export capacity requested?	kW _{ac}
Is the export capacity limited? (E.g., through the use of a control system, power relay(s), or other similar devices setting of adjustment) <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If yes, please attach detailed information describing the method of limiting export capacity.</i>	

Inverter Interconnected System Information – non ESS (if applicable) *	
Aggregate inverter rating (kW _{ac}):	Total number of inverters:
Phase configuration of inverter(s): <input type="checkbox"/> Single-phase <input type="checkbox"/> Three-phase	
Voltage of inverter(s):	
Inverter manufacturer:	
1. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
2. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
3. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
4. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:

Energy Storage System Information (if applicable)	
ESS inverter energy rating (kWh _{ac}):	ESS inverter capacity rating (kW _{ac}):
How will the ESS be used? Select all use cases that apply. <input type="checkbox"/> Outage protection/backup power <input type="checkbox"/> Demand reduction <input type="checkbox"/> No export <input type="checkbox"/> Time-of-use energy management <input type="checkbox"/> Increased self-consumption <input type="checkbox"/> Other	
Please specify other:	
What operating modes will be used? Select only one operating mode. <input type="checkbox"/> Import only <input type="checkbox"/> Export only <input type="checkbox"/> No exchange <input type="checkbox"/> Unrestricted exchange	
If export only is checked, select all that apply. <input type="checkbox"/> ESS export is allowed <input type="checkbox"/> Solar export is allowed <input type="checkbox"/> Limited export is allowed (please specify export limit amount in kW):	
Is the ESS recharging limited to certain times of the day and/or after a power outage? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please explain:	
<i>If the ESS shares an inverter that is listed in the previous section, please skip the rest of this section.</i>	
Aggregate ESS inverter rating (kW _{ac}):	Total number of ESS inverters:
Phase configuration of ESS inverter(s):	<input type="checkbox"/> Single-phase <input type="checkbox"/> Three-phase
Voltage of ESS inverter(s):	
ESS inverter manufacturer:	
1. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
2. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
3. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
4. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:

Additional Documentation

Please see the Area EPS Operator’s Technical Specification Manual (TSM) for requirements that need to be on the one-line and site diagram and for example application documentation.

Please see the Minnesota Municipal Interconnection Process (M-MIP) for additional requirements related to site control and insurance documentation.

Interconnection Agreement *

An approved interconnection applicant is referred to throughout the Minnesota Municipal Interconnection Process as an Interconnection Customer and will be provided one of two interconnection agreement forms from the Process to encapsulate the rights and obligations of the Interconnection Customer and the utility. For facilities that qualify to proceed through the Simplified Process, the Interconnection Customer may elect to utilize the simpler Uniform Contract form. Included in this contract are payment terms for purchase by the utility of excess power generated by the interconnected DER system. The Interconnection Customer has the option, however, to utilize the longer Minnesota Municipal Interconnection Agreement form in lieu of the Uniform Contract.

Would the applicant prefer to utilize the Minnesota Municipal Interconnection Agreement form in lieu of the Uniform Contract form?

Yes No

Acknowledgements – Must be completed by applicant *

Initials

An Interconnection Customer has opportunities to request a timeline extension during the interconnection process. Failure by the Interconnection Customer to meet or request an extension for a timeline outlined in the Interconnection Process could result in a withdrawn queue position and the need to re-apply.

Proposed DER interconnections to the utility’s distribution system submitted under the Simplified Process may be moved into the Fast Track Process if engineering screens are failed during the interconnection application review. Interconnection Customers would be contacted regarding the next steps in the Fast Track Process.

Application Signature – Must be completed by Applicant *

I designate the individual or company listed as my Application Agent to serve as my agent for the purpose of coordinating with the Area EPS Operator on my behalf throughout the interconnection process.

Initials

I hereby certify that, to the best of my knowledge, the information provided in this Interconnection Application is true and I have appropriate Site Control in conformance with the Interconnection Process. I agree to abide by the terms and conditions for Interconnecting an Inverter-based Distribution Energy Resource No Larger than 20 kW (Simplified Process) and return the Certification of Completion when the DER has been installed.

