

SMALL RENEWABLE GENERATION INTERCONNECTION PROCEDURE FOR INVERTER CONNECTED SYSTEMS RATED LESS THAN 40 KW

Introduction

To interconnect a Generation System with MEMBER, there are several steps that must be followed. This document outlines a streamlined version of those steps for inverter connected systems rated less than 40kW. At any point in the process, if there are questions, please consult the MEMBER Contact.

This streamlined version of the interconnection process has been prepared to explain the process to interconnect a specific type and size of Generation System: a PURPA qualified generation system utilizing a Grid Tie Inverter rated below 40kW. If your system does not meet these qualifications, then this procedure is not applicable for interconnecting your system. Please refer to the “Distributed Generation Interconnection Procedure” in Section 9.

This document does not discuss the associated interconnection Technical Requirements, which are covered in the “Small Renewable Generation Interconnection: Requirements for Inverter Connected System Rated less than 40kW” in Section 8. Please refer to that document for Technical Requirements and additional explanation of the terms utilized herein.

General Information

A. Definitions

1. Applicant: The person, customer, or entity which is requesting the interconnection of a Generation System with MEMBER and has overall responsibility for ensuring that the Generation System is designed, operated, and maintained in compliance with the Technical Requirements.
2. Area EPS: An electric power system (EPS) that serves Local EPS. Typically, an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc.
3. Distribution System: The MEMBER system which is not part of the Area EPS Transmission System or any Generation System.
4. Extended Parallel: The Generation System is designed to remain connected with MEMBER for an extended period of time.
5. Generation: Any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, or any other electric producing device, including energy storage technologies.
6. MEMBER Coordinator: The person or persons designated by MEMBER to provide a single point of coordination with the Applicant for the generation interconnection process.
7. Generation System: The interconnected generator(s), controls, relays, switches, breakers, transformers, inverters, and associated wiring and cables up to the Point of Common Coupling.
8. Grid Tie Inverter: A device that converts DC electricity to AC electricity. While a Grid Tie Inverter usually has been specially designed and constructed to safely interconnect with an Area EPS, for the purposes of this interconnection procedure, a Grid Tie Inverter must also have been designed and tested to meet the requirements of IEEE 1547 and ANSI 929 standards and has been certified with a UL 1741 label.
9. Interconnection Customer: The party or parties who will own/operate the Generation System and are responsible for meeting the requirements of the agreements and Technical Requirements. This could be the Generation System applicant, installer, owner, designer, or operator.
10. Local EPS: An EPS contained entirely within a single premise or group of premises.

11. Point of Common Coupling: The point where the Local EPS is connected to an Area EPS.
12. Technical Requirements: The complete set of requirements outlined in the “MEMBER Distributed Generation Interconnection Requirements.” Also includes the more concise subset of the technical requirements provided for smaller inverter interconnected generation systems titled “MEMBER Small Renewable Generation Interconnection Requirements for Inverter Connected Systems Rated less than 40kW”.

B. MEMBER DG Coordinator

For questions regarding this generation interconnection process or any other questions regarding generation installation in general, please contact the following:

Name: Russell Halgerson
Title: Electric Department Manager
Company: Brookings Municipal Utilities
Address: 525 Western Ave, PO Box 588, Brookings, SD 57006
Phone: 605-692-6325
E-mail: rhalgerson@swiftel-bmu.com

This MEMBER DG Coordinator may not be able to directly answer or resolve all of the issues involved in the review and implementation of the interconnection process and standards, but shall be available to provide coordination assistance with the Applicant.

C. Insurance

In connection with the Interconnection Customer’s performance of his or her duties and obligations under the Small Renewable Generation Interconnection Procedure and subsequent agreement, the Interconnection Customer shall maintain, during the term of the Agreement, general liability insurance from a qualified insurance agency with a B+ or better rating by “Best” and with a combined single limit as determined by MEMBER based on the Generation System of the Interconnection Customer.

