CHAPTER 45
ELECTRIC INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES

199—45.1(476) Definitions. Terms defined in the Public Utility Regulatory Policies Act of 1978 (PURPA), 16 U.S.C. 2601 et seq., shall have the same meaning for purposes of these rules as they have under PURPA, unless further defined in this chapter.

"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" means an 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 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."

"Distributed generation facility" means a qualifying facility or an AEP 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.

"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. 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 for Use in Independent Power Systems," 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.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10; **ARC 1359C**, IAB 3/5/14, effective 4/9/14]

199—45.2(476) Scope.

45.2(1) 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 Midwest Independent Transmission System Operator, Inc. (MISO), or the Mid-Continent Area Power Pool (MAPP).

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 the rule 199—45.12(476) dispute process.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.3(476) Technical standards. The technical standard to be used in evaluating interconnection requests governed by this chapter is IEEE Standard 1547, unless otherwise noted.

45.3(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 Interconnecting Distributed Resources with Electric Power Systems, IEEE

Standard 1547. 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 519-1992; and

(2) 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 70-2008.

45.3(2) *Interconnection facilities.*

a. The utility may require the distributed generation facility 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 device whose status is indicated and is accessible by the utility. If an isolation device is required by the utility, the device shall be installed, owned, and maintained by the owner of the distributed generation facility and 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.

b. 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.

c. 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.

d. 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.

45.3(3) *Access.* If an isolation device is required by the utility, both the operator of the distributed generation facility and the utility shall have access to the isolation device at all times. An interconnection customer may elect to provide the utility with access to an isolation 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 device. The lockbox shall be in a location determined by the utility 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 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.

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

45.3(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.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

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 use interconnection request forms approved by the board.

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)).

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

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.5(476) General requirements.

45.5(1) When an interconnection request for a distributed generation facility includes multiple energy production devices at a site for which the applicant seeks a single point of interconnection, the interconnection request shall be evaluated on the basis of the aggregate nameplate capacity of the multiple devices.

45.5(2) When an interconnection request is for an increase in capacity for an existing distributed generation facility, the interconnection request shall be evaluated on the basis of the new total nameplate capacity of the distributed generation facility.

45.5(3) The utility shall designate a point of contact and provide contact information on the utility's Web site. The point of contact shall be able to direct applicant questions concerning interconnection request submissions and the interconnection request process to knowledgeable individuals within the utility.

45.5(4) The information that the utility makes available to potential applicants can include previously existing utility studies that help applicants understand whether it is feasible to interconnect a distributed generation facility at a particular point on the utility's electric distribution system. However, the utility can refuse to provide the information to the extent that providing it violates security requirements or confidentiality agreements, or is contrary to state or federal law. In appropriate circumstances, the utility may require a confidentiality agreement prior to release of this information.

45.5(5) When an interconnection request is deemed complete by the utility, any modification that is not agreed to by the utility requires submission of a new interconnection request.

45.5(6) When an applicant is not currently a customer of the utility at the proposed site, the applicant shall provide, upon utility request, proof of the applicant's legal right to control the site, evidenced by the applicant's name on a property tax bill, deed, lease agreement or other legally binding contract.

45.5(7) To minimize the cost to interconnect multiple distributed generation facilities, the utility or the applicant may propose a single point of interconnection for multiple distributed generation facilities located at an interconnection customer site that is on contiguous property. If the applicant rejects the utility's proposal for a single point of interconnection, the applicant shall pay any additional cost to provide a separate point of interconnection for each distributed generation facility. If the utility, without written technical explanation, rejects the customer's proposal for a single point of interconnection, the utility shall pay any additional cost to provide separate points of interconnection for each distributed generation facility.

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). Any such metering requirements shall be identified in the Standard Distributed Generation Interconnection Agreement executed between the interconnection customer and the utility.

45.5(9) Utility requirements for monitoring and control of distributed generation facilities are permitted only when the nameplate capacity rating is greater than 1 MVA. Monitoring and control requirements shall be reasonable, consistent with the utility's published requirements, and shall be clearly identified in the interconnection agreement between the interconnection customer and the utility. Transfer trip shall not be considered utility monitoring and control when required and installed to protect the electric distribution system or an affected system against adverse system impacts.

45.5(10) The utility may require a witness test after the distributed generation facility is constructed. The applicant shall provide the utility with at least 15 business days' notice of the planned

commissioning test for the distributed generation facility. The applicant and utility shall schedule the witness test at a mutually agreeable time. If the witness test results are not acceptable to the utility, the applicant shall be granted 30 business days to address and resolve any deficiencies. The time period for addressing and resolving any deficiencies may be extended upon the mutual agreement of the utility and the applicant prior to the end of the 30 business days. An initial request for extension shall not be denied by the utility; subsequent requests may be denied. If the applicant fails to address and resolve the deficiencies to the utility's satisfaction, the interconnection request shall be deemed withdrawn. Even if the utility or an entity approved by the utility does not witness a commissioning test, the applicant remains obligated to satisfy the interconnection test specifications and requirements set forth in IEEE Standard 1547, Section 5. The applicant shall, if requested by the utility, provide a copy of all documentation in its possession regarding testing conducted pursuant to IEEE Standard 1547.1.
[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.6(476) Lab-certified equipment. An interconnection request may be eligible for expedited interconnection review under rule 199—45.8(476), 199—45.9(476), or 199—45.10(476) (as described in rule 199—45.7(476)) if the distributed generation facility uses interconnection equipment that is lab-certified.

45.6(1) Interconnection equipment shall be deemed to be lab-certified if:

a. The interconnection equipment has been successfully tested in accordance with IEEE Standard 1547.1 (as appropriate for lab testing) or complies with UL Standard 1741, as demonstrated by any NRTL recognized by OSHA to test and certify interconnection equipment; and

b. The interconnection equipment has been labeled and is publicly listed by the NRTL at the time of the interconnection application; and

c. The applicant's proposed use of the interconnection equipment falls within the use or uses for which the interconnection equipment was labeled and listed by the NRTL; and

d. The generator, other electric sources, and interface components being utilized are compatible with the interconnection equipment and are consistent with the testing and listing specified by the NRTL for this type of interconnection equipment.

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, commissioning tests, or periodic testing as specified by IEEE Standard 1547, Sections 5.3, 5.4, and 5.5, or for a witness test conducted by a utility.
[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.7(476) Determining the review level. A utility shall determine whether an interconnection request should be processed under the Level 1, 2, 3, or 4 procedures by using the following screens.

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 10 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.

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; and

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).

45.7(3) A utility shall use Level 3 review procedures for evaluating interconnection requests to area networks and radial distribution circuits where power will not be exported based on the following criteria.

a. For interconnection requests to the load side of an area network, the following criteria shall be satisfied to qualify for a Level 3 expedited review:

(1) The applicant has filed a Level 3 application; and

(2) The nameplate capacity rating of the distributed generation facility is 50 kVA or less; and

(3) The proposed distributed generation facility uses a lab-certified inverter-based equipment package; and

(4) The distributed generation facility will use reverse power relays or other protection functions that prevent the export of power into the area network; and

(5) The aggregate of all generation on the area network does not exceed the lower of 5 percent of an area network's maximum load or 50 kVA; and

(6) No construction of facilities by the utility shall be required to accommodate the distributed generation facility.

b. For interconnection requests to a radial distribution circuit, the following criteria shall be satisfied to qualify for a Level 3 expedited review:

(1) The applicant has filed a Level 3 application; and

(2) The aggregated total of the nameplate capacity ratings of all of the generators on the circuit, including the proposed distributed generation facility, is 10 MVA or less; and

(3) The distributed generation facility will use reverse power relays or other protection functions that prevent power flow onto the electric distribution system; and

(4) The distributed generation facility is not served by a shared transformer; and

(5) No construction of facilities by the utility on its own system shall be required to accommodate the distributed generation facility.

45.7(4) A utility shall use the Level 4 study review procedures for evaluating interconnection requests when:

a. The applicant has filed a Level 4 application; and

b. The nameplate capacity rating of the small generation facility is 10 MVA or less; and

c. Not all of the interconnection equipment or distributed generation facilities being used for the application are lab-certified.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.8(476) Level 1 expedited review. A utility shall use the Level 1 interconnection review procedures for an interconnection request that meet the requirements specified in subrule 45.7(1). A utility may not impose additional requirements on Level 1 reviews that are not specifically authorized under this rule or rule 199—45.3(476) unless the applicant agrees.

45.8(1) The utility shall evaluate the potential for adverse system impacts using the following screens, which shall be satisfied:

a. For interconnection of a proposed distributed generation facility to a radial distribution circuit, the total distributed generation connected to the distribution circuit, including the proposed distributed generation facility, may not exceed 15 percent of the maximum load normally supplied by the distribution circuit.

b. For interconnection within a spot network, the distributed generation facility must use a minimum import relay or other protective scheme that will ensure that power imported from the utility to the network will, during normal utility operations, remain above 1 percent of the network's maximum

load over the past year, or will remain above a point reasonably set by the utility in good faith. At the utility's discretion, the requirement for minimum import relays or other protective schemes may be waived and alternative screening criteria may be applied.

c. When a proposed distributed generation facility is to be interconnected on a single-phase shared secondary line, the aggregate generation capacity on the shared secondary line, including the proposed distributed generation facility, shall not exceed 20 kVA.

d. When a proposed distributed generation facility is single-phase and is to be interconnected on a center tap neutral of a 240-volt service, its addition may not create an imbalance between the two sides of the 240-volt service of more than 20 percent of the nameplate rating of the service transformer.

e. The utility shall not be required to construct any facilities on its own system to accommodate the distributed generation facility's interconnection.

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

a. The applicant shall submit an interconnection request using the appropriate Standard Application Form 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)) 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 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)); and

(4) The applicant has signed the standard "Conditional Agreement to Interconnect Distributed Generation Facility" in Appendix A (199—45.14(476)). 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.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.9(476) Level 2 expedited review. A utility shall use the Level 2 review procedure for interconnection requests that meet the Level 2 criteria in subrule 45.7(2). A utility may not impose additional requirements for Level 2 reviews that are not specifically authorized under this rule or rule 199—45.3(476) or subrule 45.5(9) unless the applicant agrees.

