199—15.9(476) Standards for interconnection, safety, and operating reliability. For purposes of this rule, "electric utility" or "utility" means both rate-regulated and non-rate-regulated electric utilities.

15.9(1) *Acceptable standards.* The interconnection of distributed generation facilities and associated interconnection equipment to an electric utility system shall meet the applicable provisions of the publications listed below:

a. Standard for Interconnection and Interoperability of Distributed Energy Resources and Associated Electric Power System Interfaces, IEEE Standard 1547, in effect April 6, 2018. For guidance in applying IEEE Standard 1547, the utility may refer to:

(1) IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems—IEEE Standard 519-2022, as approved May 13, 2022; and

(2) IEC/TR3 61000-3-7 Assessment of Emission Limits for Fluctuating Loads in MV and HV Power Systems, as published on March 4, 2024.

b. Iowa Electrical Safety Code, as defined in 199—Chapter 25.

c. National Electrical Code, ANSI/NFPA 70-2023, as amended through November 30, 2023.

15.9(2) *Interconnection facilities.*

a. A distributed generation facility placed in service after July 1, 2015, is required to have a disconnection device that is installed, owned, and maintained by the owner of the distributed generation facility and is easily visible and adjacent to an interconnection customer's electric meter at the facility. Disconnection devices are considered easily visible if the clearly identified container holding the disconnection device is within the line of sight of the meter, at a height of 30 inches to 72 inches above final grade. Disconnection devices are considered adjacent to the interconnection customer's electric meter: for a home or business, within 10 feet with nothing blocking access between the disconnection device and electric meter; or for large areas with multiple buildings that require electric service, within 30 feet with nothing blocking access between the disconnection device and electric meter. The disconnection device shall be labeled with a permanently attached sign with clearly visible letters that gives procedures/directions for disconnecting the distributed generation facility.

(1) If an interconnection customer with distributed generation facilities installed prior to July 1, 2015, adds generation capacity to its existing system that does not require upgrades to the electric meter or electrical service, a disconnection device is not required unless required by the electric utility's tariff. The customer must notify the electric utility before the generation capacity is added to the existing system.

(2) If an interconnection customer with distributed generation facilities installed prior to July 1, 2015, upgrades or changes its electric service, the new or modified electric service must meet all current utility electric service rule requirements.

b. For all distributed generation installations, the customer shall provide and place a permanent placard no more than 10 feet away from the electric meter. The placard must: be visible from the electric meter, clearly identify the presence and location of the disconnection device for the distributed generation facilities on the property, be made of material that is suitable for the environment, and be designed to last for the duration of the anticipated operating life of the distributed generation facility. If no disconnection device is present, the placard shall 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.

c. The interconnection includes overcurrent devices on the facility to automatically disconnect the facility at all currents that exceed the full-load current rating of the facility.

d. Distributed generation facilities with a design capacity of 100 kW or less must be equipped with automatic disconnection upon loss of electric utility-supplied voltage.

e. Those facilities that produce a terminal voltage prior to the closure of the interconnection shall be provided with synchronism-check devices to prevent closure of the interconnection under conditions other than a reasonable degree of synchronization between the voltages on each side of the interconnection switch.

15.9(3) *Access.* If a disconnection device is required, the operator of the distributed generation facility, the utility, and emergency personnel shall have access to the disconnection device at all times. For

distributed generation facilities installed prior to July 1, 2015, an interconnection customer may elect to provide the utility with access to a disconnection device that is contained in a building or area that may be unoccupied and locked or not otherwise accessible to the utility by installing a lockbox provided by the utility that allows ready access to the disconnection device. In consultation with the customer, the utility will determine the location of the lockbox, which will be accessible by the utility. The interconnection customer shall permit the utility to affix a placard in a location of the utility's choosing that provides instructions to utility operating personnel for accessing the disconnection device. If the utility needs to isolate the distributed generation facility, the utility shall not be held liable for any damages resulting from the actions necessary to isolate the generation facility.

15.9(4) *Inspections and testing.* The operator of the distributed generation facility shall adopt a program of inspection and testing of the generator, its appurtenances, and the interconnection facilities in order to determine necessity for replacement and repair. Such a program shall 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 shall occur at least once every five years. All interconnection-related protective functions shall be periodically tested, and a system that depends upon a battery for trip power shall be checked and logged. The operator shall maintain test reports and make them available upon request by the electric utility. Representatives of the utility shall have access at all reasonable hours to the interconnection equipment specified in subrule 15.9(2) for inspection and testing with reasonable prior notice to the applicant.

15.9(5) *Emergency disconnection.* In the event that an electric utility or its customers experience problems of a type that could be caused by the presence of alternating currents or voltages with a frequency higher than 60 Hertz, the utility shall be permitted to open and lock the interconnection switch pending a complete investigation of the problem. Where the utility believes the condition creates a hazard to the public or to property, the disconnection may be made without prior notice. However, the utility shall notify the operator of the distributed generation facility by written notice and, where possible, verbal notice as soon as practicable after the disconnections.

15.9(6) *Notification.* When the distributed generation facility is placed in service, owners of interconnected distributed generation facilities are required to notify local fire departments via U.S. mail of the location of distributed generation facilities and the associated disconnection device(s). The owner is required to provide any information related to the distributed generation facility as reasonably required by that local fire department including but not limited to:

a. A site map showing property address; service point from utility company; 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; utility company's emergency telephone number; and size of the distributed generation facility.

b. Information to access the disconnection device.

c. A statement from the owner verifying that the distributed generation facility was installed in accordance with the current state-adopted National Electrical Code.

15.9(7) *Disconnections.* If an interconnection customer fails to comply with this rule, the electric utility may require disconnection of the applicant's distributed generation facility until the facility complies with this rule. The disconnection process shall be specified in individual electric utility tariffs or in the interconnection agreement. If separate disconnection of only the distributed generation facility is not feasible or safe, the customer's electric service may be disconnected as provided in 199—Chapter 20 or 27.

15.9(8) *Reconnections.* If a customer's distributed generation facility or electric service is disconnected due to noncompliance with this rule, the customer shall be responsible for payment of any costs associated with reconnection once the facility is in compliance with the rules.

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