

**Minnesota Municipal  
Interconnection Process (M-MIP)**

# **NON-EXPORT PROCESS**

Booklet #5

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For interconnecting DER systems of up to 100kW that will not export electricity to the utility distribution system



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## 1 Introduction

The Non-Export Process is designed for inverter-based DER system that will not export power to the distribution grid. This can include electric vehicles, electric storage systems (batteries) or renewable systems that are combined with an electric storage system so not to allow energy to flow out to the distribution system. It is very important to note that the electric load of a service cannot be used to qualify a DER as non-exporting. Electric load varies dependent on the usage patterns, hence is not a reliable factor in determining if a DER system will not export power to the grid. To qualify for the Non-Export Process, a DER system will need to have certified controls and provide settings to the utility for confirmation.

## 2 Applicability

### 2.1 Capacity Limit

The Non-Export Process is available to an Interconnection Customer proposing to interconnect a non-exporting, inverter-based Distributed Energy Resource (DER) with the Area EPS Operator's Distribution System provided the non-exporting DER Capacity Rating does not exceed 100 kW AC. The DER Capacity Rating is determined by the aggregation of production ability for the DER units that make up the DER system without incorporating electric load of the service.

### 2.2 Additional Capacity Applications

For existing DER systems that are adding a non-exporting DER component less than 100 kW AC, the Non-Export Process may be used for the capacity addition. This is applicable for non-exporting Energy Storage Systems (ESS) added to an existing DER system, (ex. solar) whether the inverter for the ESS is separate or shared with the existing DER units.

### 2.3 Export Capacity of a DER System

A DER system may include devices, (i.e. control systems, power relays or other similar device settings), that can limit the export capacity to the Area EPS Operator's distribution grid. The export capacity of a DER system may be different than the Capacity Rating of the DER system. For a proposed DER system to be reviewed through the Non-Export Process, the export capacity of the DER system will be different than the Capacity Rating of the DER system.

For DER systems that include export capacity limited devices, the Interconnection Customer must obtain the Area EPS Operator's agreement to consider the DER system with an export capacity rating that is less than the DER system's Capacity Rating. Acceptable methods for limiting the export capacity of the DER system are listed in Section 6.5 of the M-MIP Process Overview. The Interconnection Customer must submit a completed Modified

Capacity of a DER System supplemental form with their interconnection application

## 2.4 Non-Certified Equipment

The Non-Export Process is only to be utilized with certified DER equipment, specifically UL 1741-SB, UL 1741-SC, UL 1741-PCS or UL 3141. Non-certified equipment for non-exporting systems will need to use the Fast Track Process.

## 3 Acceptable Non-Export Controls

### 3.1 Certified Inverter Non-Export Setting (UL 1741 SB/SC)

The non-exporting DER will utilize only UL 1741-SB or SC listed grid support (non-islanding) inverters and meets the Technical Requirements in the event of inadvertent export of power from the DER system to the Area EPS.

### 3.2 Certified Power Control System Non-Export Setting (UL 3141)

The non-exporting DER will utilize only UL 1741-PCS or UL 3141 listed power control systems and meets the Technical Requirements in the event of inadvertent export of power from the DER system to the Area EPS.

### 3.3 Reverse Power Protection (Device 32R)

A reverse power protective device will be installed to trip the DER generation or open an inter-tie breaker to isolate the DER generation, if any export of power is measured at the point of common coupling.

## 4 Application Submission

### 4.1 Non-Export Process Application

The Interconnection Customer shall complete the Non-Export Interconnection Application and submit it to the Area EPS Operator to initialize the Interconnection Process. A completed Non-Export Interconnection Application will include the following:

- A completed Non-Export Interconnection Application signed by the Interconnection Customer.
- 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.

## 4.2 Site Control

Documentation of site control must be submitted with the Non-Exporting 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 acquire a leasehold 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.

## 5 Application Review

### 5.1 Timelines

The Non-Exporting Interconnection Application shall be date- and time-stamped upon initial, and if necessary, resubmission receipt. The Interconnection Customer shall be notified of receipt by the Area EPS Operator within ten (10) Business Days of receipt of the interconnection application.