45.9(1) The utility shall evaluate the potential for adverse system impacts using the following screens, which shall be satisfied:

a. For interconnection of a proposed distributed generation facility to a radial distribution circuit, the total distributed generation connected to the distribution circuit, including the proposed distributed generation facility, may not exceed 15 percent of the maximum normal load normally supplied by the distribution circuit.

b. For interconnection of a proposed distributed generation facility within a spot network, the proposed distributed generation facility must be inverter-based and use a minimum import relay or other protective scheme that will ensure that power imported from the utility to the network will, during normal utility operations, remain above 1 percent of the network's maximum load over the past year, or will remain above a point reasonably set by the utility in good faith. At the utility's discretion, the requirement for minimum import relays or other protective schemes may be waived and alternative screening criteria may be applied.

c. The proposed distributed generation facility, in aggregation with other generation on the distribution circuit, may not contribute more than 10 percent to the distribution circuit's maximum fault current at the point on the primary line nearest the point of interconnection.

d. Any proposed distributed generation facility, in aggregate with other generation on the distribution circuit, shall not cause any electric utility distribution devices to be exposed to fault currents exceeding 90 percent of their short-circuit interrupting capability. Interconnection of a non-inverter-based distributed generation facility may not occur under Level 2 if equipment on the utility's distribution circuit is already exposed to fault currents of between 90 and 100 percent of the utility's equipment short-circuit interrupting capability. However, if fault currents exceed 100 percent of the utility's equipment short-circuit interrupting capability even without the distributed generation being interconnected, the utility shall replace the equipment at its own expense, and interconnection may proceed under Level 2.

e. When a customer-generator facility is to be connected to 3-phase, 3-wire primary utility distribution lines, a 3-phase or single-phase generator shall be connected phase-to-phase.

f. When a customer-generator facility is to be connected to 3-phase, 4-wire primary utility distribution lines, a 3-phase or single-phase generator shall be connected line-to-neutral and shall be grounded.

g. When the proposed distributed generation facility is to be interconnected on a single-phase shared secondary line, the aggregate generation capacity on the shared secondary line, including the proposed distributed generation facility, may not exceed 20 kVA.

h. When a proposed distributed generation facility is single-phase and is to be interconnected on a center tap neutral of a 240-volt service, its addition may not create an imbalance between the two sides of the 240-volt service of more than 20 percent of the nameplate rating of the service transformer.

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 Mid-Continent Area Power Pool (MAPP), the Midwest Independent Transmission System Operator, Inc. (MISO), or the Midwest Reliability Organization (MRO).

j. Except as permitted by additional review in subrule 45.9(6), the utility shall not be required to construct any facilities on its own system to accommodate the distributed generation facility's interconnection.

45.9(2) The Level 2 interconnection shall use the following procedures:

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

b. Within ten business days after receiving the interconnection request, the utility shall inform the applicant as to whether the interconnection request is complete. If the request is incomplete, the utility shall specify what materials are missing and the applicant has ten business days to provide the missing

information or the interconnection request shall be deemed withdrawn.

c. After an interconnection request is deemed complete, the utility shall assign a review order position based upon the date that the interconnection request is determined to be complete. The utility shall then inform the applicant of its review order position.

d. If, after determining that the interconnection request is complete, the utility determines that it needs additional information to evaluate the distributed generation facility's adverse system impact, it shall request this information. The utility may not restart the review process or alter the applicant's review order position because it requires the additional information. The utility can extend the time to finish its evaluation only to the extent of the delay required for receipt of the additional information. If the additional information is not provided by the applicant within 15 business days, the interconnection request shall be deemed withdrawn.

e. Within 20 business days after the utility notifies the applicant it has received a completed interconnection request, the utility shall:

(1) Evaluate the interconnection request using the Level 2 screening criteria; and

(2) Provide the applicant with the utility's evaluation, including a written technical explanation. If a utility does not have a record of receipt of the interconnection request and the applicant can demonstrate that the original interconnection request was delivered, the utility shall complete the evaluation of the interconnection request within 20 business days after applicant's demonstration.

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 Standard Distributed Generation Interconnection Agreement in Appendix D (199—45.17(476)) within three business days of the date the utility makes its determination.

45.9(4) Within 35 business days after issuance by the utility of the 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 35 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 35-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 Standard Distributed Generation Interconnection Agreement.

45.9(5) The 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 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 Standard Distributed Generation Interconnection Agreement.

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 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.

45.9(7) If the distributed generation facility is not approved under a Level 2 review, the utility shall provide the applicant with written notification explaining its reasons for denying the interconnection

request. The applicant may submit a new interconnection request for consideration under a Level 4 interconnection review. The review order position assigned to the Level 2 interconnection request shall be retained, provided that the request is made by the applicant within 15 business days after notification that the current interconnection request is denied.
[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.10(476) Level 3 expedited review. A utility shall use the Level 3 expedited review procedure for an interconnection request that meets the criteria in subrule 45.7(3) or 45.7(4). A utility may not impose additional requirements for Level 3 reviews not specifically authorized under this rule or rule 199—45.3(476) unless the applicant agrees.

45.10(1) A Level 3 interconnection shall use the following procedures:

a. The applicant shall submit an interconnection request using the appropriate Standard Application Form in Appendix C (199—45.16(476)) along with the Level 3 application fee.

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

c. After an interconnection request is deemed complete, the utility shall assign a review order position to it based upon the date the interconnection request is determined to be complete. The utility shall then inform the applicant of its review order position.

d. If, after determining that the interconnection request is complete, the utility determines that it needs additional information to evaluate the distributed generation facility's adverse system impact, the utility shall request this information. The utility may not restart the review process or alter the applicant's review order position because it requires the additional information. The utility can extend the time to finish its evaluation only to the extent the delay is required for receipt of the additional information. If this additional information is not provided by the applicant within 15 business days, the interconnection request shall be deemed withdrawn.

e. Interconnection requests meeting the requirements set forth in paragraph 45.7(3)*"a"* for nonexporting distributed generation facilities interconnecting to an area network shall be presumed to be appropriate for interconnection. The utility shall process the interconnection requests using the following procedures:

(1) The utility shall evaluate the interconnection request under Level 2 interconnection review procedures as set forth in subrule 45.9(1) except that the utility has 25 business days to evaluate the interconnection request against the screens to determine whether interconnecting the distributed generation facility to the utility's area network has any potential adverse system impacts.

(2) If the Level 2 screens for area networks identify potential adverse system impacts, the utility may determine at its sole discretion that it is inappropriate for the distributed generation facility to interconnect to the area network under Level 3 review, and the interconnection request is denied. The applicant may submit a new interconnection request for consideration under Level 4 procedures at the review order position assigned to the Level 3 interconnection request, if the request is made within 15 business days after notification that the current application is denied.

f. For interconnection requests that meet the requirements of paragraph 45.7(3)*"b"* for nonexporting distributed generation facilities interconnecting to a radial distribution circuit, the utility shall evaluate the interconnection request under the Level 2 expedited review in subrule 45.9(1), except for the screen in paragraph 45.9(1)*"a."*

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 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.

45.10(3) Within 35 business days after issuance by the utility of the 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 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 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 Standard Distributed Generation Interconnection Agreement.

45.10(4) The 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 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 Standard Distributed Generation Interconnection Agreement.

45.10(5) If the distributed generation facility is not approved under a Level 3 review, the utility shall provide the applicant with written notification explaining its reasons for denying the interconnection request. The applicant may submit a new interconnection request for consideration under a Level 4 interconnection review. The review order position assigned to the Level 3 interconnection request shall be retained, provided that the request is made within 15 business days after notification that the current interconnection request is denied.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.11(476) Level 4 review. A utility shall use the following Level 4 study review procedures for an interconnection request that meets the criteria in subrule 45.7(4).

45.11(1) The applicant submits an interconnection request using the appropriate Standard Application Form in Appendix C (199—45.16(476)) along with the Level 4 application fee.

45.11(2) Within ten business days after receipt of an interconnection request, the utility shall notify the applicant whether the request is complete. When the interconnection request is not complete, the utility shall provide the applicant with a written list detailing the information required to complete the interconnection request. The applicant has ten business days to provide the required information or the interconnection request is considered withdrawn. The parties may agree to extend the time for receipt of the additional information. The interconnection request is deemed complete when the required information has been provided by the applicant, or the parties have agreed that the applicant may provide additional information at a later time.

45.11(3) After an interconnection request is deemed complete, the utility shall assign a review order position to it based upon the date the interconnection request is determined to be complete. When assigning a review order position, a utility may consider whether there are any other interconnection projects on the same distribution circuit. If there are other interconnection projects on the same distribution circuit, the utility may consider them together. If a utility assigns a review order position based on the existence of interconnection projects on the same distribution circuit, the utility shall notify the applicant of that fact when it assigns the review order position. The review order position of an interconnection request is used to determine the cost responsibility for the facilities necessary to accommodate the interconnection. The utility shall notify the applicant as to its position in the review order. If the interconnection request is subsequently amended, it shall receive a new review order position based on the date that it was amended.

45.11(4) Level 4 study review procedures. After the interconnection request has been assigned to the review order, a Level 4 study review shall be conducted:

a. Waiver or combination of standard Level 4 study review procedures. By mutual agreement of the parties in writing, the scoping meeting, feasibility study, system impact study, or facilities study in paragraph 45.11(4)*"b"* may be waived or combined with other studies. Otherwise, the standard Level 4 study review procedures in paragraph 45.11(4)*"b"* shall apply.

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.

45.11(5) Interconnection feasibility study.

a. Unless waived or combined with other studies by agreement of the parties pursuant to paragraph 45.11(4)*"a,"* the interconnection feasibility study shall include any necessary analyses for the purpose of identifying potential adverse system impacts to the utility's electric system that would result from the interconnection from among the following:

(1) Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

(2) Initial identification of any thermal overload or voltage limit violations resulting from the interconnection; and

(3) Initial review of grounding requirements and system protection.

b. Before performing the study, the utility shall provide the applicant a description of the study and a nonbinding estimate of the cost to perform the study.

c. If an applicant requests that the interconnection feasibility study evaluate multiple potential points of interconnection, additional evaluations may be required. Additional evaluations shall be paid for by the applicant.

d. An interconnection system impact study is not required when the interconnection feasibility study concludes that there is no adverse system impact, or when the study identifies an adverse system impact but the utility is able to identify a remedy without the need for an interconnection system impact study.

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.

