

STATE OF IOWA  
DEPARTMENT OF COMMERCE  
UTILITIES BOARD

IN RE:  REVIEW OF ELECTRIC INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES RULES [199 IAC CHAPTER 45]	DOCKET NO. RMU-2016-0003
---------------------------------------------------------------------------------------------------------------------------	--------------------------

**ORDER COMMENCING RULE MAKING**

(Issued July 22, 2016)

The Utilities Board (Board) is conducting a comprehensive review of its administrative rules in accordance with Iowa Code § 17A.7(2). The review of the Board's Electric Interconnection of Distributed Generation Facilities rules, 199 IAC chapter 45, has been docketed as Docket No. RMU-2016-0003. The comprehensive review of 199 IAC chapter 45 also incorporates stakeholder input arising out of Docket No. NOI-2014-0001, regarding distributed generation, and to incorporate recently adopted Iowa Code § 476.58. The Board is proposing to adopt changes to 199 IAC chapter 45 in accordance with the Notice of Intended Action attached to this order. Some of the proposed changes are not substantive. Those non-substantive changes are intended to improve consistency and clarity throughout the chapter and will not be detailed in this order.

## **SUMMARY OF PROPOSED CHANGES**

### **1. Amend rule 45.1**

The definition of “disconnection device” was added to be consistent with Iowa Code § 476.58(1)(a). Additional language was included in the Board’s proposed definition in order to provide examples of types of disconnection devices. The term “electric meter” is used throughout chapter 45, therefore the Board proposes to adopt a definition for that term.

### **2. Amend rule 45.3**

The Board proposes to amend 45.3(2)(a) to require disconnection devices to be located adjacent to the electric meter. The proposed rule also provides guidance as to what is considered “adjacent to the meter.” Also, the proposed rule requires that disconnection devices be labeled with a permanent sign and that the procedures necessary to disconnect the distributed generation facility be posted next to the disconnection device. The rule applies to all distributed generation facilities placed in service or upgraded after July 1, 2015.

The Board also proposes to adopt 45.3(2)(b) that requires a permanent placard to be placed within ten feet of the electric meter that clearly identifies the presence of a disconnection device. If the electric meter and distributed generation facility are not in the same building, an additional placard must provide specific information regarding the distributed generation facility and the disconnection device.

The Board also proposes to adopt 45.3(2)(f) that allows a utility to disconnect a customer that fails to comply with the requirements of rule 45.3. The process for

disconnection must be provided in individual utility tariffs or the interconnection agreement.

The proposed amendments to subrule 45.3(4) require mandatory periodic testing and maintenance of distributed generation facilities as prescribed by the manufacturer. If the manufacturer does not prescribe periodic testing practices the testing should occur no less than every five years.

The Board proposes to adopt subrule 45.3(6) to meet the requirement of Iowa Code § 476.58(2)(b). That section requires the Board to adopt a rule that requires interconnection customers to notify local fire departments of the location of a distributed generation facility.

**3. Amend rule 45.4**

The Board proposes to amend subrule 45.4(1) to require an applicant representing a group of customers to identify itself as such and to state whether the application requires a group interconnection study. The Board proposes to add a new section that allows applicants to request a pre-application report from the utility. It is anticipated that the pre-application process, once approved by the Board, will be placed on the Board's Web site.

**4. Amend rule 45.5**

The Board proposes to amend subrule 45.5(6) in order to make processing of applications less complex and to clarify potential issues early in the process so that interconnection delays can be avoided. The proposed amendment also removes the requirement that only applicants who are not a customer of the utility must provide

proof of the applicant's legal right to control the site of a distributed generation facility. Guidelines are provided to give applicants direction on how to prove such control.

**5. Amend rule 45.7**

The Board proposes to amend 45.7(1)(b) by increasing the size limit of Level 1 applicants from 10 kVA to 20 kVA.

The Board also proposes to amend subrule 45.7(2) by adopting a new approach to Level 2 review by including a table that recognizes the differences between the operation of inverter-based systems and synchronous induction machines. The proposed table would only apply to inverter-based systems. The original 2 MW limit would remain in effect for other machines.

**6. Amend rule 45.9**

The Board proposes to amend subrule 45.9(6) to adopt a standard supplemental review process for when facilities fail the Level 2 screens. The proposed amendment will provide transparency and consistency among the utilities. Once the supplemental review process is approved by the Board, it will be placed on the Board's website.

**7. Rescind rules 45.14 – 45.20**

The Board proposes to rescind rules 45.14 through 45.20. These rules provide standard forms for applying for interconnection and standard interconnection agreements. After the rules are rescinded the Board will place the forms and agreements on its Web site so that they are more easily accessible and usable.

The Board is also proposing to increase the interconnection request application fee for Levels 1 and 2 and create a fee that a utility may charge an

applicant if a witness test is required. The Board proposes to increase the Level 1 application fee from \$50 to \$125 and the Level 2 application fee from \$100 plus \$1.00 per kVA to \$250 plus \$1.00 per kVA. If a utility performs a witness test for a Level 1 or 2 application, the utility may charge the interconnected customer a cost-based fee of no more than \$125. The Board does not propose to change the application fees for Levels 3 and 4.

### ORDERING CLAUSES

#### IT IS THEREFORE ORDERED:

1. A rule-making proceeding identified as Docket No. RMU-2016-0003 is commenced for the purpose of receiving comments on the proposed amendments in the "Notice of Intended Action" attached hereto and incorporated by reference in this order.

