

## **Article 4     DISTRIBUTED GENERATION INTERCONNECTION STANDARDS**

### **4.1   Acceptable Interconnection Standards (15.10(1))**

Member-consumer shall comply with acceptable standards for interconnection, safety, and operating reliability. Acceptable standards include the most current revisions of the following, as adopted in the Iowa Administrative Code rule 199-15.10(1) to be eligible for interconnection to Cooperative's or G&T's electric system:

- a. Standards for Interconnecting Distributed Resources with Electric Power Systems, ANSI/IEEE Standard 1547. For guidance in applying IEEE Standard 1547, Cooperative may refer to:
  - i. IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems - IEEE Standard 519-2014; and,
  - ii. IEC/TR3 61000-3-7 Assessment of emission limits for fluctuating loads in MV and HV power systems.
- b. Iowa Electrical Safety Code, as defined in 199—Chapter 25.
- c. National Electrical Code, ANSI/NFPA 70-2014.

### **4.2   Facility Interconnection (15.10(3))**

1. A distributed generation facility placed in service after July 1, 2015, is required to have installed a disconnection device. The disconnection device shall be installed, owned, and maintained by the distributed generation facility's owner and shall be easily visible and adjacent to Member-consumer's electric meter at the facility. Disconnection devices are considered easily visible and adjacent: for a home or business, up to ten feet away from the meter and within the line of sight of the meter, at a height of 30 inches to 72 inches above final grade; or for large areas with multiple buildings that require electric service, up to 30 feet away from the meter and within the line of sight of the meter, at a height of 30 inches to 72 inches above final grade. The disconnection device shall be labeled with a permanently attached sign with clearly visible letters that give procedures/directions for disconnecting the distributed generation facility.
  - a. If Member-consumer has distributed generation facilities installed prior to July 1, 2015 and adds generation capacity to its existing system which does not require upgrades to the electric meter or electrical service, a disconnection device is required. Member-consumer must notify Cooperative before the generation capacity is added to the existing system, which may require a new/amended application form and interconnection agreement.
  - b. If Member-consumer has distributed generation facilities installed prior to July 1, 2015 and upgrades or changes its electric service, the new or modified electric service must meet all current Cooperative service rule requirements.

2. For all distributed generation installations, Member-consumer is required to provide and place a permanent placard no more than ten feet away from the electric meter. The placard must be visible from the electric meter. The placard must clearly identify the disconnection device's presence and location for the distributed generation facilities on the property. The placard must be made of material that is suitable for the environment and must be designed to last for the duration of the distributed generation facility's anticipated operating life. If no disconnection device is present, the placard must state "no disconnection device". If the distributed generation facility is not installed near the electric meter, an additional placard must be placed at the electric meter to provide specific information regarding the distributed generation facility and the disconnection device.
3. The interconnection must include overcurrent devices on the facility to automatically disconnect the facility at all currents that exceed the facility's full-load current rating.
4. Distributed generation facilities with a design capacity of 100 kW or less must be equipped with automatic disconnection upon loss of Cooperative-supplied voltage.
5. Distributed generation facilities that produce a terminal voltage prior to the interconnection's closure shall be provided with synchronism-check devices to prevent interconnection closure under conditions other than a reasonable degree of synchronization between the voltages on each side of the interconnection switch.

#### **4.3 Facility Access (15.10(4))**

The distributed generation facility's operator, Cooperative, and emergency personnel shall have access to the disconnection device at all times. For distributed generation facilities installed prior to July 1, 2015, the disconnection device may be contained within a building or other area not otherwise accessible to Cooperative. In such case, Member-consumer may provide Cooperative with access to the disconnection device by installing a lockbox (provided by Cooperative and installed at a location determined by Cooperative in consultation with Member-consumer) which provides Cooperative ready-access to the disconnection device. Member-consumer shall permit Cooperative to affix a placard, in a location of Cooperative's choosing, which provides instructions to Cooperative operating personnel for accessing the disconnection device. If Cooperative needs to isolate the distributed generation facility, Cooperative shall not be held liable for any damages resulting from the actions necessary to isolate the generation facility.

#### **4.4 Inspections and Testing (15.10(5))**

The distributed generation facility's operator shall adopt an inspection and testing program for the generator and its appurtenances and the interconnection facilities to determine necessity for replacement and repair. Such program must include all periodic tests and maintenance prescribed by the manufacturer. If the periodic testing of interconnection-related protective functions is not specified by the manufacturer, periodic testing must occur at least once every five years. All interconnection-

related protective functions must be periodically tested, and a system that depends upon a battery for trip power must be checked and logged. The operator shall maintain test reports and shall make them available upon request by Cooperative. Cooperative representatives shall have access at all reasonable hours to the interconnection equipment specified in 199 IAC 15.10(3) for inspection and testing with reasonable prior notice to Member-consumer. Such inspections shall not relieve Member-consumer's obligation to maintain Member-consumer's facilities in satisfactory operating conditions.