45.11(6) Interconnection system impact study. An interconnection system impact study evaluates the impact of the proposed interconnection on both the safety and reliability of the utility's electric distribution system. The study identifies and details the system impacts that interconnecting the distributed generation facility to the utility's electric system have if there are no system modifications. It focuses on the potential or actual adverse system impacts identified in the interconnection feasibility study, including those that were identified in the scoping meeting. The study shall consider all other distributed generation facilities that, on the date the interconnection system impact study is commenced, are directly interconnected with the utility's system, have a pending higher review order position to interconnect to the electric distribution system, or have signed an interconnection agreement.

a. Unless waived or combined with other studies by agreement of the parties pursuant to paragraph 45.11(4)*"a,"* an interconnection system impact study shall be performed when either a potential adverse system impact is identified in the interconnection feasibility study, or an interconnection feasibility study has not been performed. Before performing the study, the utility shall provide the applicant an outline of the scope of the study and a nonbinding estimate of the cost to perform the study. The interconnection system impact study shall include any pertinent elements from among the following:

(1) A load flow study;

(2) Identification of affected systems;

(3) An analysis of equipment interrupting ratings;

(4) A protection coordination study;

(5) Voltage drop and flicker studies;

(6) Protection and set point coordination studies;

(7) Grounding reviews; and

(8) Impact on system operation.

b. An interconnection system impact study shall consider any necessary criteria from among the following:

(1) A short-circuit analysis;

(2) A stability analysis;

(3) Alternatives for mitigating adverse system impacts on affected systems;

(4) Voltage drop and flicker studies;

(5) Protection and set point coordination studies; and

(6) Grounding reviews.

c. The final interconnection system impact study shall provide the following:

(1) The underlying assumptions of the study;

(2) The results of the analyses;

(3) A list of any potential impediments to providing the requested interconnection service;

(4) Required distribution upgrades; and

(5) A nonbinding estimate of cost and time to construct any required distribution upgrades.

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.

45.11(7) Interconnection facilities study. Unless waived or combined with other studies by agreement of the parties pursuant to paragraph 45.11(4)*"a,"* an interconnection facilities study shall be performed as follows:

a. Before performing the study, the utility shall provide the applicant an outline of the scope of the study and a nonbinding estimate of the cost to perform the study.

b. The interconnection facilities study shall estimate the cost of the equipment, engineering, procurement and construction work, including overheads, needed to implement the conclusions of the interconnection feasibility study and the interconnection system impact study. The interconnection facilities study shall identify:

(1) The electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment;

(2) The nature and estimated cost of the utility's interconnection facilities and distribution upgrades necessary to accomplish the interconnection; and

(3) An estimate for the time required to complete the construction and installation of the interconnection facilities and distribution upgrades.

c. The utility may agree to permit an applicant to arrange separately for a third party to design and construct the required interconnection facilities. In such a case, when the applicant agrees to separately arrange for design and construction, and to comply with security and confidentiality requirements, the utility shall make all relevant information and required specifications available to the applicant to permit the applicant to obtain an independent design and cost estimate for the facilities, which shall be built in accordance with the utility's specifications.

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 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.

e. In the event that distribution upgrades are identified in the interconnection system impact study that shall be added only in the event that customers with higher review order positions not yet interconnected eventually complete and interconnect their generation facilities, the applicant may elect to interconnect without paying the estimate for such upgrades at the time of the interconnection, provided that the applicant pays for such upgrades prior to commencement of construction of such upgrades to be completed by the time the customer with higher review order position is ready to interconnect. If the applicant does not pay for such upgrades at that time, the utility shall require the applicant to immediately disconnect its distributed generation facility to accommodate the customer with higher review order position.

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.

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 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.

45.11(9) Within 30 business days after receipt of the 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 Standard Distributed Generation Interconnection Agreement.

45.11(10) The 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 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 Standard Distributed Generation Interconnection Agreement in Appendix D (199—45.17(476)).

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.12(476) Disputes.

45.12(1) A party shall attempt to resolve all disputes regarding interconnection promptly and in a good-faith manner. A party shall provide prompt written notice of the existence of the dispute, including sufficient detail to identify the scope of the dispute, to the other party in order to attempt to resolve the dispute in a good-faith manner.

45.12(2) An informal meeting between the parties shall be held within ten business days after receipt of the written notice. Persons with decision-making authority from each party shall attend such meeting. In the event said dispute involves technical issues, persons with sufficient technical expertise and familiarity with the issue in dispute from each party shall also attend the informal meeting. If the parties agree, such a meeting may be conducted by teleconference.

45.12(3) Subsequent to the informal meeting referred to in subrule 45.12(2), a party may seek resolution of any disputes through the 199—Chapter 6 complaint procedures of the board. Dispute resolution under these procedures will initially be conducted informally under rules 199—6.2(476) through 199—6.4(476) to reach resolution with minimal cost and delay. If any party is dissatisfied with the outcome of the informal process, the party may file a formal complaint with the board under rule 199—6.5(476).

45.12(4) Pursuit of dispute resolution shall not affect an interconnection applicant with regard to consideration of an interconnection request or an interconnection applicant's position in the utility's interconnection review order.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.13(476) Records and reports.

45.13(1) For each completed interconnection request received by the utility, the utility shall maintain records of the following for a minimum of three years:

a. The total nameplate capacity and fuel type of the distributed generation facility;

b. The level of review received (Level 1, Level 2, Level 3, or Level 4); and

c. Whether the interconnection was approved or denied.

d. Annual AEP Technical report, as required under rules 199 15.11,(3),b

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45.13(2) Beginning May 1, 2011, each utility shall file a nonconfidential annual report detailing the information required in subrule 45.13(1) for the previous calendar year.

45.13(3) Each utility shall retain copies of studies it performs to determine the feasibility of, system impacts of, or facilities required by the interconnection of any distributed generation facility. The utility shall provide the applicant copies of any studies performed in analyzing the applicant's interconnection request upon applicant request. However, a utility has no obligation to provide any future applicants any information regarding prior interconnection requests to the extent that providing the information would violate security requirements or confidentiality agreements, or is contrary to state or federal law. In appropriate circumstances, the utility may require a confidentiality agreement prior to release of this information.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.14(476) Appendix A – Level 1 standard application form and distributed generation interconnection agreement.

LEVEL 1:
STANDARD APPLICATION FORM AND INTERCONNECTION AGREEMENT

Interconnection Request Application Form and
Conditional Agreement to Interconnect
(For Lab-Certified Inverter-Based Distributed Generation Facilities 10 kVA or Smaller)

AN APPLICATION FEE OF $50.00 MUST BE SUBMITTED WITH THE APPLICATION

Interconnection Applicant Contact Information

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____

Alternate Contact Information (if different from Applicant)

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____

Equipment Contractor

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____
License number (if applicable): _____
Active License? (if applicable) Yes ____ No ____

Electrical Contractor (if Different from Equipment Contractor):

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____
License number: _____
Active License? Yes ____ No ____

Is the Interconnection Customer requesting Net Metering in accordance with Iowa Utilities Board rule 199 IAC 15.11(5) and the utility's net metering or net billing tariff?
Yes _____ No _____

Intent of Generation

___ Net Metering (Unit will operate in parallel and will export power to utility pursuant to Iowa Utilities Board rule 199 IAC 15.11(5) and the utility's net metering or net billing tariff)

___ Self-Use and Sales to the Utility (Unit will operate in parallel and may export and sell excess power to utility pursuant to Iowa Utilities Board rule 199 IAC 15.5 and the utility's tariff)

___ Other (Please explain): _____
_____
_____
_____

Distributed Generation Facility ("Facility") Information

Facility Address: _____
City: _____ State: _____ Zip Code: _____
Utility serving Facility site: _____
Account Number of Facility site (existing utility customers): _____
Inverter Manufacturer: _____ Model: _____

Is the inverter lab-certified as that term is defined in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation (199 IAC 45.1)?
Yes _____ No _____

(If yes, attach manufacturer's technical specifications and label information from a nationally recognized testing laboratory.)

Generation Facility Nameplate Rating: _____(kW) _____ (kVA) _____(AC Volts)

Energy Source: Wind _____ Solar _____ Biomass _____ Hydro _____ Diesel _____
Natural Gas _____ Fuel Oil _____ Other: _____

Energy Converter Type: Wind Turbine _____ Photovoltaic Cell _____ Fuel Cell _____
Reciprocating Engine _____ Other: _____

Commissioning Test Date: _____

(If the Commissioning Test Date changes, the interconnection customer must inform the utility as soon as it is aware of the changed date.)

Insurance Disclosure

The attached terms and conditions contain provisions related to liability and indemnification and should be carefully considered by the interconnection customer. The interconnection customer shall carry general liability insurance coverage, such as, but not limited to, homeowner's insurance.

Other Facility Information

One Line Diagram – A basic drawing of an electric circuit in which one or more conductors are represented by a single line and each electrical device and major component of the installation, from the generator to the point of interconnection, are noted by symbols.

One Line Diagram attached: _____ Yes

Plot Plan – A map showing the distributed generation facility's location in relation to streets, alleys, or other geographic markers.

Plot Plan attached: _____ Yes

Customer Signature

I hereby certify that: (1) I have read and understand the terms and conditions, which are attached hereto by reference; (2) I hereby agree to comply with the attached terms and conditions; and (3) to the best of my knowledge, all of the information provided in this application request form is complete and true.

Applicant Signature: _____
Title: _____ Date: _____

.....

This Application Form and Interconnection Agreement is comprised of: 1) the Level 1 Standard Application Form and Interconnection Agreement; 2) the Attachment of Terms and Conditions for Interconnection; and 3) the Certificate of Completion.

NOTE: If the Certificate of Completion is not completed and returned to the utility within 12 months following the utility's dated conditional agreement to interconnect below, this Application Form and Interconnection Agreement will automatically terminate and be of no further force and effect.

.....

Conditional Agreement to Interconnect Distributed Generation Facility

Receipt of the application fee is acknowledged and, by its signature below, the utility has determined the interconnection request is complete. Interconnection of the distributed generation facility is conditionally approved contingent upon the attached terms and conditions of this Agreement, the return of the attached Certificate of Completion, duly executed verification of electrical inspection and successful witness test.

Utility Signature: _____ Date: _____
Name: _____ Title: _____

ATTACHMENT
Level 1: Standard Interconnection Agreement

Terms and Conditions for Interconnection

1) Construction of the Distributed Generation Facility. The interconnection customer may proceed to construct (including operational testing not to exceed 2 hours) the distributed generation facility, once the conditional Agreement to interconnect a distributed generation facility has been signed by the utility.