2. The Executive Secretary is directed to submit for publication in the Iowa Administrative Bulletin a "Notice of Intended Action" in the form attached to and incorporated by reference in this order.

#### UTILITIES BOARD

/s/ Geri D. Huser

/s/ Elizabeth S. Jacobs

ATTEST:

/s/ Trisha M. Quijano  
Executive Secretary, Designee

/s/ Nick Wagner

Dated at Des Moines, Iowa, this 22<sup>nd</sup> day of July 2016.

## **UTILITIES DIVISION[199]**

### **Notice of Intended Action**

Pursuant to Iowa Code §§ 17A.4, 476.6A, and 476.58 the Utilities Board (Board) gives notice that on July 22, 2016, the Board issued an order in Docket No. RMU-2016-0003, In re: Review of Electric Interconnection of Distributed Generation Facilities Rules [199 IAC 45], "Order Commencing Rule Making" proposing to amend the Board's chapter 45 distributed generation interconnection rules. Chapter 45 is designed to offer standardized requirements, forms, and procedures for smaller facilities, and to make the interconnection process more transparent and less complex for larger facilities. The current interconnection rules were adopted in 2010 and incorporated the current best practices for interconnection agreements and procedures. The amendments to chapter 45 are intended to incorporate the most current best practices and to incorporate newly adopted Iowa Code § 476.58.

Also, the Board is undergoing a comprehensive review of its rules and as part of that review is attempting to make the rules more readable, streamline reporting requirements in the rules, and transition away from providing forms within the rules. The intent of these changes is to promote ease of access for those interacting with the Board.

The order approving this "Notice of Intended Action" can be found on the Board's Electronic Filing System (EFS) Web site, <http://efs.iowa.gov>, in Docket No. RMU-2016-0003.

Pursuant to Iowa Code sections 17A.4(1)“a” and “b,” any interested person may file a written statement of position pertaining to the proposed amendments. The statement must be filed on or before September 6, 2016. The statement should be filed electronically through the Board's EFS. Instructions for making an electronic filing can be found on the EFS Web site at <http://efs.iowa.gov>. Filings shall comply with the format requirements in 199 IAC 2.2(2) and clearly state the author’s name and address and make specific reference to this docket. Paper comments may only be filed with approval of the Board.

No oral presentation is scheduled at this time. Pursuant to Iowa Code section 17A.4(1)(b), an oral presentation may be requested or the Board on its own motion after reviewing the comments may determine an oral presentation should be scheduled. Requests for an oral presentation should be filed at the date scheduled for written comments.

After analysis and review of this rule making, the Board tentatively concludes that the proposed amendments, if adopted, will have a beneficial effect by incorporating current best practices as well as adopting rules pursuant to Iowa Code § 476.58. The amendments will also promote ease of access for those interacting with the Board.

The amendments are intended to implement Iowa Code §§ 17A.4, 476.6A, and 476.58.

The following amendments are proposed:

ITEM 1. Amend rule 45.1 as follows:

**45.1(1) Definitions.** For the administration and interpretation of these rules, the following words and terms shall have the meaning indicated below:

*“Adverse system impact”* means a negative effect that compromises the safety or reliability of the electric distribution system or materially affects the quality of electric service provided by the utility to other customers.

*“AEP facility”* as defined in 199—Chapter 15, used by an interconnection customer to generate electricity that operates in parallel with the electric distribution system. An AEP facility typically includes an electric generator and the interconnection equipment required to interconnect safely with the electric distribution system or local electric power system.

*“Affected system”* means an electric system not owned or operated by the utility reviewing the interconnection request that could suffer an adverse system impact from the proposed interconnection.

*“Applicant”* means a person (or entity) who has submitted an interconnection request to interconnect a distributed generation facility to a utility’s electric distribution system.

*“Area network”* means a type of electric distribution system served by multiple transformers interconnected in an electrical network circuit, generally used in large, densely populated metropolitan areas.

*“Board”* means the Iowa utilities board.

*“Business day”* means Monday through Friday, excluding state and federal holidays.

“*Calendar day*” means any day, including Saturdays, Sundays, and state and federal holidays.

“*Certificate of completion*” means the ~~Standard~~ Certificate of Completion form in ~~Appendix B (199—45.15(476))~~ that contains information about the interconnection equipment to be used, its installation, and local inspections.

“*Commissioning test*” means a test applied to a distributed generation facility by the applicant after construction is completed to verify that the facility does not create adverse system impacts and performs to the submitted specifications. At a minimum, the scope of the commissioning tests performed shall include the commissioning test specified in Institute of Electrical and Electronics Engineers, Inc. (IEEE), Standard 1547, Section 5.4 “Commissioning tests.”

“*Disconnection device*” means a lockable visual disconnect or other disconnection device, such as, but not limited to, a service disconnect, gang operated main disconnect, or breaker capable of disconnecting and de-energizing the residual voltage in a distributed generation facility.

“*Distributed generation facility*” means a qualifying facility, ~~or an AEP facility,~~ or an energy storage facility.

“*Distribution upgrade*” means a required addition or modification to the electric distribution system to accommodate the interconnection of the distributed generation facility. Distribution upgrades do not include interconnection facilities.