#### **4.5 Emergency Disconnection (15.10(6))**

If Cooperative or other Member-consumers experience problems of a type that could be caused by the presence of alternating currents or voltages with a frequency higher than 60 hertz, Cooperative may open and lock the interconnection switch pending a complete investigation. Where Cooperative believes the condition creates a hazard to the public or to property, the disconnection may be made without prior notice. However, Cooperative shall notify the distributed generation facility operator by written notice and, where possible, verbal notice as soon as practicable after the disconnection.

#### **4.6 Fire Department Notification (15.10(7))**

When the distributed generation facility is placed in service, owners of interconnected distributed generation facilities must notify local fire departments via U.S. mail of the location of distributed generation facilities and the associated disconnection device(s). The owner must provide any information related to the distributed generation facility as reasonably required by that local fire department including but not limited to:

1. A site map showing property address; service point from Cooperative; distributed generation facility and disconnect location(s); location of rapid shutdown and battery disconnect(s), if applicable; property owner's or owner's representative's emergency contact information; Cooperative's emergency telephone number; and size of the distributed generation facility.
2. Information to access the disconnection device.
3. A statement from the owner verifying that the distributed generation facility was installed in accordance with the current state-adopted National Electrical Code.

#### **4.7 Disconnection (15.10(8))**

If Member-consumer fails to comply with the foregoing requirements, Cooperative may disconnect Member-consumer's distributed generation facility until the facility complies. The disconnection process shall be in accordance with the provisions of this tariff or Member-consumer's separate interconnection agreement. If separate disconnection of only the distributed generation facility is not feasible or safe, Member-consumer's electric service may be disconnected as provided in Cooperative's tariff consistent with the provisions of 199 IAC Chapter 27.

#### **4.8 Reconnection (15.10(9))**

If Member-consumer's distributed generation facility or electric service is disconnected due to noncompliance with the foregoing requirements, Member-consumer shall pay any costs associated with reconnection once the facility is compliant.

### **17.3 Distributed Generation Purchased Power**

Cooperative is a member of Corn Belt Power Cooperative (Corn Belt) and Central Iowa Power Cooperative (CIPCO). Corn Belt and CIPCO are generation and transmission cooperatives, and Cooperative obtains all its wholesale power from either Corn Belt or CIPCO. Corn Belt and CIPCO may be jointly referred to as G&T. Accordingly, any qualifying facility seeking services pursuant to this tariff must coordinate their efforts with Cooperative, which will then coordinate with G&T, if necessary.

Cooperative and Corn Belt have filed a Joint Implementation Plan with the Federal Energy Regulatory Commission (FERC) which provides for coordinated implementation of Corn Belt and Cooperative's obligations relative to qualifying facilities. Pursuant to said Plan, Cooperative agrees to provide supplementary, backup, maintenance, and interruptible power to any qualifying facility in its service territory and Corn Belt agrees to purchase energy and capacity from said facility, all in accordance with the requirements of the Public Utilities Regulatory Policies Act of 1978 ("PURPA"). In the Corn Belt area, tariff provisions relating to sales to the qualifying facility shall apply to Cooperative and those provisions regarding purchases from the qualifying facility shall apply to Corn Belt. Accordingly, any qualifying facility seeking services pursuant to this tariff should coordinate their efforts with both Corn Belt and Cooperative. Cooperative also notes that Corn Belt obtains its wholesale power from Basin Electric Power Cooperative, and coordination with said entity may also be necessary for facilities located in the Corn Belt area.

#### **17.3.1 Availability**

This section shall apply to any member-consumer within Cooperative's assigned service area owning or leasing a qualifying facility as defined under the rules of the Public Utility Regulatory Policies Act of 1978, as a qualifying alternate energy production facility, or a qualifying small hydro facility ("QF" or "qualifying Facility").

#### **17.3.2 Notice and Compliance**

Member-consumer shall not connect any owned or leased electric generating equipment in parallel with Cooperative or G&T's system without the prior written consent of Cooperative or G&T. Any third-party locating a qualifying facility on Member-consumer's premises intending to sell the facility output to Member-consumer, shall not operate the facility in parallel with Cooperative or G&T's system without prior written consent from Cooperative and/or G&T. Failure of Member-consumer or third-party to comply with Cooperative or G&T's requirements for parallel generation shall be justification for discontinuance of such parallel operation in such a manner as to least inconvenience Member-consumer until such time as full compliance has been accomplished. All facilities shall comply with all Cooperative and G&T requirements and electric service rules, including specific provisions of this section. For purposes of interconnecting a qualifying facility owned by a third-party to Cooperative or G&T's system, the third-party shall comply with the interconnection requirements shall be deemed the interconnection member-consumer for the purpose of this tariff.