2) Final Interconnection and Operation. The interconnection customer may operate the distributed generation facility and interconnect with the utility's electric distribution system after all of the following have occurred:
   a) Electrical Inspection: Upon completing construction, the interconnection customer shall cause the distributed generation facility to be inspected by the local electrical inspection authority, who shall establish that the distributed generation facility meets local code requirements.
   b) Certificate of Completion: The interconnection customer shall provide the utility with a copy of the Certificate of Completion with all relevant and necessary information fully completed by the interconnection customer, as well as an inspection form from the local electrical inspection authority demonstrating that the distributed generation facility passed inspection.
   c) The utility has completed its witness test as per the following:
      i) The interconnection customer shall provide the utility at least 15 business days' notice of the planned commissioning test for the distributed generation facility. Within 10 business days after the commissioning test, the utility may, upon reasonable notice and at a mutually convenient time, conduct a witness test of the distributed generation facility to ensure that all equipment has been appropriately installed and operating as designed and in accordance with the requirements of IEEE 1547.
      ii) If the utility does not perform the witness test within the 10 business days after the commissioning test or such other time as is mutually agreed to by the Parties, the witness test is deemed waived, unless the utility cannot do so for good cause. In these cases, upon utility request, the interconnection customer shall agree to another date for the test within 10 business days after the original scheduled date.

3) IEEE 1547. The distributed generation facility shall be installed, operated and tested in accordance with the requirements of The Institute of Electrical and Electronics Engineers, Inc. (IEEE), 3 Park Avenue, New York, NY 10016-5997, Standard 1547 (2003) "Standard for Interconnecting Distributed Resources with Electric Power Systems," as well as any applicable federal, state, or local laws, regulations, codes, ordinances, orders, or similar directives of any government or other authority having jurisdiction.

4) Access. The utility must have access to the isolation device or disconnect switch and metering equipment of the distributed generation facility at all times. When practical, the utility shall provide notice to the customer prior to using its right of access.

5) Metering. Any required metering shall be installed pursuant to the utility's metering rules filed with the Iowa Utilities Board under subrule 199 IAC 20.2(5).

6) Disconnection. The utility may disconnect the distributed generation facility upon any of the following conditions, but must reconnect the distributed generation facility once the condition is cured:
   a) For scheduled outages, provided that the distributed generation facility is treated in the same manner as utility's load customers;
   b) For unscheduled outages or emergency conditions;
   c) If the distributed generation facility does not operate in a manner consistent with this Agreement or the applicable requirements of 199 IAC Chapter 15 or 45;
   d) Improper installation or failure to pass the witness test;
   e) If the distributed generation facility is creating a safety, reliability, or power quality problem;
   f) The interconnection equipment used by the distributed generation facility is de-listed by the Nationally Recognized Testing Laboratory that provided the listing at the time the interconnection was approved;
   g) Unauthorized modification of the interconnection facilities or the distributed generation facility; or
   h) Unauthorized connection to the utility's electric system.

7) Indemnification. The interconnection customer shall indemnify and defend the utility and the utility's directors, officers, employees, and agents from all claims, damages and expenses, including reasonable attorney's fees, to the extent resulting from the interconnection customer's negligent installation, operation, modification, maintenance, or removal of its distributed generation facility or interconnection facilities, or the interconnection customer's willful misconduct or breach of this Agreement. The utility shall indemnify and defend the interconnection customer and the interconnection customer's directors, officers, employees, and agents from all claims, damages, and expenses, including reasonable attorney's fees, to the extent resulting from the utility's negligent installation, operation, modification, maintenance, or removal of its interconnection facilities or electric distribution system, or the utility's willful misconduct or breach of this Agreement.

8) Insurance. The interconnection customer shall provide the utility with proof that it has a current homeowner's insurance policy or other general liability policy.

9) Limitation of Liability. Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever, provided that in no event shall death, bodily injury or third-party claims be construed as indirect or consequential damages.

10) Termination. This Agreement will remain in effect until terminated and may be terminated under the following conditions:
   a) By interconnection customer - The interconnection customer may terminate this interconnection agreement by providing written notice to the utility. If the interconnection customer ceases operation of the distributed generation facility, the interconnection customer must notify the utility.
   b) By the utility - The utility may terminate this Agreement without liability to the interconnection customer if the interconnection customer fails to remedy a violation of terms of this Agreement within 30 calendar days after notice, or such other date as may be mutually agreed to in writing prior to the expiration of the 30 calendar day remedy period. The termination date may be no less than 30 calendar days after the interconnection customer receives notice of its violation from the utility.

11) Modification of Distributed Generation Facility. The interconnection customer must receive written authorization from the utility before making any changes to the distributed generation facility that could affect the utility's distribution system. If the interconnection customer makes such modifications without the utility's prior written authorization, the utility shall have the right to disconnect the distributed generation facility.

12) Permanent Disconnection. In the event the Agreement is terminated, the utility shall have the right to disconnect its facilities or direct the interconnection customer to disconnect its distributed generation facility.

13) Disputes. Each Party agrees to attempt to resolve all disputes regarding the provisions of this Agreement that cannot be resolved between the two Parties pursuant to the dispute resolution provisions found in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.12).

14) Governing Law, Regulatory Authority, and Rules. The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of Iowa. Nothing in this Agreement is intended to affect any other agreement between the utility and the interconnection customer.

15) Survival Rights. This Agreement shall remain in effect after termination to the extent necessary to allow or require either Party to fulfill rights or obligations that arose under the Agreement.

16) Assignment/Transfer of Ownership of the Distributed Generation Facility. This Agreement shall terminate upon the transfer of ownership of the distributed generation facility to a new owner unless the transferring owner assigns the Agreement to the new owner, the new owner agrees in writing to the terms of this Agreement, and the transferring owner so notifies the utility in writing prior to the transfer of ownership.

17) Definitions. Any term used herein and not defined shall have the same meaning as the defined terms used in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.1).

18) Notice. The Parties may mutually agree to provide notices, demands, comments, or requests by electronic means such as e-mail. Absent agreement to electronic communication, or unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement shall be deemed properly given when receipt is confirmed after notices are delivered in person, delivered by recognized national courier service, or sent by first-class mail, postage prepaid, return receipt requested, to the person specified below:

If Notice is to Interconnection Customer:

Use the contact information provided in the interconnection customer's application. The interconnection customer is responsible for notifying the utility of any change in the contact party information, including change of ownership.

If Notice is to Utility:

Use the contact information provided below. The utility is responsible for notifying the interconnection customer of any change in the contact party information.

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____

19) Interruptions. The utility is not responsible for any lost opportunity or other costs incurred by the interconnection customer as a result of an interruption of service.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.15(476) Appendix B – Standard certificate of completion.

CERTIFICATE OF COMPLETION

(To be completed and returned to the utility when installation is complete and final electric inspector approval has been obtained – Use contact information provided on the utility's web page for generator interconnection to obtain mailing address/fax number/e-mail address)

Interconnection Customer Information

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____

Installer: _____ Check if owner-installed: _____

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____

Final Electric Inspection and Interconnection Customer Signature

The distributed generation facility is complete and has been approved by the local electric inspector having jurisdiction. A signed copy of the electric inspector's form indicating final approval is attached. The interconnection customer acknowledges that it shall not operate the distributed generation facility until receipt of the final acceptance and approval by the utility as provided below.

Signed: _____ Date: _____
(Signature of interconnection customer)

Printed Name: _____

Check if copy of signed electric inspection form is attached: ____
Check if copy of as-built documents is attached (projects larger than 10 kVA only): ____

.....

Acceptance and Final Approval for Interconnection (for utility use only)

The interconnection agreement is approved and the distributed generation facility is approved for interconnected operation upon the signing and return of this Certificate of Completion by utility:

Electric Distribution Company waives Witness Test? (Initial) Yes (_____) No (_____)

If not waived, date of successful Witness Test: _____ Passed: (Initial) (_____)

Utility Signature: _____ Date: _____

Printed Name: _____ Title: _____

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.16(476) Appendix C – Levels 2 to 4: standard application form.

LEVELS 2 TO 4:
STANDARD INTERCONNECTION REQUEST APPLICATION FORM
(For Distributed Generation Facilities 10 MVA or less)

Interconnection Customer Contact Information

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____

Alternative Contact Information (if different from Customer Contact Information)

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____

Facility Address (if different from above): _____
City: _____ State: _____ Zip Code: _____
Utility Serving Facility Site: _____
Account Number of Facility Site (existing utility customers): _____
Inverter Manufacturer: _____ Model: _____

Equipment Contractor

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____

Electrical Contractor (if different from Equipment Contractor)

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone (Daytime): _____ (Evening): _____
Facsimile Number: _____ E-Mail Address: _____
License Number: _____

Electric Service Information for Customer Facility where Generator will be Interconnected

Capacity: _____(Amps) Voltage: _____(Volts)
Type of Service: ____ Single Phase ____ Three Phase

If 3 Phase Transformer, Indicate Type:
Primary Winding ___ Wye ____ Delta
Secondary Winding ____ Wye ____ Delta

Transformer Size: _____ Impedance: _____

Intent of Generation

___ Offset Load (Unit will operate in parallel, but will not export power to utility)

___ Net Metering (Unit will operate in parallel and will export power to utility pursuant to Iowa Utilities Board rule 199 IAC 15.11(5) and the utility's net metering or net billing tariff)

___ Self-Use and Sales to the Utility (Unit will operate in parallel and may export and sell excess power to utility pursuant to Iowa Utilities Board rule 199 IAC 15.5 and the utility's tariff)

___ Wholesale Market Transaction (Unit will operate in parallel and participate in MISO or other wholesale power markets pursuant to separate requirements and agreements with MISO or other transmission providers, and applicable rules of the Federal Energy Regulatory Commission)

___ Back-up Generation (Units that temporarily operate in parallel with the electric distribution system for more than 100 milliseconds)

Note: Back-up units that do not operate in parallel for more than 100 milliseconds do not need an interconnection agreement.