“*Draw-out type circuit breaker*” means a switching device capable of making, carrying and breaking currents under normal and abnormal circuit conditions such as those of a

short circuit. A draw-out type circuit breaker can be physically removed from its enclosure creating a visible break in the circuit. The draw-out type circuit breaker shall be capable of being locked in the open, drawn-out position.

*“Electric distribution system”* means the facilities and equipment owned and operated by the utility and used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which electric distribution systems operate differ among areas but generally operate at less than 100 kilovolts of electricity.

“Electric distribution system” has the same meaning as the term “Area EPS,” as defined in Section 3.1.6.1 of IEEE Standard 1547.

*“Electric meter”* means a device used by an electric utility that measures and registers the integral of an electrical quantity with respect to time.

*“Fault current”* is the electrical current that flows through a circuit during an electrical fault condition. A fault condition occurs when one or more electrical conductors contact ground or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase. Often, a fault current is several times larger in magnitude than the current that normally flows through a circuit.

*“IEEE Standard 1547”* is the Institute of Electrical and Electronics Engineers, Inc., 3 Park Avenue, New York, NY 10016-5997, Standard 1547 (2003) “Standard for Interconnecting Distributed Resources with Electric Power Systems.”

*“IEEE Standard 1547.1”* is the IEEE Standard 1547.1 (2005) “Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems.”

*“Interconnection customer”* means a person or entity that interconnects a distributed generation facility to an electric distribution system.

*“Interconnection equipment”* means a group of components or an integrated system owned and operated by the interconnection customer that connects an electric generator with a local electric power system, as that term is defined in Section 3.1.6.2 of IEEE Standard 1547, or with the electric distribution system. Interconnection equipment is all interface equipment including switchgear, protective devices, inverters, or other interface devices. Interconnection equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.

*“Interconnection facilities”* means facilities and equipment required by the utility to accommodate the interconnection of a distributed generation facility. Collectively, interconnection facilities include all facilities and equipment between the distributed generation facility’s interconnection equipment and the point of interconnection, including any modifications, additions, or upgrades necessary to physically and electrically interconnect the distributed generation facility to the electric distribution system. Interconnection facilities are sole-use facilities and do not include distribution upgrades.

*“Interconnection request”* means an applicant’s request, in a form approved by the board, for interconnection of a new distributed generation facility or to change the

capacity or other operating characteristics of an existing distributed generation facility already interconnected with the electric distribution system.

*“Interconnection study”* is any study described in rule 199—45.11(476).

*“Lab-certified”* means a designation that the interconnection equipment meets the requirements set forth in rule 199—45.6(476).

*“Line section”* is that portion of an electric distribution system connected to an interconnection customer’s site, bounded by automatic sectionalizing devices or the end of the distribution line, or both.

*“Local electric power system”* means facilities that deliver electric power to a load that is contained entirely within a single premises or group of premises. “Local electric power system” has the same meaning as that term as defined in Section 3.1.6.2 of IEEE Standard 1547.

*“Nameplate capacity”* is the maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer and usually indicated on a nameplate physically attached to the power production equipment.

*“Nationally recognized testing laboratory”* or *“NRTL”* means a qualified private organization that meets the requirements of the Occupational Safety and Health Administration’s (OSHA) regulations. See 29 CFR 1910.7 as amended through April 9, 2014[effective date of this amendment]. NRTLs perform independent safety testing and product certification. Each NRTL shall meet the requirements as set forth by OSHA in its NRTL program.

*“Parallel operation”* or *“parallel”* means a distributed generation facility that is connected electrically to the electric distribution system for longer than 100 milliseconds.

*“Point of interconnection”* has the same meaning as the term “point of common coupling” as defined in Section 3.1.13 of IEEE Standard 1547.

*“Primary line”* means an electric distribution system line operating at greater than 600 volts.

*“Qualifying facility”* means a cogeneration facility or a small power production facility that is a qualifying facility under 18 CFR Part 292, Subpart B, used by an interconnection customer to generate electricity that operates in parallel with the electric distribution system. A qualifying facility typically includes an electric generator and the interconnection equipment required to interconnect safely with the electric distribution system or local electric power system.

*“Radial distribution circuit”* means a circuit configuration in which independent feeders branch out radially from a common source of supply.

*“Review order position”* means, for each distribution circuit or line section, the order of a completed interconnection request relative to all other pending completed interconnection requests on that distribution circuit or line section. The review order position is established by the date that the utility receives the completed interconnection request.

“*Scoping meeting*” means a meeting between representatives of the applicant and utility conducted for the purpose of discussing interconnection issues and exchanging relevant information.

“*Secondary line*” means an electric distribution system line, or service line, operating at 600 volts or less.

“*Shared transformer*” means a transformer that supplies secondary voltage to more than one customer.

“*Spot network*” means a type of electric distribution system that uses two or more inter-tied transformers to supply an electrical network circuit. A spot network is generally used to supply power to a single customer or a small group of customers.

“Spot network” has the same meaning as the term “spot network” as defined in Section 4.1.4 of IEEE Standard 1547.

~~“*Standard distributed generation interconnection agreement*” means the Standard Distributed Generation Interconnection Agreements in Appendix A (199—45.14(476)) and Appendix D (199—45.17(476)) applicable to interconnection requests for distributed generation facilities.~~

“*UL Standard 1741*” means the standard titled “Inverters, Converters, and Controllers, and Interconnection System Equipment for Use in Independent Power Systems with Distributed Energy Resources,” January 28, 2010, edition, Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

“*Utility*” means an electric utility that is subject to rate regulation by the Iowa utilities board.