### **17.3.3 Application for Interconnection**

Member-consumer or third-party shall submit an application and any associated fees to Cooperative, using Cooperative's application form (Level 1 or Level 2-4). Member-consumer shall contact Cooperative with any questions regarding interconnection.

Member-consumer's facility shall meet the standards for interconnection as set forth in Cooperative's Interconnection Agreements and the attachments thereto. Said Agreements are available by contacting Cooperative.

### **17.3.4 Interconnection Agreement**

Member-consumer and Cooperative shall execute the applicable Interconnection Agreement prior to interconnection. Cooperative has developed a 4-level review process and will assist Member-consumer in determining the appropriate review level required for the interconnection. If Member-consumer desires to sell any excess output from its facility to Cooperative and/or G&T, a separate power purchase agreement shall be required for all interconnections except Level 1. For Level 1 interconnections, the terms of purchase are set out on Attachment 2 to the Level 1 Application Form and Interconnection Agreement.

### **17.3.5 Insurance and Indemnification**

Member-consumer shall indemnify and defend Cooperative and G&T and their representatives against liability for any injuries or damages caused by operation of Member-consumer's equipment or by Member-consumer's failure to maintain such equipment in satisfactory or safe operating condition. Member-consumer must arrange for and maintain liability insurance with limits not less than those set forth in the Interconnection Agreements. Failure to maintain required insurance or proof of financial responsibility shall be cause for disconnection. Cooperative and G&T shall be named as additional insureds, to the extent specified in the Interconnection Agreements.

### **17.3.6 Interconnection Costs**

Member-consumer shall reimburse Cooperative or G&T for all costs of connection, switching, metering, transmission, distribution, safety provisions, power factor correction, and administrative costs incurred by Cooperative or G&T directly related to necessary physical facilities installed and maintained to permit interconnected operations with a qualifying facility (or qualifying alternate energy production facilities, or qualifying small hydro facilities), to the extent such costs exceed the corresponding costs which Cooperative or G&T would have incurred if not engaged in interconnected operations, but instead generated an equivalent amount of electric energy itself or purchased an equivalent amount of electric energy or capacity from other sources. Interconnection costs do not include any costs included in the avoided cost calculation.

### **17.3.7 Purchase Rate by Member-consumer from Cooperative**

Member-consumer shall purchase electric power and energy from Cooperative at Cooperative's applicable price or rate, depending upon Member-consumer's operations and requirements. Cooperative does not currently have a separate price or rate schedule for co-generators and small power producers but reserves the right to create a separate price or rate based upon the unique characteristics of such service.

### **17.3.8 Purchase Rates from Member-consumer by Cooperative**

#### **QFs with design capacity of less than 150 kW**

Payment for purchases from Member-consumer pursuant to this tariff will be as follows:

The rate(s) for purchases from qualifying facility (as defined above) and with a design capacity of 150 kilowatts or less are available by contacting Cooperative. These rates will be consistent with 18 CFR 292.304.

#### **QFs with a design capacity of 150 kW or greater kW**

The rate(s) for purchases from qualifying facilities (as defined above) and with a design capacity above 150 kilowatts are available on a negotiated case-by-case basis with Cooperative/G&T.

#### **Small Renewable Alternate Energy Rate/Consumer Wind Energy Purchase Rate/ Distributed Generation Purchase Rate**

Member-Consumers with their own generation located in the Corn Belt area may be eligible for special incentive rates. These rates are in lieu of the PURPA Avoided Cost Rate and the rates are available by contacting Cooperative. A QF electing this rate must meet the eligibility criteria as set forth in the applicable rate schedule and must complete the associated application forms.

### **17.3.9 Wheeling Charges**

Cooperative/G&T may provide a wheeling service to a facility interconnected to its electric delivery system. Any charges for the wheeling of power will be determined by Cooperative/G&T and in accordance with any applicable regulations. In addition, Cooperative/G&T reserve(s) the right to refuse to wheel power where its existing facilities do not have adequate capacity and Member-consumer refuses to pay the costs to upgrade those facilities. If a qualifying facility agrees, Cooperative/G&T which is otherwise obligated to purchase electricity from such facility may transmit the electricity to any other electric utility. Any electric utility to which such electricity is transmitted will purchase such electricity as if the facility were supplying electricity directly to such electric utility. The rate for purchase by the electric utility to which such electricity is transmitted will be adjusted downward according to the mutual agreement of the transmitting and receiving utilities, to reflect any wheeling line losses and will not include any charges for transmission.