Generator & Prime Mover Information

Energy Source (Hydro, Wind, Solar, Process Byproduct, Biomass, Oil, Natural Gas, Coal, etc.): _____

Energy Converter Type (Wind Turbine, Photovoltaic Cell, Fuel Cell, Steam Turbine, etc.): _____

Generator Size: _____ kW or _____ kVA Number of Units: _____

Total Capacity: _____ kW or _____ kVA

Generator Type (Check one):
___ Induction ___ Inverter ___ Synchronous ___ Other: _____

Requested Procedure Under Which to Evaluate Interconnection Request

Please indicate below which review procedure applies to the interconnection request. The review procedure used is subject to confirmation by the utility.

___ Level 2 – Lab-certified interconnection equipment with an aggregate electric nameplate capacity less than or equal to 2 MVA. Lab-certified is defined in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.1). (Application fee is $100 plus $1.00 per kVA.)

___ Level 3 – Distributed generation facility does not export power. Nameplate capacity rating is less than or equal to 50 kVA if connecting to area network or less than or equal to 10 MVA if connecting to a radial distribution feeder. (Application fee amount is $500 plus $2.00 per kVA.)

___ Level 4 – Nameplate capacity rating is less than or equal to 10 MVA and the distributed generation facility does not qualify for a Level 1, Level 2, or Level 3 review, or the distributed generation facility has been reviewed but not approved under a Level 1, Level 2, or Level 3 review. (Application fee amount is $1,000 plus $2.00 per kVA, to be applied toward any subsequent studies related to this application.)

Note: Descriptions for interconnection review categories do not list all criteria that must be satisfied. For a complete list of criteria, please refer to Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45).

Distributed Generation Facility Information:
Commissioning Test Date: _____

List interconnection components/systems to be used in the distributed generation facility that are lab-certified.

Component/System NRTL Providing Label & Listing
1. _____
2. _____
3. _____
4. _____
5. _____

Please provide copies of manufacturer brochures or technical specifications.

Energy Production Equipment/Inverter Information:

___ Synchronous ___ Induction ___ Inverter ___ Other: _____
Rating: _____ kW Rating: _____ kVA
Rated Voltage: _____ Volts
Rated Current: _____Amps
System Type Tested (Total System): ___ Yes ___ No; attach product literature

For Synchronous Machines:

Note: Contact utility to determine if all the information requested in this section is required for the proposed distributed generation facility.

Manufacturer: _____
Model No.: _____ Version No.: _____
Submit copies of the Saturation Curve and the Vee Curve
___ Salient ____ Non-Salient
Torque: _____ lb-ft Rated RPM: _____ Field Amperes: _____ at rated generator voltage and current and _____% PF over-excited
Type of Exciter: _____
Output Power of Exciter: _____
Type of Voltage Regulator: _____
Locked Rotor Current: _____ Amps Synchronous Speed: _____RPM
Winding Connection: _____ Min. Operating Freq./Time: _____
Generator Connection: ____ Delta ____ Wye ____ Wye Grounded
Direct-axis Synchronous Reactance: (Xd) _____ ohms
Direct-axis Transient Reactance: (X'd) _____ ohms
Direct-axis Sub-transient Reactance: (X"d) _____ ohms
Negative Sequence Reactance: _____ ohms
Zero Sequence Reactance: _____ ohms
Neutral Impedance or Grounding Resister (if any): _____ ohms

For Induction Machines:

Note: Contact utility to determine if all the information requested in this section is required for the proposed distributed generation facility.

Manufacturer: _____
Model No.: _____ Version No.: _____
Locked Rotor Current: _____ Amps
Rotor Resistance (Rr):_____ ohms Exciting Current: ____ Amps
Rotor Reactance (Xr):_____ ohms Reactive Power Required: _____
Magnetizing Reactance (Xm): _____ ohms _____VARs (No Load)
Stator Resistance (Rs):_____ ohms _____VARs (Full Load)
Stator Reactance (Xs):_____ ohms
Short Circuit Reactance (X"d):_____ ohms
Phases: ____ Single ____ Three-Phase
Frame Size: _____ Design Letter: ____ Temp. Rise: _____ °C.

Reverse Power Relay Information (Level 3 Review Only):

Manufacturer: _____
Relay Type: _____ Model Number: _____
Reverse Power Setting: _____
Reverse Power Time Delay (if any): _____

Additional Information For Inverter-Based Facilities:

Inverter Information:

Manufacturer: _____ Model: _____
Type: ___ Forced Commutated ____ Line Commutated
Rated Output: _____ Watts _____ Volts
Efficiency: _____% Power Factor: _____%
Inverter UL1741 Listed: ____ Yes ___ No

DC Source/Prime Mover:

Rating: _____ kW Rating: _____ kVA
Rated Voltage: _____Volts
Open Circuit Voltage (if applicable): _____Volts
Rated Current: _____Amps
Short Circuit Current (if applicable): _____Amps

Other Facility Information:

One-Line Diagram – A basic drawing of an electric circuit in which one or more conductors are represented by a single line and each electrical device and major component of the installation, from the generator to the point of interconnection, are noted by symbols.

One-Line Diagram attached: ___ Yes

Plot Plan – A map showing the distributed generation facility's location in relation to streets, alleys, or other geographic markers.

Plot Plan attached: ____ Yes

Customer Signature:

I hereby certify that all of the information provided in this Interconnection Request Application Form is true.

Applicant Signature: _____
Title: _____ Date: _____

An application fee is required before the application can be processed. Please verify that the appropriate fee is included with the application:

Amount: _____

Utility Acknowledgement:

Receipt of the application fee is acknowledged and this interconnection request is complete.

Utility Signature: _____ Date: _____
Printed Name: _____ Title: _____

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.17(476) Appendix D – Levels 2 to 4: standard distributed generation interconnection

agreement.

LEVELS 2 TO 4:
STANDARD INTERCONNECTION AGREEMENT
(For Distributed Generation Facilities with a capacity of 10 MVA or less)

This agreement ("Agreement") is made and entered into this _____ day of _____, by and between _____ ("interconnection customer"), as an individual person, or as a _____ organized and existing under the laws of the State of _____, and _____, ("utility"), a _____ existing under the laws of the State of Iowa. Interconnection customer and utility each may be referred to as a "Party," or collectively as the "Parties."

Recitals:

Whereas, interconnection customer is proposing to install or direct the installation of a distributed generation facility, or is proposing a generating capacity addition to an existing distributed generation facility, consistent with the interconnection request application form completed by interconnection customer on _____; and

Whereas, the interconnection customer will operate and maintain, or cause the operation and maintenance of, the distributed generation facility; and

Whereas, interconnection customer desires to interconnect the distributed generation facility with utility's electric distribution system.

Now, therefore, in consideration of the premises and mutual covenants set forth in this Agreement, the Parties covenant and agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 This Agreement shall be used for all approved interconnection requests for distributed generation facilities that fall under Levels 2, 3, and 4 according to the procedures set forth in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45).

1.2 This Agreement governs the terms and conditions under which the distributed generation facility will interconnect to, and operate in parallel with, the utility's electric distribution system.

1.3 This Agreement does not constitute an agreement to purchase or deliver the interconnection customer's power.

1.4 Nothing in this Agreement is intended to affect any other agreement between the utility and the interconnection customer.

1.5 Terms used in this Agreement are defined in Attachment 1 hereto or in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.1) unless otherwise noted.

1.6 Responsibilities of the Parties

1.6.1 The Parties shall perform all obligations of this Agreement in accordance with all applicable laws, regulations, codes, ordinances, orders, or similar directives of any government or other authority having jurisdiction.

1.6.2 The utility shall construct, own, operate, and maintain its interconnection facilities in accordance with this Agreement.

1.6.3 The interconnection customer shall construct, own, operate, and maintain its distributed generation facility and interconnection facilities in accordance with this Agreement.

1.6.4 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for, the facilities that it now owns or subsequently may own unless otherwise specified in the attachments to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair, and condition of its respective lines and appurtenances on its respective sides of the point of interconnection.

1.6.5 The interconnection customer agrees to design, install, maintain, and operate its distributed generation facility so as to minimize the likelihood of causing an adverse system impact on the electric distribution system or any other electric system that is not owned or operated by the utility.

1.7 Parallel Operation Obligations

Once the distributed generation facility has been authorized to commence parallel operation, the interconnection customer shall abide by all operating procedures established in IEEE Standard 1547 and any other applicable laws, statutes or guidelines, including those specified in Attachment 4 of this Agreement.

1.8 Metering

The interconnection customer shall be responsible for the cost to purchase, install, operate, maintain, test, repair, and replace metering and data acquisition equipment specified in Attachments 5 and 6 of this Agreement.

1.9 Reactive Power

1.9.1 Interconnection customers with a distributed generation facility larger than or equal to 1 MVA shall design their distributed generation facilities to maintain a power factor at the point of interconnection between .95 lagging and .95 leading at all times. Interconnection customers with a distributed generation facility smaller than 1 MVA shall design their distributed generation facility to maintain a power factor at the point of interconnection between .90 lagging and .90 leading at all times.

1.9.2 Any utility requirements for meeting a specific voltage or specific reactive power schedule as a condition for interconnection shall be clearly specified in Attachment 4. Under no circumstance shall the utility's additional requirements for voltage or reactive power schedules be outside of the agreed-upon operating parameters defined in Attachment 4.

1.9.3 If the interconnection customer does not operate the distributed generation facility within the power factor range specified in Attachment 4, or does not operate the distributed generation facility in accordance with a voltage or reactive power schedule specified in Attachment 4, the interconnection customer is in default, and the terms of Article 6.5 apply.

1.10 Standards of Operations

The interconnection customer must obtain all certifications, permits, licenses, and approvals necessary to construct, operate, and maintain the facility and to perform its obligations under this Agreement. The interconnection customer is responsible for coordinating and synchronizing the distributed generation facility with the utility's system. The interconnection customer is responsible for any damage that is caused by the interconnection customer's failure to coordinate or synchronize the distributed generation facility with the electric distribution system. The interconnection customer agrees to be primarily liable for any damages resulting from the continued operation of the distributed generation facility after the utility ceases to energize the line section to which the distributed generation facility is connected. In Attachment 4, the utility shall specify the shortest reclose time setting for its protection equipment that could affect the distributed generation facility. The utility shall notify the interconnection customer at least 10 business days prior to adopting a faster reclose time on any automatic protective equipment, such as a circuit breaker or line recloser, that might affect the distributed generation facility.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection

The interconnection customer shall test and inspect its distributed generation facility including the interconnection equipment prior to interconnection in accordance with IEEE Standard 1547 (2003) and IEEE Standard 1547.1 (2005). The interconnection customer shall not operate its distributed generation facility in parallel with the utility's electric distribution system without prior written authorization by the utility as provided for in Articles 2.1.1-2.1.3.