“*Witness test*” for lab-certified equipment means a verification either by an on-site observation or review of documents that the interconnection installation evaluation required by IEEE Standard 1547, Section 5.3 and the commissioning test required by IEEE Standard 1547, Section 5.4 have been adequately performed. For interconnection equipment that has not been lab-certified, the witness test shall also include verification of the on-site design tests as required by IEEE Standard 1547, Section 5.1 and verification of production tests required by IEEE Standard 1547, Section 5.2. All verified tests are to be performed in accordance with the test procedures specified by IEEE Standard 1547.1.

ITEM 2. Amend subrule 45.2(1) as follows:

**45.2(1) Scope.** This chapter applies to utilities, and distributed generation facilities seeking to operate in parallel with utilities, provided the facilities are not subject to the interconnection requirements of the Federal Energy Regulatory Commission (FERC), the Midcontinent~~Midwest~~ Independent Transmission System Operator, Inc. (MISO), the Southwest Power Pool (SPP), the Midwest Reliability Organization (MRO), or the SERC Reliability Corporation (SERC)~~the Mid-Continent Area Power Pool (MAPP)~~.

ITEM 3. Amend subrule 45.2(2) as follows:

**45.2(2)** If the nameplate capacity of the facility is greater than 10 MVA, the interconnection customer and the utility shall start with the Level 4 review process and agreements under rules ~~199—45.11(476), 199—45.17(476), 199—45.18(476), 199—45.19(476), and 199—45.20(476)~~, and modify the process and agreements as needed by mutual agreement. In addition, the interconnection customer and the utility shall start

with the technical standards under rule 199—45.3(476) and modify the standards as needed by mutual agreement. If the interconnection customer and the utility cannot reach mutual agreement, the interconnection customer may seek resolution through rule 199—45.12(476) dispute process

ITEM 4. Amend subrule 45.3(1)(c) as follows:

c. National Electrical Code, ANSI/NFPA 70-~~2008~~2014.

ITEM 5. Amend subrule 45.3(2) as follows:

**45.3(2) *Interconnection facilities.***

a. ~~The utility may require the~~ A distributed generation facility placed in service after July 1, 2015 is required to have the capability to be isolated from the utility, either by means of a lockable, visible-break isolation device accessible by the utility, or by means of a lockable isolation install a disconnection device, whose status is indicated and is accessible by the utility. If an isolation device is required by the utility, ~~†~~ The disconnection device shall be installed, owned, and maintained by the owner of the distributed generation facility and shall be easily visible and adjacent to an interconnection customer's electric meter at the facility. Disconnection devices are considered easily visible and adjacent: 1) for a home or business: up to ten feet away from the meter and within line of sight of the meter, at a height of 30 inches to 72 inches above final grade; or 2) for large areas with multiple buildings that require electric service: up to 30 feet away from meter and within the line of sight of the meter, and at a height of 30 inches to 72 inches above final grade. ~~located electrically between the distributed generation facility and the point of interconnection. A draw-out~~

~~type of circuit breaker accessible to the utility with a provision for padlocking at the drawn-out position satisfies the requirement for an isolation device. The disconnection device shall be labeled with a permanently attached sign with clearly visible letters that that give procedures/directions for disconnecting the distributed generation facility.~~

If an interconnection customer with distributed generation systems 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.

If an interconnection customer with distributed generation systems 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 be 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 presence and location of disconnection device for the distributed generation facilities on the property. The placard must be made of material that will be suitable for the environment and 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 at the building with 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.

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

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

ed. 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.

f. An interconnection customer failing to comply with the foregoing requirements may be disconnected as provided in chapter 20 of the board's rules. The disconnection process details shall be provided in individual utility tariffs or the interconnection agreement.

ITEM 6. Amend subrule 45.3(3) as follows:

**45.3(3) Access.** ~~If an isolation-a disconnection device is required by the utility, both the operator of the distributed generation facility, and the utility, and emergency personnel shall have access to the isolation-disconnection device at all times. For distributed generation facilities installed prior to July 1, 2015, A~~ An interconnection customer may elect to provide the utility with access to an isolation-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 ~~isolation~~ disconnection device. The lockbox shall be in a location determined by the utility in consultation with the customer, to 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 ~~isolation~~ disconnection device. If the utility needs to isolate the distribution generation facility, the utility shall not be held liable for any damages resulting from the actions necessary to isolate the generation facility.

ITEM 7. Amend subrule 45.3(4) as follows:

**45.3(4) *Inspections and testing.*** The operator of the distributed generation facility shall adopt a program of inspection and testing of the generator and its appurtenances and the interconnection facilities in order to determine necessity for replacement and repair. Such a program should 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, it should occur at least 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.

Representatives of the utility shall have access at all reasonable hours to the interconnection equipment specified in subrule 45.3(2) for inspection and testing with reasonable prior notice to applicant. If the utility discovers the applicant's facility is not in compliance with the requirements of IEEE Standard 1547, and the noncompliance

adversely affects the safety or reliability of the electrical system, the utility may require disconnection of the applicant's facility until it complies with this chapter.