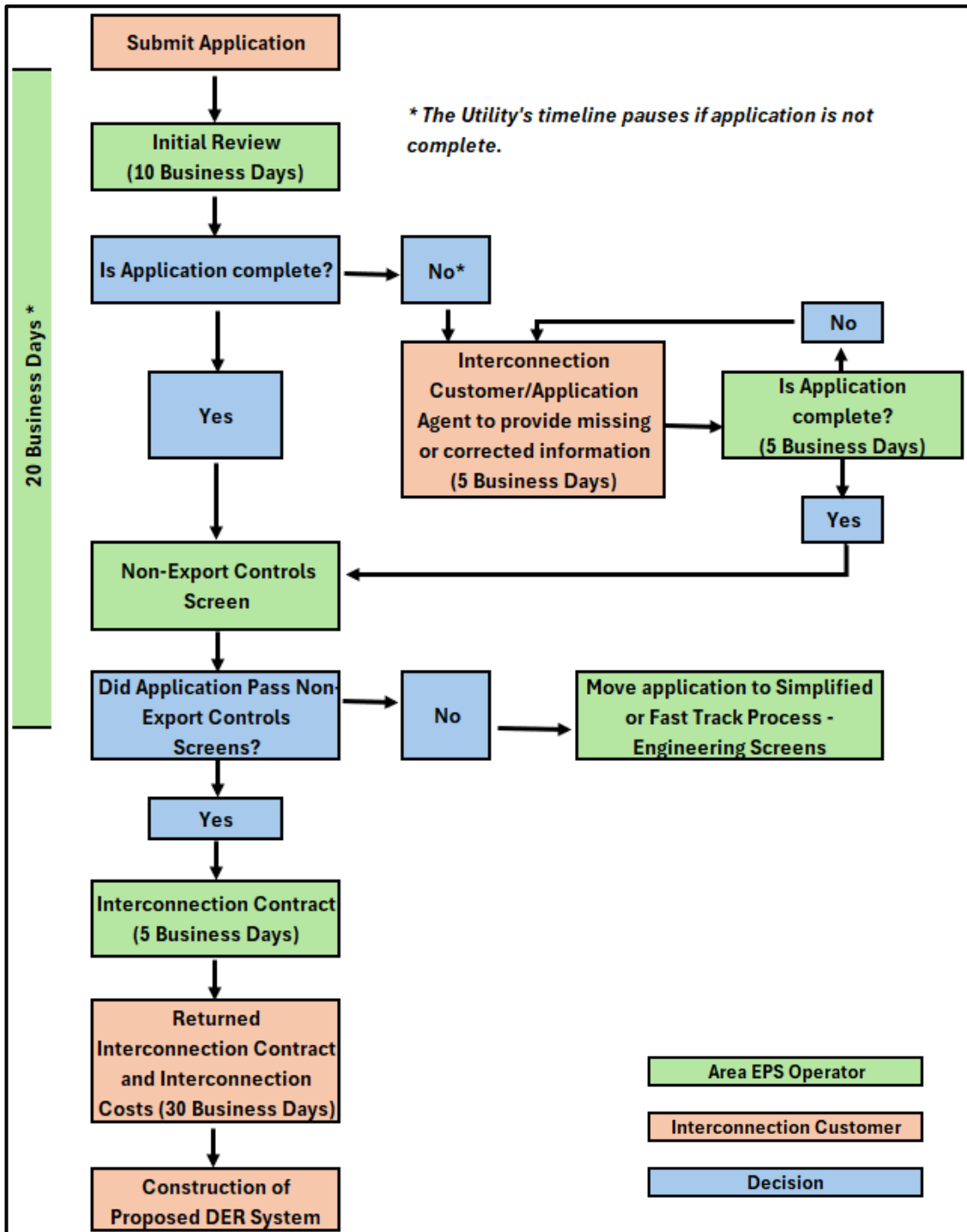
The Area EPS Operator shall notify the Interconnection Customer if the Interconnection Application is deemed incomplete within ten (10) Business Days and provide a written list detailing all information that must be provided to complete the Interconnection Application. The Interconnection Customer has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