2.1.1 The utility shall perform a witness test after construction of the distributed generation facility is completed, but before parallel operation, unless the utility specifically waives the witness test. The interconnection customer shall provide the utility at least 15 business days' notice of the planned commissioning test for the distributed generation facility. If the utility performs a witness test at a time that is not concurrent with the commissioning test, it shall contact the interconnection customer to schedule the witness test at a mutually agreeable time within 10 business days after the scheduled commissioning test designated on the application. If the utility does not perform the witness test within 10 business days after the commissioning test, the witness test is deemed waived unless the Parties mutually agree to extend the date for scheduling the witness test, or unless the utility cannot do so for good cause, in which case, the Parties shall agree to another date for scheduling the test within 10 business days after the original scheduled date. If the witness test is not acceptable to the utility, the interconnection customer has 30 business days to address and resolve any deficiencies. This time period may be extended upon agreement in writing between the utility and the interconnection customer. If the interconnection customer fails to address and resolve the deficiencies to the satisfaction of the utility, the applicable cure provisions of Article 6.5 shall apply. The interconnection customer shall, if requested by the utility, provide a copy of all documentation in its possession regarding testing conducted pursuant to IEEE Standard 1547.1.

2.1.2 If the interconnection customer conducts interim testing of the distributed generation facility prior to the witness test, the interconnection customer shall obtain permission from the utility before each occurrence of operating the distributed generation facility in parallel with the electric distribution system. The utility may, at its own expense, send qualified personnel to the distributed generation facility to observe such interim testing, but it cannot mandate that these tests be considered in the final witness test. The utility is not required to observe the interim testing or precluded from requiring the tests be repeated at the final witness test.

2.1.3 After the distributed generation facility passes the witness test, the utility shall affix an authorized signature to the certificate of completion and return it to the interconnection customer approving the interconnection and authorizing parallel operation. The authorization shall not be conditioned or delayed.

2.2 Commercial Operation

The interconnection customer shall not operate the distributed generation facility, except for interim testing as provided in Article 2.1, until such time as the certificate of completion is signed by all Parties.

2.3 Right of Access

The utility must have access to the isolation device or disconnect switch and metering equipment of the distributed generation facility at all times. When practical, the utility shall provide notice to the customer prior to using its right of access.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date

This Agreement shall become effective upon execution by all Parties.

3.2 Term of Agreement

This Agreement shall become effective on the effective date and shall remain in effect unless terminated in accordance with Article 3.3 of this Agreement.

3.3 Termination

3.3.1 The interconnection customer may terminate this Agreement at any time by giving the utility 30 calendar days' prior written notice.

3.3.2 Either Party may terminate this Agreement after default pursuant to Article 6.5.

3.3.3 The utility may terminate, upon 60 calendar days' prior written notice, for failure of the interconnection customer to complete construction of the distributed generation facility within 12 months after the in-service date as specified by the Parties in Attachment 2, which may be extended by mutual written agreement between the Parties prior to the expiration of the 12-month period.

3.3.4 The utility may terminate this Agreement, upon 60 calendar days' prior written notice, if the interconnection customer has abandoned, cancelled, permanently disconnected or stopped development, construction, or operation of the distributed generation facility, or if the interconnection customer fails to operate the distributed generation facility in parallel with the utility's electric system for three consecutive years.

3.3.5 Upon termination of this Agreement, the distributed generation facility will be disconnected from the utility's electric distribution system. Terminating this Agreement does not relieve either Party of its liabilities and obligations that are owed or continuing when the Agreement is terminated.

3.3.6 If the Agreement is terminated, the interconnection customer loses its position in the interconnection review order.

3.4 Temporary Disconnection

A Party may temporarily disconnect the distributed generation facility from the electric distribution system in the event one or more of the following conditions or events occurs:

3.4.1 Emergency conditions – Shall mean any condition or situation: (1) that in the judgment of the Party making the claim is likely to endanger life or property; or (2) that the utility determines is likely to cause an adverse system impact, or is likely to have a material adverse effect on the utility's electric distribution system, interconnection facilities or other facilities, or is likely to interrupt or materially interfere with the provision of electric utility service to other customers; or (3) that is likely to cause a material adverse effect on the distributed generation facility or the interconnection equipment. Under emergency conditions, the utility or the interconnection customer may suspend interconnection service and temporarily disconnect the distributed generation facility from the electric distribution system without giving notice to the other Party, provided that it gives notice as soon as practicable thereafter. The utility must notify the interconnection customer when it becomes aware of any conditions that might affect the interconnection customer's operation of the distributed generation facility. The interconnection customer shall notify the utility when it becomes aware of any condition that might affect the utility's electric distribution system. To the extent information is known, the notification shall describe the condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 Scheduled maintenance, construction, or repair – the utility may interrupt interconnection service or curtail the output of the distributed generation facility and temporarily disconnect the distributed generation facility from the utility's electric distribution system when necessary for scheduled maintenance, construction, or repairs on utility's electric distribution system. To the extent possible, the utility shall provide the interconnection customer with notice five business days before an interruption. The utility shall coordinate the reduction or temporary disconnection with the interconnection customer; however, the interconnection customer is responsible for out-of-pocket costs incurred by the utility for deferring or rescheduling maintenance, construction, or repair at the interconnection customer's request.

3.4.3 Forced outages – The utility may suspend interconnection service to repair the utility's electric distribution system. The utility shall provide the interconnection customer with prior notice, if possible. If prior notice is not possible, the utility shall, upon written request, provide the interconnection customer with written documentation, after the fact, explaining the circumstances of the disconnection.

3.4.4 Adverse system impact – The utility must provide the interconnection customer with written notice of its intention to disconnect the distributed generation facility, if the utility determines that operation of the distributed generation facility creates an adverse system impact. The documentation that supports the utility's decision to disconnect must be provided to the interconnection customer. The utility may disconnect the distributed generation facility if, after receipt of the notice, the interconnection customer fails to remedy the adverse system impact within 12 days, unless emergency conditions exist, in which case, the provisions of Article 3.4.1 apply. The utility may continue to leave the generating facility disconnected until the adverse system impact is corrected to the satisfaction of both the utility and the adversely-impacted customer.

3.4.5 Modification of the distributed generation facility – The interconnection customer must receive written authorization from the utility prior to making any change to the distributed generation facility, other than a minor equipment modification. If the interconnection customer modifies its facility without the utility's prior written authorization, the utility has the right to disconnect the distributed generation facility until such time as the utility concludes the modification poses no threat to the safety or reliability of its electric distribution system.

3.4.6 Unauthorized connection to the utility's electric distribution system.

3.4.7 Failure of the distributed generation facility to operate in accordance with this Agreement or the applicable requirements of 199 IAC Chapter 15 or 45.

3.4.8 The utility is not responsible for any lost opportunity or other costs incurred by interconnection customer as a result of an interruption of service under Article 3.

Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades

4.1 Interconnection Facilities

4.1.1 The interconnection customer shall pay for the cost of the interconnection facilities itemized in Attachment 3. The utility shall identify the additional interconnection facilities necessary to interconnect the distributed generation facility with the utility's electric distribution system, the cost of those facilities, and the time required to build and install those facilities, as well as an estimated date of completion of the building or installation of those facilities.

4.1.2 The interconnection customer is responsible for its expenses, including overheads, associated with owning, operating, maintaining, repairing, and replacing its interconnection equipment.

4.2 Distribution Upgrades

The utility shall design, procure, construct, install, and own any distribution upgrades. The actual cost of the distribution upgrades, including overheads, shall be directly assigned to the interconnection customer whose distributed generation facility caused the need for the distribution upgrades.

Article 5. Billing, Payment, Milestones, and Financial Security

5.1 Billing and Payment Procedures and Final Accounting (Applies to additional reviews conducted under a Level 2 review and Level 4 reviews)

5.1.1 The utility shall bill the interconnection customer for the design, engineering, construction, and procurement costs of utility-provided interconnection facilities and distribution upgrades contemplated by this Agreement as set forth in Attachment 3. The billing shall occur on a monthly basis, or as otherwise agreed to between the Parties. The interconnection customer shall pay each billing invoice within 30 calendar days after receipt, or as otherwise agreed to between the Parties, if a balance due is showing after any customer deposit funds have been expended.

5.1.2 Within 90 calendar days after completing the construction and installation of the utility's interconnection facilities and distribution upgrades described in Attachments 2 and 3 to this Agreement, the utility shall provide the interconnection customer with a final accounting report of any difference between: (1) the actual cost incurred to complete the construction and installation of the utility's interconnection facilities and distribution upgrades; and (2) the interconnection customer's previous deposit and aggregate payments to the utility for the interconnection facilities and distribution upgrades. If the interconnection customer's cost responsibility exceeds its previous deposit and aggregate payments, the utility shall invoice the interconnection customer for the amount due and the interconnection customer shall make payment to the utility within 30 calendar days. If the interconnection customer's previous deposit and aggregate payments exceed its cost responsibility under this Agreement, the utility shall refund to the interconnection customer an amount equal to the difference within 30 calendar days after the final accounting report. Upon request from the interconnection customer, if the difference between the budget estimate and the actual cost exceeds 20%, the utility will provide a written explanation for the difference.

5.1.3 If a Party disputes any portion of its payment obligation pursuant to this Article 5, the Party shall pay in a timely manner all non-disputed portions of its invoice, and the disputed amount shall be resolved pursuant to the dispute resolution provisions contained in Article 8. A Party disputing a portion of an Article 5 payment shall not be considered to be in default of its obligations under this Article.

5.2 Interconnection Customer Deposit

At least 20 business days prior to the commencement of the design, procurement, installation, or construction of the utility's interconnection facilities and distribution upgrades, the interconnection customer shall provide the utility with a deposit equal to 100% of the estimated, nonbinding cost to procure, install, or construct any such facilities. However, when the estimated date of completion of the building or installation of facilities exceeds three months from the date of payment of the deposit, pursuant to Article 4.1.1 of this Agreement, this deposit may be held by the utility and will accrue interest in accordance with 199 IAC 20.4(4), with any interest to inure to the benefit of the interconnection customer.