ITEM 8 Adopt subrule 45.3(6) as follows:

**45.3(6)** Notification. Owners of interconnected distributed generation facilities are required to notify local paid or volunteer fire departments via U.S. mail of the location of distributed generation facilities and the associated disconnection device when the distributed generation facility is placed in service. The owner is required to provide any information related to the distributed generation facility as required by that local fire department including but not limited to:

- a. Site map showing property address, service point from utility company, distributed generation facility and disconnect service location(s), if applicable location of rapid shut down and battery disconnect(s), property owner's or owner's representative's emergency contact information, utility company's emergency phone number, and size of the distributed generation system.
- b. Information to access the disconnection device.
- c. Statement from owner verifying the distributed generation system was installed in accordance with the current state adopted National Electrical Code.

ITEM 9. Amend rule 45.4 as follows:

**199—45.4 (476)** *Interconnection requests.*

**45.4(1)** Applicants seeking to interconnect a distributed generation facility shall submit an interconnection request to the utility that owns the electric distribution system to which interconnection is sought. Applicants shall identify in the application if they are

representing a group of customers that are located in the same vicinity and whether the application requires a group interconnection study. Applicants shall follow the board approved processes and use the board approved interconnection request forms approved by the board and agreements that are provided on the board's Web site, <http://iub.iowa.gov>.

**45.4(1)(a)** Applicants may request a pre-application report from the utility using the board approved pre-application request process that is provided on the board's website.

**45.4(2)** Utilities shall specify the fee by level that the applicant shall remit to process the interconnection request. The fee shall be specified in the interconnection request forms. Utilities may charge a fee by level that applicants must remit in order to process an interconnection request. The utilities shall not charge more than the fees specified in the ~~Standard Application Forms in Appendix A (199—45.14(476)) and Appendix C (199—45.16(476))~~Level 1 Interconnection Request Application form and Distributed Generation Interconnection Agreement or the Levels 2 to 4 Interconnection Request Application form, which are located on the board's website.

**45.4(3)** Interconnection requests may be submitted electronically, if agreed to by the parties.

ITEM 10. Amend subrule 45.5(6) as follows:

**45.5(6)** ~~When an applicant is not currently a customer of the utility at the proposed site, the~~The applicant shall provide, upon utility request, proof of the applicant's legal right to control the site(s), as evidenced by the applicant's name on a property tax bill,

~~deed, lease agreement or other legally binding contract.~~ Site control may be demonstrated through:

- a. Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the distributed generation facility;
- b. An option to purchase or acquire a leasehold site for such purpose; or
- c. Exclusivity or other business relationship between the Interconnection Customer and the entity having the right to sell, lease, or grant the Interconnection Customer the right to possess or occupy a site for such purpose.

ITEM 11. Amend subrule 45.5(8) as follows:

**45.5(8)** Any metering required for a distributed generation interconnection shall be installed, operated, and maintained in accordance with the utility's metering rules ~~filed with the board under 199—subrule 20.2(5),~~ and inspection and testing practices ~~adopted under rule 199—20.6(476)~~ defined in chapter 20 of the board's rules. Any such metering requirements shall be identified in the Level 1 Interconnection Request Application form and Distributed Generation Interconnection Agreement or the Levels 2 to 4 Distributed Generation Interconnection Request Agreement executed between the interconnection customer and the utility.

ITEM 12. Amend subrule 45.6(2) as follows:

**45.6(2)** Lab-certified interconnection equipment shall not require further design testing or production testing, as specified by IEEE Standard 1547, Sections 5.1 and 5.2, or additional interconnection equipment modification to meet the requirements for expedited review; however, ~~nothing in this subrule shall preclude the need for an~~

~~interconnection installation evaluation, the applicant shall conduct all~~ commissioning tests, or periodic testing as specified by IEEE Standard 1547, Sections 5.3, 5.4, and 5.5. The utility may conduct additional witness tests, but no more frequently than annually. ~~or for a witness test conducted by a utility.~~

ITEM 13. Amend subrule 45.7(1) as follows:

**45.7(1)** A utility shall use Level 1 procedures to evaluate all interconnection requests to connect a distributed generation facility when:

- a. The applicant has filed a Level 1 application; and
- b. The distributed generation facility has a nameplate capacity rating of ~~40~~20 kVA or less; and
- c. The distributed generation facility is inverter-based; and
- d. The customer interconnection equipment proposed for the distributed generation facility is lab-certified; and
- e. No construction of facilities by the utility shall be required to accommodate the distributed generation facility.

ITEM 14. Amend subrule 45.7(2) as follows:

**45.7(2)** A utility shall use Level 2 procedures for evaluating interconnection requests when:

- a. The applicant has filed a Level 2 application; and
- b. The nameplate capacity rating is 2 MVA or less for non-inverter based systems.

The Level 2 eligibility for inverter based systems can be based on the following table.

For purposes of this table, a mainline is the three-phase backbone of a circuit; and

<u>Line Voltage</u>	<u>Level 2 Eligibility Regardless of Location</u>	<u>Level 2 Eligibility on a Mainline and &lt; 2.5 Electrical Circuit Miles from Substation</u>
<u>&lt; 5 kV</u>	<u>&lt; 500 kVA</u>	<u>&lt; 500 kVA</u>
<u>&gt; 5 kV and &lt; 15 kV</u>	<u>&lt; 2 MVA</u>	<u>&lt; 3 MVA</u>
<u>&gt; 15 kV and &lt; 30 kV</u>	<u>&lt; 3MVA</u>	<u>&lt; 4 MVA</u>
<u>&gt; 30 kV and &lt; 69 kV</u>	<u>&lt; 4 MVA</u>	<u>&lt; 5 MVA</u>

c. The interconnection equipment proposed for the distributed generation facility is lab-certified; and

d. The proposed interconnection is to a radial distribution circuit or a spot network limited to serving one customer; and

e. No construction of facilities by the utility shall be required to accommodate the distributed generation facility, other than minor modifications provided for in subrule 45.9(6).