Procedure for Small Renewable Generation Interconnection

Step 1 Application (By Applicant)

Upon decision to interconnect a Small Renewable Generation System with MEMBER, Applicant shall supply MEMBER with the following information:

1. Completed Generation Interconnection Application (Appendix A) including:
 - a. One-line diagram
 - b. Site plan of the proposed installation
 - c. Proposed schedule of the installation
2. Payment of the \$0 application fee. This application fee is to contribute to MEMBER's labor costs for administration, review of the design concept, and engineering screening for the proposed Generation System interconnection.

Step 2 Review of Application (By MEMBER)

Within 30 business days of receipt of all the information listed in Step 1, the MEMBER Coordinator shall respond to the Applicant with the information listed below. If the information required in Step 1 is not complete, the Applicant will be notified within 10 business days of what is missing and no further review will be completed until the missing information is submitted. (The 30 day clock will restart with the new submittal.)

The proposed Generation System will be screened to determine if additional engineering studies are required. The base screening criteria is listed in the general information section of this document.

1. A single point of contact with MEMBER for this project. (MEMBER Coordinator)
2. Approval or rejection of the generation interconnection request.
 - a. Rejection – MEMBER shall supply the technical reasons, with supporting information, for rejection of the Application.
 - b. Approval – An approved Application is valid for 6 months from the date of the approval. The MEMBER Coordinator may extend this time upon request of the Applicant

MEMBER will conduct a high level review to confirm that, with the incremental addition of this QF into the MEMBER Distribution System, the sum of all generation does not exceed 50% of the minimum annual hourly load at the MEMBER high voltage substation. If it does exceed 50% of the minimum annual hourly load at the MEMBER substation, a more detailed analysis may be needed including discussions with and evaluations by MRES to confirm there are no significant transmission impacts related to the addition of the interconnected generation.

3. Comments on the schedule provided.
4. Interconnection and Power Purchase Agreement.
5. Cost estimate and payment schedule for required MEMBER work, including, but not limited to:
 - a. Labor costs related to the final design review
 - b. Labor & expense costs for attending meetings
 - c. Required equipment and other MEMBER modification(s)
 - d. Final acceptance testing costs

Step 3 Final Go/No-Go Decision (By Applicant)

The Applicant shall have the opportunity to indicate whether they want to proceed with the proposed generation interconnection. If the decision is to NOT proceed, the Applicant will notify the MEMBER Coordinator, so that other generation interconnections in the queue are not adversely impacted.

Should the Applicant decide to proceed, the following information is to be supplied to the MEMBER Coordinator:

1. Applicable up-front payment required by MEMBER, per Payment Schedule, provided in Step 2. (if applicable)
2. Signed Interconnection and Power Purchase Agreement
3. Final proposed schedule, incorporating the MEMBER comments or requirements
4. Detailed information on the proposed equipment, if required by MEMBER in Step2, including wiring diagrams, models and types

Step 4 Order Equipment and Construction (By MEMBER /Applicant)

The following activities shall be completed:

By the Applicant's personnel:

1. Installing Generation System
2. Filing of required state electrical inspection forms
3. Inspecting and functional testing of Generation System components

By MEMBER personnel:

1. Installing and testing any MEMBER facilities or line extensions
2. Assisting Applicant's personnel with interconnection installation coordination issues
3. Providing review and input for testing process

Step 5 Final Tests (By MEMBER /Applicant)

(Due to equipment lead times and construction, a significant amount of time may pass between the execution of Step 4 and Step 5.)

Final acceptance testing will commence when all equipment has been installed and all contractor preliminary testing has been accomplished. A week or two prior to the start of the final testing of the generation interconnection, the Applicant shall provide MEMBER with a report certifying:

1. The Generation System meets all interconnection requirements.
2. All contractor preliminary testing has been completed.
3. A proposed date that the Generation System will be ready to be energized and to be acceptance tested.