The Area EPS Operator has a total of twenty (20) Business Days to complete the Interconnection Application review and submit notice back to the Interconnection Customer stating the proposed DER system may proceed with

the interconnection process, a supplemental review offer is to be made, or the proposed DER system has been moved into a different process track. The period of time waiting for the Interconnection Customer to provide missing information is not included in the Area EPS Operator's twenty (20) Business Days review timeline.

Figure 1. Non-Export Process



## 5.2 Non-Compliance of Acceptable Non-Export Controls

If the proposed Non-Export interconnection application does not meet the criteria listed in Section 0, the Area EPS Operator shall notify the Interconnection Customer and move the interconnection application into the Simplified or Fast Track Process.

## 5.3 Notification of Approval of Application

Provided the Non-Export Interconnection Application meets the criteria listed in Section 0, the Area EPS Operator shall provide the Interconnection Customer with an Interconnection Agreement as outlined in Section 6.

# 6 Interconnection Agreement

## 6.1 Uniform Contract

The Area EPS Operator shall provide the Interconnection Customer with an executable copy of the Area EPS Operator's Contract for Cogeneration and Small Power Production Facilities (Uniform Contract) within five (5) Business Days of notice of approval of the Non-Export Interconnection Application.

## 6.2 Cooperative Interconnection Agreement

The Interconnection Customer may request, on the Non-Export Interconnection Application, an executable copy of the Area EPS Operator's Cooperative Minnesota Interconnection Agreement (Interconnection Agreement) in lieu of signing the Uniform Contract. If the Interconnection Agreement is requested, the Area EPS Operator shall provide an executable copy of the Interconnection Agreement within five (5) Business Days of notice of approval of the Non-Export Interconnection Application.

## 6.3 Completion of Agreement

The Interconnection Customer shall have thirty (30) Business Days to sign and return the Uniform Contract or the Interconnection Agreement to the Area EPS Operator. The Area EPS Operator shall sign the Uniform Contract or the Interconnection Agreement within five (5) Business Days after receiving the signed Uniform Contract or the Interconnection Agreement from the Interconnection Customer. The Uniform Contract or the Interconnection Agreement must be signed by the Interconnection Customer prior to the notice that the DER system is ready for witness testing.

Upon receipt of the signed Uniform Contract or Interconnection Agreement, the Area EPS Operator may schedule appropriate metering replacements and construction of facilities, if necessary. The Interconnection Customer should note that witness testing may be delayed for material ordering and installation scheduling. It is recommended the Uniform Contract or the Interconnection

Agreement be executed a minimum of thirty (30) Business Days prior to the desired interconnection date of the DER system.

## 7 Insurance

### 7.1 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 described in Table 7.1. 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 7.1 Liability Insurance Requirements*

DER System Size	Liability Insurance Requirement
< 40 kW AC	\$300,000
≥ 40 kW AC and < 100 kW AC	\$1,000,000

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 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.

### 7.2 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) 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 0. 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.

### 7.3 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.

## 8 Timeline Extensions

### 8.1 Reasonable Efforts

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

### 8.2 Extensions

For applicable time frames described in these procedures, the Interconnection Customer may request, in writing, one (1) 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.

## 9 Modifications to Application

### 9.1 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 (including 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.

### 9.2 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 Interconnection Process – Process Overview 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 determination 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 determination 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 place in the queue.

## **10 Interconnection**

### **10.1 Metering**

Any metering requirements necessitated by the use of the DER system shall be installed at the Interconnection Customer's expense. The metering requirement 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.

### **10.2 Construction**

The Interconnection Customer may proceed to construct (including operational testing not to exceed two (2) hours) the DER system when the Area EPS Operator has approved the Interconnection Application. Upon receipt of a signed Uniform Contract or Interconnection Agreement the Area EPS Operator shall schedule and execute appropriate construction of facilities, if necessary, which shall be completed prior to the Interconnection Customer returning the Certification of Completion. The Area EPS Operator will notify the Interconnection Customer when construction of the distribution facilities is completed.