ITEM 15. Amend subrule 45.8(2) as follows:

**45.8(2)** The Level 1 interconnection shall use the following procedures:

a. The applicant shall submit an interconnection request using the ~~appropriate~~ Level 1 Standard Interconnection Request Application Form and Distributed Generation Interconnection Agreement in Appendix A (199—45.14(476)) along with the Level 1 application fee.

b. Within seven business days after receipt of the interconnection request, the utility shall inform the applicant whether the interconnection request is complete. If the request is incomplete, the utility shall specify what information is missing and the applicant has ten business days after receiving notice from the utility to provide the missing information or the interconnection request shall be deemed withdrawn.

- c. Within 15 business days after the utility notifies the applicant that its interconnection request is complete, the utility shall verify whether the distributed generation facility passes all the relevant Level 1 screens.
- d. If the utility determines and demonstrates that a distributed generation facility does not pass all relevant Level 1 screens, the utility shall provide a letter to the applicant explaining the reasons that the facility did not pass the screens.
- e. Otherwise, the utility shall approve the interconnection request and provide to the applicant a signed version of the standard “Conditional Agreement to Interconnect Distributed Generation Facility” in ~~Appendix A (199—45.14(476))~~ the Level 1 Interconnection Request Application form and Distributed Generation Interconnection Agreement subject to the following conditions:
- (1) The distributed generation facility has been approved by local or municipal electric code officials with jurisdiction over the interconnection;
  - (2) The ~~Standard Certificate of Completion form in Appendix B (199—45.15(476))~~ has been returned to the utility. Completion of local inspections may be designated on inspection forms used by local inspecting authorities;
  - (3) The witness test has either been successfully completed or waived by the utility in accordance with Section (2)(c)(ii) of the Terms and Conditions for Interconnection in ~~Appendix A (199—45.14(476))~~ the Level 1 Interconnection Request Application form and Distributed Generation Interconnection Agreement; and
  - (4) The applicant has signed the standard “Conditional Agreement to Interconnect Distributed Generation Facility” in ~~Appendix A (199—45.14(476))~~ the Level 1

Interconnection Request Application form and Distributed Generation Interconnection Agreement. When an applicant does not sign the agreement within 30 business days after receipt of the agreement from the utility, the interconnection request is deemed withdrawn unless the applicant requests to have the deadline extended for no more than 15 business days. An initial request for extension shall not be denied by the utility, but subsequent requests may be denied.

*f.* If a distributed generation facility is not approved under a Level 1 review, and the utility's reasons for denying Level 1 status are not subject to dispute, the applicant may submit a new interconnection request for consideration under Level 2, Level 3, or Level 4 procedures. The date of the completed Level 1 interconnection request shall be retained and shall be used to determine review order position for subsequent Level 2-4 applications, provided the request is made by the applicant within 15 business days after notification that the Level 1 interconnection request is denied.

ITEM 16. Amend subrule 45.9(1)(i) as follows:

**45.9(1)(i)** A distributed generation facility, in aggregate with other generation interconnected to the distribution side of a substation transformer feeding the circuit where the distributed generation facility proposes to interconnect, may not exceed 10 MVA in an area where there are transient stability limitations to generating units located in the general electrical vicinity, as publicly posted by the Midwest Reliability Organization (MRO), the SERC Reliability Corporation (SERC), ~~Mid-Continent Area Power Pool (MAPP)~~, the ~~Midwest~~ Midcontinent Independent Transmission System

Operator, Inc. (MISO), or the Southwest Power Pool (SPP), or the Midwest Reliability Organization (MRO).

ITEM 17. Amend subrule 45.9(2)(a) as follows:

**45.9(2)(a)**

a. The applicant submits an interconnection request using the appropriate Levels 2 to 4 Standard Interconnection Request Application Form in Appendix C (199—45.16(476)) along with the Level 2 application fee.

ITEM 18. Amend subrule **45.9(3)** as follows:

**45.9(3)** When a utility determines that the interconnection request passes the Level 2 screening criteria, or the utility determines that the distributed generation facility can be interconnected safely and will not cause adverse system impacts, even if it fails one or more of the Level 2 screening criteria, it shall provide the applicant with the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement in Appendix D (199—45.17 (476)) within three business days of the date the utility makes its determination.

ITEM 19. Amend subrule **45.9(4)** as follows:

**45.9(4)** Within 3035 business days after issuance by the utility of the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement, the applicant shall sign and return the agreement to the utility. If the applicant does not sign and return the agreement within 3035 business days, the interconnection request shall be deemed withdrawn unless the applicant requests a 15-business-day extension in writing before the end of the 3035-day period. The initial request for extension may not be denied by the utility. When the utility conducts an additional review under the provisions of subrule

45.9(6), the interconnection of the distributed generation facility shall proceed according to milestones agreed to by the parties in the Levels 2 to 4 Standard-Distributed Generation Interconnection Agreement.

