



Your Touchstone Energy<sup>SM</sup> Partner



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*A Locally Owned, Nonprofit Electric Utility*

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Dear Dakota Electric Member:

Thank you for your interest in Distributed Energy Resources.

The enclosed information will assist you in the Dakota Electric Association's (DEA) process for interconnecting Distributed Energy Resources (DER) with the Dakota Electric distribution system. These documents cover the interconnection process for all types of Generation Systems which are:

- Rated 10 MW or less of total generation (nameplate capacity)
- To be interconnection with Dakota Electric's distribution system
- DER will temporary parallel or will operate in parallel with Dakota Electric's distribution system

The first step in the planning process is to submit information regarding the proposed generation system to Dakota Electric's Generation Interconnection Coordinator. This can be done by completing a copy of the Generation Interconnection Application. This application provides Dakota Electric with the following important information: Generation equipment specifications; a site plan of the proposed installation; a one-line diagram showing the protective relaying and point of interconnection (point of common coupling). An application fee payable with the submission of the application is required. Reference page 9 of the Distribution Generation Process for details on the application fee.

Once the application is received, it will be reviewed, and Dakota Electric's Generation Interconnection Coordinator will provide a response to you within a few days. Depending on the size and location of the generation system, further engineering studies may be required.

The main focus of this review process is to ensure that the generation system will meet DEA's Interconnection Technical Requirements. These technical requirements address the issues of safety to the general public and employees working on the electrical system, as well as the reliability of the generation system. Several of the key requirements for interconnection are listed below:

- **Visible Disconnect** – There shall be an accessible, visible, and lockable disconnect that will isolate the DEA distribution system from the generation system. The visible disconnect shall have a visible air gap when in the open position, be labeled and meet the National Electrical Code (NEC) requirements. Please review the Distributed Generation Interconnection Requirements for Inverter Connected Systems Rated Less than 40 kW more information on this requirement.

- **Synchronization** – For DER systems which do not use an inverter for interconnection, an automatic synchronizer with synch-check is required for unattended automatic quick open transition, closed transition, or soft loading transfer systems. Please review page 12 of the Distributed Generation Interconnection Requirements for more information.
- **Electrical Permit and Inspection**– All installations shall be inspected and approved by a Minnesota State Electrical Inspector. This confirms that the system meets the requirements of the latest edition of the NEC. NEC 690.4(B) specifically requires inverters, motor generators modules, PV panels, AC PV modules, DC combiners, DC-to-DC converters and charge controllers to be listed or field labeled for PV applications. Dakota Electric will NOT interconnect with any DER systems which have not been inspected and approved by the Minnesota State Electrical Inspector and/or does not meet NEC listing and labeling requirements.
- **Protection** –The protective devices of the generation system are required to permit safe and proper operation of the Dakota Electric distribution system. Please review pages 17-19 of the Distributed Generation Interconnection Requirements for more information. In general, protection requirements increase as the size of the generation system increases.

Metering, monitoring, and control also play an important role in the interconnection process. Please review pages 13-16 of the Distribution Generation Interconnection Requirements for more information on these issues.

If your system qualifies and you wish to participate in a interruptible, load management rate program (Rate 70 or Rate 71), using your DER system, Dakota Electric will provide and install additional monitoring and remote-control equipment. Many Members have found these rates to provide significant savings. These special rates require at least 50kW of interruptible load, remote control of the generation system by Dakota Electric and total interruption of the load or interruption of the load to a contracted level. Also, to qualify for these special rates, there are several important physical items required to be addressed during the design phase of the DER system. Some of these requirements include but are not limited to the installation of a Dakota Electric supplied and installed Remote Terminal Unit (RTU). From the RTU Dakota Electric requires several hard wire status points from the DER system, including the DER control system, transfer switch, generator and protection systems.

It is recommended that before any generation system is designed, or equipment is ordered, an DER interconnection Application is submitted to Dakota Electric for review and approval. The DER interconnection process will identify any costs for distribution system modifications which may be required to support the interconnection of the DER. The interconnection process will also allow your installer and Dakota Electric to identify and resolve many DER equipment issues which can help reduce installation surprises.

Once the interconnection application for the DER system has been approved, the generation system and related equipment can be ordered. If the DER system will be used for any one of Dakota Electric's special load management rates, then the design of the monitoring system should also be completed before ordering the DER system.

If you have any questions or would like additional information, please contact Dakota Electric Generation Interconnection Coordinator [CommericalDER@dakotaelectric.com](mailto:CommericalDER@dakotaelectric.com)

Or, call our offices at (651) 463-6212 and ask for the Commercial Generation Coordinator