### **10.3 Inspection, Testing, and Commissioning**

In alignment with the Area EPS Operator's Technical Requirements, the Area EPS Operator shall publicly publish their required DER technical settings. The

setting file is typically called the Area EPS Operator's Utility Required Profile – Specified Settings (URP—SS).

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 the Area EPS Operator's Technical Requirements. Commissioning tests of the Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards of the Area EPS Operator's Technical Requirements. The Interconnection Customer shall provide the Area EPS Operator with a Certification of Completion after completion of the DER installation.

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 submit to the Area EPS Operator a Certificate of Completion and supply a copy of the settings programmed into the DER system in the .csv format of the Utility Required Profile – Applied Settings (URP—AS) with the request to schedule inspection and testing.

Prior to parallel operation, the Area EPS Operator may inspect the DER for compliance with standards, which may include a witness test, and schedule appropriate metering replacements, if necessary. The Area EPS Operator shall send qualified personnel to the DER site to inspect the interconnection and witness the testing but takes no liability for the results of the test.

The Area EPS Operator is obligated to complete the witness test, if required, within ten (10) Business Days of receipt of the Certification of Completion. If the Area EPS Operator does not inspect within ten (10) Business Days, the witness test is deemed waived unless upon mutual agreement of both Parties to extend the timeline for the witness test. Testing and inspection shall occur on a Business Day at a mutually agreed upon time and date. The Area EPS Operator may waive the right to witness the testing.

Within three (3) Business Days of satisfactory inspection or waiver of inspection, the Area EPS Operator shall provide the Interconnection Customer written acknowledgment that the DER has permission to operate. Such written acknowledgment shall not be deemed to be or construed as any representation, assurance, guarantee, or warranty by the Area EPS Operator of the safety, durability, suitability, or reliability of the DER or any associated control, protective, and safety devices owned or controlled by the Interconnection Customer or the quality of power produced by the DER.

If the witness test is not satisfactory, the Area EPS Operator has the right to disconnect the DER. The Interconnection Customer has no right to operate in parallel, except for optional testing not to exceed two (2) hours, until permission to operate is granted by the Area EPS Operator.

#### 10.4 Non-Warranty

The 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 membership base.

#### 10.5 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 the Certificate of Completion and notification that the Interconnection Customer has complied with all applicable parallel operations requirements. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

#### 10.6 Continual Compliance

The Interconnection Customer shall be fully responsible for operating, maintaining, and repairing the DER as required to ensure that it complies at all times with the interconnection standards to which it has been certified. The Interconnection Customer shall also operate its DER system in compliance with the Area EPS Operator's technical requirements as referred to in the executed Uniform Contract or MMIA. 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 DER system's disconnection from the Area EPS Operator's Distribution System.

Non-compliance includes the DER system generating at a greater power capacity than stated in the agreement. Upon discovery of this non-compliance issue, the Area EPS Operator may disconnect the DER system from the Area EPS. The Area EPS Operator will provide written notice to the Interconnection Customer of the non-compliance and request the Interconnection Customer remedy the problem prior to reconnection of the

DER system. If the capacity of the DER system has changed, a new interconnection application will be required to be submitted to the Area EPS Operator. Prior to reconnection of the existing DER system, a witness test is required at the Interconnection Customer's expense. The witness test may be waived by the Area EPS Operator. Non-compliant DER systems that could cause harm to the public or utility personnel or cause damage to the Area EPS may be disconnected from the Area EPS without advance notice to the Interconnection Customer.

## 10.7 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 Non-Export Process.
- Refuses to sign either the Interconnection Agreement or the Area EPS Operator's Uniform Contract.
- The Nameplate Rating, Capacity Rating or the Export Capacity of the DER system has been modified from the submitted interconnection application without approval from the Area EPS Operator.

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