ITEM 20. Amend subrule **45.9(5)** as follows:

**45.9(5)** The Levels 2 to 4 Standard-Distributed Generation Interconnection Agreement is not final until:

- a. All requirements in the agreement are satisfied;
- b. The distributed generation facility is approved by the electric code officials with jurisdiction over the interconnection;
- c. The applicant provides the ~~Standard-Certificate of Completion form in Appendix B (199—45.15 (476))~~ to the utility. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
- d. The witness test has either been successfully completed or waived by the utility in accordance with Article 2.1.1 of the Levels 2 to 4 Standard-Distributed Generation Interconnection Agreement.

ITEM 21. Amend subrule **45.9(6)** as follows:

**45.9(6)** Additional review may be appropriate when a distributed generation facility fails to meet one or more of the Level 2 screens. The utility shall offer to perform additional review to determine whether there are minor modifications to the distributed generation facility or electric distribution system that would enable the interconnection to be made safely ~~and so that it will not cause~~ without causing adverse system impacts. The utility shall provide the applicant with a nonbinding estimate for the costs of

additional review and the costs of minor modifications to the electric distribution system. The utility shall undertake the additional review only after the applicant pays for the additional review. The utility shall undertake the modifications only after the applicant pays for the modifications. The utility shall adopt the board approved supplemental review process unless the utility has defined a supplemental review process in its board approved tariff. The board approved supplemental review process is provided on the board's website.

ITEM 22. Amend subrule **45.10(1)(a)** as follows:

**45.10(1)(a)** The applicant shall submit an interconnection request using the appropriate Levels 2 to 4 Standard Interconnection Request Application Form in Appendix C (199—45.16(476)) along with the Level 3 application fee.

ITEM 23. Amend subrule **45.10(2)** as follows:

**45.10(2)** For a distributed generation facility that satisfies the criteria in paragraph 45.10(1)“e” or 45.10(1)“f,” the utility shall approve the interconnection request and provide the applicant with the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement in Appendix D (199—45.17(476)) for the applicant to sign within three business days of the date the utility makes its determination.

ITEM 24. Amend subrule **45.10(3)** as follows:

**45.10(3)** Within 30~~35~~ business days after issuance by the utility of the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement, the applicant shall complete, sign, and return the agreement to the utility. If the applicant does not sign the

agreement within ~~30~~35 business days, the request shall be deemed withdrawn, unless the applicant requests a 15-business-day extension in writing before the end of the ~~30~~35-day period. An initial request for extension may not be denied by the utility. After the agreement is signed by the parties, interconnection of the distributed generation facility shall proceed according to any milestones agreed to by the parties in the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement.

ITEM 25. Amend subrule **45.10(4)** as follows:

**45.10(4)** The Levels 2 to 4 Standard Distributed Generation Interconnection Agreement shall not be final until:

- a. All requirements in the agreement are satisfied; and
- b. The distributed generation facility is approved by the electric code officials with jurisdiction over the distributed generation facility; and
- c. The applicant provides the ~~Standard~~ Certificate of Completion form in ~~Appendix B (199—45.15(476))~~ to the utility; and
- d. The witness test has either been successfully completed or waived by the utility in accordance with Article 2.1.1 of the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement.

ITEM 26. Amend subrule **45.11(1)** as follows:

**45.11(1)** The applicant submits an interconnection request using the appropriate Levels 2 to 4 Standard Interconnection Request Application Form in ~~Appendix C (199—45.176(476))~~ along with the Level 4 application fee.

ITEM 27. Amend subrule **45.11(4)(b)** as follows:

**45.11(4)(b)** Standard Level 4 study review procedures.

(1) Scoping meeting. Unless waived or combined with other studies pursuant to paragraph 45.11(4)“a,” a scoping meeting shall be held with the applicant on a mutually agreed-upon date and time, after the utility has notified the applicant that the Level 4 interconnection request is deemed complete, or after the applicant has requested that its interconnection request proceed under Level 4 review after failing the requirements of a Level 1, Level 2, or Level 3 review. The purpose of the meeting is to review the interconnection request, any existing studies relevant to the interconnection request, and the results of any Level 1, Level 2, or Level 3 screening criteria.

(2) Feasibility study. Unless waived or combined with other studies pursuant to paragraph 45.11(4)“a,” an interconnection feasibility study (subrule 45.11(5)) shall be performed.

1. The utility shall provide the applicant a copy of the ~~Standard Interconnection Feasibility Study Agreement in Appendix E (199—45.18(476))~~ or a mutually agreed-upon alternative form, plus a description of the study and a nonbinding estimate of the cost to perform the study.

2. The utility shall provide the study agreement and information no later than 10 business days after the following have occurred, as applicable:

- Receipt of a complete interconnection request; and
- The scoping meeting (if held).

3. If the applicant does not sign and return the study agreement with payment of the estimated costs of the study within 15 business days, the application shall be deemed withdrawn.

(3) System impact study. Unless waived or combined with other studies pursuant to paragraph 45.11(4)“a,” an interconnection system impact study (subrule 45.11(6)) shall be performed.

1. The utility shall provide the applicant a copy of the ~~Standard-Interconnection System Impact Study Agreement in Appendix F (199—45.19(476))~~ or a mutually agreed-upon alternative form, plus an outline of the scope of the study and a nonbinding estimate of the cost to perform the study.