Applicant Signature

Date

***** Please return completed application and include all documentation *****

Interconnection Application

Persons interested in applying for the interconnection of a distributed energy resource (DER) to the utility’s distribution system through the Fast Track or Study Processes are to fill out this Interconnection Application. The Interconnection Application is to be filled out completely by the applicant or as noted in each section of the application. The utility will contact the applicant within 10 business days once the Interconnection Application and the corresponding processing fee is submitted to the utility. The utility will then notify the applicant of the completeness of their application. If the application is deemed incomplete by the utility, the utility will provide the applicant with a list of missing material. The applicant will then have 10 business days to provide the utility with this information or request an extension, otherwise the application will be deemed incomplete, and the applicant will lose their place in the queue.

The Interconnection Application is to be filled out clearly and completely by the applicant or as noted in each section of the application. Sections that are noted with an asterisk (*) are required to be filled out along with **bolded items**.

Checklist for Submission to Area EPS Operator	
<i>The items below shall be included with submittal of the Interconnection Application to the Area EPS Operator. Applications that fail to include all items will be deemed incomplete.</i>	
	Included
Non-refundable processing fee Fast Track Process <ul style="list-style-type: none"> • \$100 + \$1/kW for Certified systems • \$100 + \$2/kW for Non-certified systems Study Process <ul style="list-style-type: none"> • \$1,000 + \$2/kW down payment. Additional study fees may apply. 	<input type="checkbox"/> Yes
One-line diagram <ul style="list-style-type: none"> • Please see Area EPS Operator’s Technical Specification Manual (TSM) for more details. 	<input type="checkbox"/> Yes
Documentation showing site control	<input type="checkbox"/> Yes
Site diagram showing DER system layout (See TSM for more details)	<input type="checkbox"/> Yes
<u>Possible additional documentation (See TSM for more details)</u> <ul style="list-style-type: none"> • If requesting the DER export capacity to be limited, include information material explaining the limiting capabilities. • Schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable). • Documentation that describes and details the operation of protection and control schemes (if applicable). • Inverter specification sheet(s) (if applicable). 	

Applicant *	
First and last name:	
Name on electric service account, if different:	
Account number:	Meter number:
Mailing address:	
Email:	Phone:

Application Agent *	
Is the applicant using an Application Agent for this application? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If Interconnection Customer is not using an Applicant Agent, please continue to next section.</i>	
Application agent:	
Agent's company name:	
Email:	Phone:

DER Location *	
Is the proposed DER system to be located at the applicant's mailing address: <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If yes, please continue to the next section.</i>	
If no, will the proposed DER system be interconnected to an existing electric service? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Please provide the address or GPS coordinates:	
If not an existing service, please state the proposed service entrance size (amps):	

General *	
Select Review Process: <input type="checkbox"/> Fast Track Process <input type="checkbox"/> Study Process	
Choose one of the following and provide applicable data:	
<input type="checkbox"/> Application is for a new DER	
Aggregate DER nameplate rating of all generation and storage types (kW _{ac}):	
<input type="checkbox"/> Application is for a Capacity Addition to an existing DER	
Capacity of existing DER (kW _{ac}):	Capacity proposed to be added (kW _{ac}):
<input type="checkbox"/> Application is for a Material Modification to an existing DER (See M-MIP Process Overview, p. 21)	
If Material Modification to existing facility, please describe:	
Distributed Energy Resource will be used for what reason? (Check all that apply):	
<input type="checkbox"/> Net metering	<input type="checkbox"/> Only to supply power to applicant
<input type="checkbox"/> Only to supply power to Area EPS	
Type of generator (check all that apply):	<input type="checkbox"/> Inverter <input type="checkbox"/> Induction or synchronous
Installed DER system cost (before incentives): \$	

Distributed Energy Resource Information *			
Phase configuration of Distributed Energy Resource(s): <input type="checkbox"/> Single-phase <input type="checkbox"/> Three-phase			
DER type (Check all that apply and list aggregate capacity of each type):			
<input type="checkbox"/> Solar photovoltaics	Size (kW _{ac}):	<input type="checkbox"/> Wind	Size (kW _{ac}):
<input type="checkbox"/> Storage	Size (kW _{ac}):	<input type="checkbox"/> Diesel	Size (kW _{ac}):
<input type="checkbox"/> Natural gas	Size (kW _{ac}):	<input type="checkbox"/> Fuel oil	Size (kW _{ac}):
<input type="checkbox"/> Hydro type	Size (kW _{ac}):	<input type="checkbox"/> Other	Size (kW _{ac}):
Please specify Other:			