Article 6. Assignment, Limitation on Damages, Indemnity, Force Majeure, and Default

6.1 Assignment

This Agreement may be assigned by either Party with the prior consent of the other Party. If the interconnection customer attempts to assign this Agreement, the assignee must agree to the terms of this Agreement in writing and such writing must be provided to the utility. Any attempted assignment that violates this Article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason of the assignment. An assignee is responsible for meeting the same obligations as the assignor.

6.1.1 Either Party may assign this Agreement without the consent of the other Party to any affiliate (including mergers, consolidations, or transfers or a sale of a substantial portion of the Party's assets, between the Party and another entity), of the assigning Party that has an equal or greater credit rating and the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement.

6.1.2 The interconnection customer can assign this Agreement, without the consent of the utility, for collateral security purposes to aid in providing financing for the distributed generation facility.

6.2 Limitation on Damages

Except for cases of gross negligence or willful misconduct, the liability of any Party to this Agreement shall be limited to direct actual damages, including death, bodily injury, third-party claims, and reasonable attorney's fees, and all other damages at law are waived. Under no circumstances, except for cases of gross negligence or willful misconduct, shall any Party or its directors, officers, employees, and agents, or any of them, be liable to another Party, whether in tort, contract, or other basis in law or equity for any special, indirect, punitive, exemplary, or consequential damages, including lost profits, lost revenues, replacement power, cost of capital, or replacement equipment. This limitation on damages shall not affect any Party's rights to obtain equitable relief, including specific performance, as otherwise provided in this Agreement. The provisions of this Article 6.2 shall survive the termination or expiration of the Agreement.

6.3 Indemnity

6.3.1 This provision protects each Party from liability incurred as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 6.2.

6.3.2 The interconnection customer shall indemnify and defend the utility and the utility's directors, officers, employees, and agents, from all claims, damages, and expenses, including reasonable attorney's fees, to the extent resulting from the interconnection customer's negligent installation, operation, modification, maintenance, or removal of its distributed generation facility or interconnection facilities, or the interconnection customer's willful misconduct or breach of this Agreement.

6.3.3 The utility shall indemnify and defend the interconnection customer and the interconnection customer's directors, officers, employees, and agents from all claims, damages, and expenses, including reasonable attorney's fees, to the extent resulting from the utility's negligent installation, operation, modification, maintenance, or removal of its interconnection facilities or electric distribution system, or the utility's willful misconduct or breach of this Agreement.

6.3.4 Within 5 business days after receipt by an indemnified Party of any claim or notice that an action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply has commenced, the indemnified Party shall notify the indemnifying Party of such fact. The failure to notify, or a delay in notification, shall not affect a Party's indemnification obligation unless that failure or delay is materially prejudicial to the indemnifying Party.

6.3.5 If an indemnified Party is entitled to indemnification under this Article as a result of a claim, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such claim, that indemnified Party may, at the expense of the indemnifying Party, contest, settle, or consent to the entry of any judgment with respect to, or pay in full, the claim.

6.3.6 If an indemnifying Party is obligated to indemnify and hold any indemnified Party harmless under this Article, the amount owing to the indemnified person shall be the amount of the indemnified Party's actual loss, net of any insurance or other recovery by the indemnified Party.

6.4 Force Majeure

6.4.1 As used in this Article, a force majeure event shall mean any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage, or accident to machinery or equipment through no direct, indirect, or contributory act of a Party, any order, regulation or restriction imposed by governmental, military, or lawfully established civilian authorities (e.g., MISO), or any other cause beyond a Party's control. A force majeure event does not include an act of gross negligence or intentional wrongdoing by the Party claiming force majeure.

6.4.2 If a force majeure event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the force majeure event ("Affected Party") shall notify the other Party of the existence of the force majeure event as soon as reasonably possible. The notification will specify the circumstances of the force majeure event, its expected duration (if known), and the steps that the Affected Party is taking and will take to mitigate the effects of the event on its performance (if known). If the initial notification is verbal, it must be followed up with a written notification promptly thereafter. The Affected Party shall keep the other Party informed on a periodic basis of developments relating to the force majeure event until the event ends. The Affected Party may suspend or modify its obligations under this Agreement without liability only to the extent that the effect of the force majeure event cannot be otherwise mitigated.

6.5 Default

6.5.1 No default shall exist when the failure to discharge an obligation results from a force majeure event as defined in this Agreement, or the result of an act or omission of the other Party.

6.5.2 A Party shall be in default ("Default") of this Agreement if it fails in any material respect to comply with, observe, or perform, or defaults in the performance of, any covenant or obligation under this Agreement and fails to cure the failure within 60 calendar days after receiving written notice from the other Party. Upon a default of this Agreement, the non-defaulting Party shall give written notice of the default to the defaulting Party. Except as provided in Article 6.5.3, the defaulting Party has 60 calendar days after receipt of the default notice to cure the default; provided, however, if the default cannot be cured within 60 calendar days, the defaulting Party shall commence the cure within 20 calendar days after original notice and complete the cure within six months from receipt of the default notice; and, if cured within that time, the default specified in the notice shall cease to exist.

6.5.3 If a Party has assigned this Agreement in a manner that is not specifically authorized by Article 6.1, fails to provide reasonable access pursuant to Article 2.3, and is in default of its obligations pursuant to Article 7, or if a Party is in default of its payment obligations pursuant to Article 5 of this Agreement, the defaulting Party has 30 days from receipt of the default notice to cure the default.

6.5.4 If a default is not cured as provided for in this Article, or if a default is not capable of being cured within the period provided for in this Article, the non-defaulting Party shall have the right to terminate this Agreement without liability by written notice, and be relieved of any further obligation under this Agreement and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due under this Agreement, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this Article shall survive termination of this Agreement.

Article 7. Insurance

7.1 For distributed generation facilities with a nameplate capacity less than 1 MVA, the interconnection customer shall carry general liability insurance coverage, such as, but not limited to, homeowner's insurance.

7.2 For distributed generation facilities with a nameplate capacity of 1 MVA or above, the interconnection customer shall carry sufficient insurance coverage so that the maximum comprehensive/general liability coverage that is continuously maintained by the interconnection customer during the term shall be not less than $2,000,000 for each occurrence, and an aggregate, if any, of at least $4,000,000. The utility, its officers, employees, and agents shall be added as an additional insured on this policy. The interconnection customer agrees to provide the utility with at least 30 calendar days' advance written notice of cancellation, reduction in limits, or non-renewal of any insurance policy required by this Article.

Article 8. Dispute Resolution

8.1 Parties shall attempt to resolve all disputes regarding interconnection as provided in this Article in a good faith manner.

8.2 If there is a dispute between the Parties about an interpretation of the Agreement, the aggrieved Party shall issue a written notice to the other Party to the agreement that specifies the dispute and the Agreement articles that are disputed.

8.3 A meeting between the Parties shall be held within ten business days after receipt of the written notice. Persons with decision-making authority from each Party shall attend the meeting. If the dispute involves technical issues, persons with sufficient technical expertise and familiarity with the issue in dispute from each Party shall also attend the meeting. If the Parties agree, the meeting may be conducted by teleconference.

8.4 After the first meeting, each Party may seek resolution through the Iowa Utilities Board Chapter 6 complaint procedures (199 IAC 6). Dispute resolution under these procedures will initially be conducted informally under 199 IAC 6.2 through 6.4 to minimize cost and delay. If any Party is dissatisfied with the outcome of the informal process, the Party may file a formal complaint with the Board under 199 IAC 6.5.

8.5 Pursuit of dispute resolution may not affect an interconnection request or an interconnection applicant's position in the utility's interconnection review order.

8.6 If the Parties fail to resolve their dispute under the dispute resolution provisions of this Article, nothing in this Article shall affect any Party's rights to obtain equitable relief, including specific performance, as otherwise provided in this Agreement.

Article 9. Miscellaneous

9.1 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of Iowa, without regard to its conflicts of law principles. This Agreement is subject to all applicable laws and regulations. Each Party expressly reserves the right to seek change in, appeal, or otherwise contest any laws, orders, or regulations of a governmental authority. The language in all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against the utility or interconnection customer, regardless of the involvement of either Party in drafting this Agreement.

9.2 Amendment

Modification of this Agreement shall be only by a written instrument duly executed by both Parties.

9.3 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations in this Agreement assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

9.4 Waiver

9.4.1 Except as otherwise provided in this Agreement, a Party's compliance with any obligation, covenant, agreement, or condition in this Agreement may be waived by the Party entitled to the benefits thereof only by a written instrument signed by the Party granting the waiver, but the waiver or failure to insist upon strict compliance with the obligation, covenant, agreement, or condition shall not operate as a waiver of, or estoppel with respect to, any subsequent or other failure.

9.4.2 Failure of any Party to enforce or insist upon compliance with any of the terms or conditions of this Agreement, or to give notice or declare this Agreement or the rights under this Agreement terminated, shall not constitute a waiver or relinquishment of any rights set out in this Agreement, but the same shall be and remain at all times in full force and effect, unless and only to the extent expressly set forth in a written document signed by that Party granting the waiver or relinquishing any such rights. Any waiver granted, or relinquishment of any right, by a Party shall not operate as a relinquishment of any other rights or a waiver of any other failure of the Party granted the waiver to comply with any obligation, covenant, agreement, or condition of this Agreement.

9.5 Entire Agreement

Except as provided in Article 9.1, this Agreement, including all attachments and the completed Standard Certificate of Completion (199 IAC 45.15), constitutes the entire Agreement between the Parties with reference to the subject matter of this Agreement, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants that constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement.

9.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original, but all constitute one and the same instrument.

9.7 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties, or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

9.8 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other governmental authority, (1) that portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by the ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

9.9 Environmental Releases

Each Party shall notify the other Party of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the distributed generation facility or the interconnection facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall (1) provide the notice as soon as practicable, provided that Party makes a good faith effort to provide the notice no later than 24 hours after that Party becomes aware of the occurrence, and (2) promptly furnish to the other Party copies of any publicly available reports filed with any governmental authorities addressing such events.

9.10 Subcontractors

Nothing in this Agreement shall prevent a Party from using the services of any subcontractor it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing services and each Party shall remain primarily liable to the other Party for the performance of the subcontractor.

9.10.1 A subcontract relationship does not relieve any Party of any of its obligations under this Agreement. The hiring Party remains responsible to the other Party for the acts or omissions of its subcontractor. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of the hiring Party.

