DAKOTA ELECTRIC ASSOCIATION
Your Touchstone Energy℠ Partner

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A Locally Owned, Nonprofit Electric Utility

Dear Dakota Electric Member:

Thank you for your interest in distributed generation.

The enclosed information will assist you in the Dakota Electric Association's (DEA) process for distributed generation interconnection. These documents cover the interconnection process for all types of Generation Systems which are:

- Rated 10 MW or less of total generation (nameplate capacity)
- Planned for interconnection with DEA's distribution system
- Not intended for wholesale transactions
- Not anticipated to affect the transmission system

The first step in the planning process is to submit information regarding the proposed generation system to DEA's Generation Interconnection Coordinator. This can be done by completing a copy of the "Generation Interconnection Application (Appendix B)." This application provides DEA 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 common coupling. An application fee may be required, review page 9 of the Distribution Generation Process for details.

Once the application is received, it will be reviewed and DEA's Generation Interconnection Coordinator will provide a response to you within 15 business days. Depending on the size and location of the generation system, further engineering studies may by be required.

The main focus of this review process is to ensure that the generation system will meet DEA's Interconnection Technical Requirements. Theses 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 a visible and lockable disconnect that will isolate the DEA distribution system from the generation system. The visible disconnect should be labeled and meet the NEC requirements. A draw-out type circuit breaker can be used as a visual open. Please review page 10 of the Distributed Generation Interconnection Requirements for more information on this requirement.

- **Synchronization** – 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.

- **Protection** –The protective devices of the generation system are required to permit safe and proper operation of the DEA 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 you wish to participate in a reduced interruptible rate program (Rate 70 or Rate 71) DEA will provide and install additional monitoring equipment. There are several important items required prior to the installation of the generation system that will need to be addressed. Some of these requirements include but are not limited to: a dial in direct phone line to the utility meter; a Remote Terminal Unit (RTU); hard wire status points from the generator and from the transfer switch to the DEA RTU; and a communication antenna.

Dakota Electric requires monitoring on all reduced interruptible rate participants. It can provide additional reliability to you and it provides DEA additional tools to help study and operate the distribution system. The status points associated with the distributed generation are tied into the DEA SCADA system. Here is a list of common hardwired status points (dry contacts):

- **Transfer Switch Position – Utility -** A closed contact signifies the transfer switch is in the "Utility" or "Normal" position.

- **Transfer Switch Position – Generator –** A closed contact signifies the transfer switch is in the "Generator" or "Emergency" position.

- **Generator Status** – A closed contact signifies the generator is "Running". An open contact signifies the generator is "Stopped".

- **General Trouble –** This is typically several "General Alarm" points that are paralleled together to one status point. A closed contact signifies an alarm.

- **Utility or Generator Lockout (if applicable)** – This point is typically from a lockout relay or a contact from the generator breaker that reports that the generation system has been locked out. For a closed transition transfer switchs the lockout relay is typically triggered by the 62PL timer tripping the generator breaker.

- **Low Fuel Alarm (if participating in the monitoring program) –** You may opt to have DEA monitor an optional "low fuel level" sensor/alarm. DEA will automatically order fuel, as needed. This ancillary service is available through DEA Dispatch and is requested by completing the "Generator Monitoring Agreement."

For an additional fee, DEA can monitor your individual generation system. The monitoring program allows DEA dispatch to watch various status points, including fuel, and to exercise your generators on a schedule determined by you. It's currently available for $45 monthly. Monitoring these status points we help minimize the possibility of generator problems during peak demand times when generator operation is required.

Once the distribution generation system has been approved and construction provisions for reduced-rate programs have been addressed, the generation system and related equipment can be ordered. At that time, DEA will also order the necessary monitoring equipment as required for the generation installation. The generation interconnection coordinator will work with you to coordinate the installation of the monitoring equipment with the installation of the generation system. Note: Extensive lead time may be involved for ordering/receiving equipment.

When the installation is complete and the preliminary testing is complete, final testing will commence. After the final testing has been satisfactorily completed, the generation system will be ready for interconnection to DEA's distribution system, and the reduced rate program will be applied, if desired.

If you have any questions or would like additional information please contact DEA.

Sincerely,

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