2. The utility shall provide the study agreement and information no later than 10 business days after the following have occurred, as applicable:

- Receipt of a complete interconnection request;
- The scoping meeting (if held); and
- Transmittal of the interconnection feasibility study (if performed).

3. If the applicant does not sign and return the study agreement with payment of the estimated costs of the study within 15 business days, the application shall be deemed withdrawn.

(4) Facilities study. Unless waived or combined with other studies pursuant to paragraph 45.11(4)“a,” an interconnection facilities study (subrule 45.11(7)) shall be performed.

1. The utility shall provide the applicant a copy of the ~~Standard-Interconnection Facilities Study Agreement in Appendix G (199—45.20(476))~~ or a mutually agreed-upon alternative form, plus an outline of the scope of the study and a nonbinding estimate of the cost to perform the study.

2. The utility shall provide the study agreement and information no later than 10 business days after the following have occurred, as applicable:

- Receipt of a complete interconnection request;
- The scoping meeting (if held);
- Transmittal of the interconnection feasibility study (if performed); and
- Transmittal of the interconnection system impact study (if performed).

3. If the applicant does not sign and return the study agreement with payment of the estimated costs of the study within 15 business days, the application shall be deemed withdrawn.

ITEM 28. Amend subrule **45.11(5)(e)** as follows:

**45.11(5)(e)** Either party can require that the ~~Standard-Interconnection Feasibility Study Agreement in Appendix E (199—45.18(476))~~ be used. However, if both parties agree, an alternative form can be used.

ITEM 29. Amend subrule **45.11(6)(d)** as follows:

**45.11(6)(d)** Either party can require that the ~~Standard-Interconnection System Impact Study Agreement in Appendix F (199—45.19(476))~~ be used. However, if both parties agree, an alternative form can be used.

ITEM 30. Amend subrule **45.11(7)(d)** as follows:

**45.11(7)(d)** Upon completion of the interconnection facilities study, and after the applicant agrees to pay for the interconnection facilities and distribution upgrades identified in the interconnection facilities study, the utility shall provide the applicant with the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement in Appendix D (199—45.17(476)) for the applicant to sign within three business days of the date the utility makes its determination.

ITEM 31. Amend subrule **45.11(7)(f)** as follows:

**45.11(7)(f)** Either party can require that the ~~Standard~~ Interconnection Facilities Study Agreement in Appendix G (199—45.20(476)) be used. However, if both parties agree, an alternative form can be used.

ITEM 32. Amend subrule **45.11(8)** as follows:

**45.11(8)** When a utility determines, as a result of the studies conducted under a Level 4 review, that it is appropriate to interconnect the distributed generation facility, the utility shall provide the applicant with the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement in Appendix D (199—45.17(476)). If the interconnection request is denied, the utility shall provide the applicant with a written explanation as to its reasons for denying interconnection. If denied, the interconnection request does not retain its position in the review order.

ITEM 33. Amend subrule **45.11(9)** as follows:

**45.11(9)** Within 30 business days after receipt of the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement, the applicant shall provide all

necessary information required of the applicant by the agreement, and the utility shall develop all other information required of the utility by the agreement. After completing the agreement with the additional information, the utility will transmit the completed agreement to the applicant. Within 30 business days after receipt of the completed agreement, the applicant shall sign and return the completed agreement to the utility. If the applicant does not sign and return the agreement within 30 business days after receipt, the interconnection request shall be deemed withdrawn, unless the applicant requests in writing to have the deadline extended by no more than 15 business days, prior to the expiration of the 30-business-day period. The initial request for extension may not be denied by the utility. If the applicant does not sign and return the agreement after the 15-business-day extension, the interconnection request shall be deemed withdrawn. If withdrawn, the interconnection request does not retain its position in the review order. When construction is required, the interconnection of the distributed generation facility shall proceed according to milestones agreed to by the parties in the Levels 2 to 4 Standard-Distributed Generation Interconnection Agreement.

ITEM 34. Amend subrule **45.11(10)** as follows:

**45.11(10)** The Levels 2 to 4 Standard-Distributed Generation Interconnection Agreement is not final until:

- a. The requirements of the agreement are satisfied; and
- b. The distributed generation facility is approved by electric code officials with jurisdiction over the interconnection; and

c. The applicant provides the ~~Standard Certificate of Completion form in Appendix B (199—45.15(476))~~ to the utility. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and

d. The witness test has either been successfully completed or waived by the utility in accordance with Article 2.1.1 of the Levels 2 to 4 Standard Distributed Generation Interconnection Agreement in Appendix D (199—45.17(476)).

ITEM 36. Amend subrule **45.13(2)** as follows:

**45.13(2)** ~~Beginning May 1, 2011, e~~Each utility shall file a nonconfidential annual report detailing its distributed generation interconnection ~~the information required in subrule 45.13(1) for the previous calendar year as required by 199 IAC chapter 15.~~

ITEM 37. Strike rule **45.14**.

ITEM 38. Strike rule **45.15**.

ITEM 39. Strike rule **45.16**.

ITEM 40. Strike rule **45.17**.

ITEM 42. Strike rule **45.18**.

ITEM 42. Strike rule **45.19**.

ITEM 43. Strike rule **45.20**.

July 22, 2016

/s/ Geri D. Huser

Geri Huser, Chair