Export Capacity Limitation *	
Is the maximum physical export capacity request the same as the nameplate capacity: <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If yes, please continue to the next section.</i>	
If no, what is the maximum physical export capacity requested?	kW _{ac}
Is the export capacity limited? (E.g., through the use of a control system, power relay(s), or other similar devices setting of adjustment) <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If yes, please attach detailed information describing the method of limiting export capacity.</i>	

Interconnection Facilities Information *		
What type of DER interconnection/transfer method is proposed?		
<input type="checkbox"/> None (DER is never operating parallel with the distribution system)		
<input type="checkbox"/> Extended parallel/continuous (The normal state of the DER is to operate parallel with the distribution system.)		
<input type="checkbox"/> Limited (DER operated parallel with the distribution system for a short time). Please specify what type of Limited.		
<input type="checkbox"/> Quick closed (100msec parallel or less)		<input type="checkbox"/> Limited parallel (2 minutes or less)
Will a transfer switch be used with the DER? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Manufacturer:	Model:	Load rating (in Amps):
Will a transformer, owned by the Interconnection Customer, be used between the DER and the Point of Common Coupling?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Please show proposed location of protective interface equipment on property on the submitted site diagram.		

Transformer Data, if applicable (For Interconnection Customer-Owned Transformer) (E.g., Transformers used for secondary voltage conversion or primary metered interconnections)			
What is the phase configuration of the transformer?			<input type="checkbox"/> Single-phase <input type="checkbox"/> Three-phase
Size (kVA):		Transformer impedance (%):	On kVA base:
Transformer volts: (Primary)	Delta:	Wye:	Wye grounded:
Transformer volts: (Secondary)	Delta:	Wye:	Wye grounded:
Transformer volts: (Tertiary)	Delta:	Wye:	Wye grounded:
Transformer Fuse Data (For Interconnection Customer-Owned Fuse)			
Manufacturer:	Type:	Size:	Speed:
Interconnecting Circuit Breaker, if applicable (For Interconnection Customer-Owned Circuit Breaker)			
Manufacturer:		Type:	
Load rating (in amps):	Interrupting rating (in amps):	Trip speed (cycles):	
Interconnection Protective Relays: Please show protective relay manufacturer, model and type on the one-line diagram.			
Current and Potential Transformer Data: Please show CT ratios and CT/PT locations on one-line.			

Fill out all following sections which pertain to the proposed DER installation

Inverter Interconnected System Information – non ESS (if applicable)	
Aggregate inverter rating (kW _{ac}):	Total number of inverters:
Phase configuration of inverter(s):	<input type="checkbox"/> Single-phase <input type="checkbox"/> Three-phase
Voltage of inverter(s):	
Inverter manufacturer:	
1. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
2. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
3. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
4. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:

Energy Storage System Information (if applicable)	
ESS inverter energy rating (kWh _{ac}):	ESS inverter capacity rating (kW _{ac}):
How will the ESS be used? Select all use cases that apply. <input type="checkbox"/> Outage protection/backup power <input type="checkbox"/> Demand reduction <input type="checkbox"/> No export <input type="checkbox"/> Time-of-use energy management <input type="checkbox"/> Increased self-consumption <input type="checkbox"/> Other	
Please specify other:	
What operating modes will be used? Select only one operating mode. <input type="checkbox"/> Import only <input type="checkbox"/> Export only <input type="checkbox"/> No exchange <input type="checkbox"/> Unrestricted exchange	
If Export Only is Checked, select all that apply. <input type="checkbox"/> ESS export is allowed <input type="checkbox"/> Solar export is allowed <input type="checkbox"/> Limited export is allowed (please specify export limit amount in kW):	
Is the ESS recharging limited to certain times of the day and/or after a power outage? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please explain:	
<i>If the ESS shares an inverter that is listed in the previous section, please skip the rest of this section.</i>	
Aggregate ESS inverter rating (kW _{ac}):	Total number of ESS inverters:
Phase configuration of ESS inverter(s):	<input type="checkbox"/> Single-phase <input type="checkbox"/> Three-phase
Voltage of ESS inverter(s):	
ESS inverter manufacturer:	
1. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
2. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
3. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:
4. Model No.	Certification <input type="checkbox"/> UL 1741 <input type="checkbox"/> UL 1741-SA <input type="checkbox"/> UL 1741-SB
Inverter rating (kW _{ac}):	Number of units of this model:

Rotating Generation System Information (if applicable)**Prime Mover Information**

Please indicate the prime mover:

 Microturbine
 Reciprocating engine
 Hydro
 Wind
 Other (please specify)
Generator type
 Induction
 Synchronous

Manufacturer:

Model name & number:

Version:

Summer name plate rating:

 kW_{ac}

Summer name plate rating:

 kW_{ac}

Winter name plate rating:

 kVA_{ac}

Winter name plate rating:

 kVA_{ac}

Rated power factor:

Leading:

Lagging:

Distributed Energy Resource Characteristic Data (for Synchronous machines)

RPM frequency:

Neutral grounding resistor:

Direct axis synchronous reactance, X_d :Zero sequence reactance, X_0 :Direct axis transient reactance, X'_d :

KVA base:

Direct axis subtransient reactance, X''_d :

Field volts:

Negative sequence reactance, X_2 :

Field amperes:

For synchronous generators 1 MW or larger, please provide the appropriate IEEE model block diagram of excitation system, governing system and power system stabilizer (PSS) in accordance with the regional reliability council criteria. A PSS may be determined to be required by applicable studies. A copy of the manufacturer's block diagram may not be submitted.

Distributed Energy Resource Characteristic Data (for Induction machines)	
RPM Frequency:	Neutral grounding resistor:
Motoring power (kW):	Exciting current:
Heating time constant:	Temperature rise:
Rotor resistance, R_r :	Frame size:
Stator resistance, R_s :	Design letter:
Stator reactance, X_s :	Reactive power required In Vars (no load):
Rotor reactance, X_r :	Reactive power required In Vars (full load):
Magnetizing reactance, X_m :	Total rotating inertia, H:
Short circuit reactance, X_d'' :	

Additional Documentation

On the one-line diagram please show the interconnection transformer and provide the transformer winding configuration, primary and secondary transformer voltage, transformer protection information and expected impedance. Please also show how the transformer will be protected to meet the NEC requirements.

Please see the Area EPS Operator’s Technical Specification Manual (TSM) for requirements that need to be on the one-line and site diagrams and for application documentation examples.

Please see the Minnesota Municipal Interconnection Process for additional requirements related to site control and insurance documentation.

Interconnection Agreement *

An approved interconnection applicant is referred to throughout the Minnesota Municipal Interconnection Process as an Interconnection Customer and will be provided one of two interconnection agreement forms from the Process to encapsulate the rights and obligations of the Interconnection Customer and the utility. For facilities that qualify to proceed through the Simplified Process, the Interconnection Customer may elect to utilize the simpler Uniform Contract form. Included in this contract are payment terms for purchase by the utility of excess power generated by the interconnected DER system. The Interconnection Customer has the option, however, to utilize the longer Minnesota Municipal Interconnection Agreement form in lieu of the Uniform Contract.

Would the applicant prefer to utilize the Minnesota Municipal Interconnection Agreement form in lieu of the Uniform Contract form?

Yes No

Acknowledgements – Must be completed by Interconnection Customer *

	Initials
An Interconnection Customer has opportunities to request a timeline extension during the interconnection process. Failure by the Interconnection Customer to meet or request an extension for a timeline outlined in the Interconnection Process could result in a withdrawn queue position and the need to re-apply.	
Proposed DER interconnections to the utility’s distribution submitted under the Fast Track Process may be moved into the Study Process if engineering screens are failed during the Interconnection Application review. Interconnection Customers would be contacted to approve being moved into the Study Process.	

Application Signature – Must be completed by Interconnection Customer *

I designate the individual or company listed as my Application Agent to serve as my agent for the purpose of coordinating with the Area EPS Operator on my behalf throughout the interconnection process.

Initials

I hereby certify that, to the best of my knowledge, the information provided in this Interconnection Application is true, and that I have appropriate Site Control in conformance with the Interconnection Process. I agree to abide by the terms and conditions of the Interconnection Process and will inform the utility if the proposed DER system changes from the details listed in this Interconnection Application.

Applicant Signature

Date

*****Please print clearly or type and return completed along with any additional documentation*****