9.10.2 The obligations under this Article cannot be limited in any way by any limitation of subcontractor's insurance.

Article 10. Notices

10.1 General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first-class mail, postage prepaid, to the person specified below:

If Notice is to Interconnection Customer:

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____ E-mail: _____

If Notice is to Utility:

Utility: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____ E-mail: _____

Alternative Forms of Notice:

Any notice or request required or permitted to be given by either Party to the other Party and not required by this Agreement to be in writing may be given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out above.

10.2 Billing and Payment

Billings and payments shall be sent to the contacts specified for Notices in Article 10.1 above, unless a different address is set out below:

If Billing or Payment is to Interconnection Customer:

Interconnection Customer: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____

If Billing or Payment is to Utility:

Utility: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____

10.3 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications that may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities. If no such operating representative is designated below, such notices will be sent to the contacts listed in Article 10.1 above.

Interconnection Customer's Operating Representative:

Name: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____

Utility's Operating Representative:

Name: _____
Attention: _____
Address: _____
City: _____ State: _____ Zip: _____

10.4 Changes to the Notice Information

Either Party may change this notice information by giving five business days' written notice before the effective date of the change.

Article 11. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Interconnection Customer:

Name: _____
Title: _____
Date: _____

For the Utility:

Name: _____
Title: _____
Date: _____

ATTACHMENT 1

Levels 2 To 4: Standard Interconnection Agreement

Definitions

Adverse system impact – 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 – An AEP facility as defined in 199 IAC 15 (Iowa Utilities Board Chapter 15 rules on Cogeneration and Small Power Production), 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.

Applicable laws and regulations – All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any governmental authority, having jurisdiction over the Parties.

Commissioning test – Tests applied to a distributed generation facility by the applicant after construction is completed to verify that the facility does not create adverse system impacts. At a minimum, the scope of the commissioning tests performed shall include the commissioning test specified IEEE Standard 1547 Section 5.4 "Commissioning tests."

Distributed generation facility – A qualifying facility or an AEP facility.

Distribution upgrades – A required addition or modification to the utility's electric distribution system at or beyond the point of interconnection to accommodate the interconnection of a distributed generation facility. Distribution upgrades do not include interconnection facilities.

Electric distribution system – The facilities and equipment 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 carry less than 100 kilovolts of electricity. Electric distribution system has the same meaning as the term Area EPS, as defined in 3.1.6.1 of IEEE Standard 1547.

Facilities study – An engineering study conducted by the utility to determine the required modifications to the utility's electric distribution system, including the cost and the time required to build and install the modifications, as necessary to accommodate an interconnection request.

Force majeure event – Any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage, or accident to machinery or equipment through no direct, indirect, or contributory act of a Party, any order, regulation, or restriction imposed by governmental, military, or lawfully established civilian authorities (e.g., MISO), or any other cause beyond a Party's control. A force majeure event does not include an act of gross negligence or intentional wrongdoing by the Party claiming force majeure.

Governmental authority – Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that this term does not include the interconnection customer, utility, or any affiliate of either.

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

IEEE Standard 1547.1 – The IEEE Standard 1547.1 (2005), "Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems."

Interconnection agreement or Agreement – The agreement between the interconnection customer and the utility. The interconnection agreement governs the connection of the distributed generation facility to the utility's electric distribution system and the ongoing operation of the distributed generation facility after it is connected to the utility's electric distribution system.

Interconnection customer – The entity entering into this Agreement for the purpose of interconnecting a distributed generation facility to the utility's electric distribution system.

Interconnection equipment – A group of components or an integrated system connecting an electric generator with a local electric power system or an electric distribution system that includes 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 – 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 and the point of interconnection, including modification, additions, or upgrades that are 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 – An interconnection customer's request, on the required form, for the interconnection of a new distributed generation facility, or to increase the capacity or change the operating characteristics of an existing distributed generation facility that is interconnected with the utility's electric distribution system.

Interconnection study – Any of the following studies, as determined to be appropriate by the utility: the interconnection feasibility study, the interconnection system impact study, and the interconnection facilities study.

Iowa standard distributed generation interconnection rules – The most current version of the procedures for interconnecting distributed generation facilities adopted by the Iowa Utilities Board. See Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45).

Parallel operation or Parallel – The state of operation that occurs when a distributed generation facility is connected electrically to the electric distribution system for longer than 100 milliseconds.

Point of interconnection – The point where the distributed generation facility is electrically connected to the electric distribution system. Point of interconnection has the same meaning as the term "point of common coupling" defined in 3.1.13 of IEEE Standard 1547.

Qualifying facility – 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.

Utility – Any electric utility that is subject to rate regulation by the Iowa Utilities Board.

Witness test – For lab-certified equipment, verification (either by an on-site observation or review of documents) by the utility 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 by the utility of the on-site design tests required by IEEE Standard 1547 Section 5.1 and verification by the utility of production tests required by IEEE Standard 1547 Section 5.2. All tests verified by the utility are to be performed in accordance with the test procedures specified by IEEE Standard 1547.1.

ATTACHMENT 2

Levels 2 To 4: Standard Interconnection Agreement

Construction Schedule, Proposed Equipment & Settings

This attachment is to be completed by the interconnection customer and shall include the following:

1. The construction schedule for the distributed generation facility.

2. A one-line diagram indicating the distributed generation facility, interconnection equipment, interconnection facilities, metering equipment, and distribution upgrades.

3. Component specifications for equipment identified in the one-line diagram.

4. Component settings.

5. Proposed sequence of operations.

6. A three-line diagram showing current potential circuits for protective relays.

7. Relay tripping and control schematic diagram.

8. A plot plan showing the distributed generation facility's location in relation to streets, alleys, address or other geographical markers.

ATTACHMENT 3

Levels 2 To 4: Standard Interconnection Agreement

Description, Costs and Time Required to
Build and Install the Utility's Interconnection Facilities

This attachment is to be completed by the utility and shall include the following:

1. Required interconnection facilities, including any required metering.

2. An estimate of itemized costs charged by the utility for interconnection, including overheads, based on results from prior studies.

3. An estimate for the time required to build and install the utility's interconnection facilities based on results from prior studies and an estimate of the date upon which the facilities will be completed.

ATTACHMENT 4
Levels 2 To 4: Standard Interconnection Agreement

Operating Requirements for Distributed Generation Facilities Operating in Parallel

The utility shall list specific operating practices that apply to this distributed generation interconnection and the conditions under which each listed specific operating practice applies.

ATTACHMENT 5

Levels 2 To 4: Standard Interconnection Agreement

Monitoring and Control Requirements

This attachment is to be completed by the utility and shall include the following:

1. The utility's monitoring and control requirements must be specified, along with a reference to the utility's written requirements documents from which these requirements are derived.

2. An internet link to the requirements documents.

ATTACHMENT 6

Levels 2 To 4: Standard Interconnection Agreement

Metering Requirements

This attachment is to be completed by the utility and shall include the following:

1. The metering requirements for the distributed generation facility.

2. Identification of the appropriate metering rules filed with the Iowa Utilities Board under subrule 199 IAC 20.2(5), and inspection and testing practices adopted under rule 199 IAC 20.6 that establish these requirements.

3. An internet link to these rules and practices.

ATTACHMENT 7

Levels 2 To 4: Standard Interconnection Agreement

As-Built Documents

This attachment is to be completed by the interconnection customer and shall include the following:

When it returns the certificate of completion to the utility, the interconnection customer shall provide the utility with documents detailing the as-built status of the following:

1. A one-line diagram indicating the distributed generation facility, interconnection equipment, interconnection facilities, and metering equipment.

2. Component specifications for equipment identified in the one-line diagram.

3. Component settings.

4. Proposed sequence of operations.

5. A three-line diagram showing current potential circuits for protective relays.

6. Relay tripping and control schematic diagram.

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.18(476) Appendix E – Standard interconnection feasibility study agreement.

INTERCONNECTION FEASIBILITY STUDY AGREEMENT

This agreement ("Agreement") is made and entered into this _____ day of _____, by and between _____ ("interconnection customer"), as an individual person, or as a _____ organized and existing under the laws of the State of _____, and _____, ("utility"), a _____ existing under the laws of the State of Iowa. Interconnection customer and utility each may be referred to as a "Party," or collectively as the "Parties."

Recitals:

Whereas, interconnection customer is proposing to develop a distributed generation facility or modify an existing distributed generation facility consistent with the interconnection request application form submitted by interconnection customer on _____; and

Whereas, interconnection customer desires to interconnect the distributed generation facility with utility's electric distribution system; and

Whereas, interconnection customer has requested utility to perform an interconnection feasibility study to assess the feasibility of interconnecting the proposed distributed generation facility to utility's electric distribution system;

Now, therefore, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

1. All terms defined in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.1) shall have the meanings indicated in that rule when used in this Agreement.
2. Interconnection customer elects and utility shall cause to be performed an interconnection feasibility study consistent with Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.11).
3. The scope of the interconnection feasibility study shall be based upon the information set forth in the interconnection request application form and Attachment A to this Agreement.
4. The interconnection feasibility study shall be based on the technical information provided by interconnection customer in the interconnection request application form, as modified with the written agreement of the Parties. Utility has the right to request additional technical information from interconnection customer during the course of the interconnection feasibility study. If the interconnection customer modifies its interconnection request, the time to complete the interconnection feasibility study may be extended by the utility.
5. In performing the study, utility shall rely on existing studies of recent vintage to the extent practical. The interconnection customer will not be charged for such existing studies; however, interconnection customer is responsible for the cost of applying any existing study to the interconnection customer specific requirements and for any new study that the utility performs.
6. The interconnection feasibility study report must provide the following information:
   - 6.1 Identification of any equipment short circuit capability limits exceeded as a result of the interconnection,
   - 6.2 Identification of any thermal overload or voltage limit violations resulting from the interconnection, and
   - 6.3 A description and nonbinding estimated cost of facilities required to interconnect the distributed generation facility to utility's electric distribution system as required under Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.11(5)"a").

7. Interconnection customer shall provide a study deposit equal to 100% of the estimated nonbinding study costs at least 20 business days prior to the date upon which the study commences.
8. The interconnection feasibility study shall be completed and the results shall be transmitted to interconnection customer within 45 business days after this Agreement is signed by the Parties or the complete study deposit is received by the utility, whichever occurs later. If the interconnection customer's study request involves more than one point of interconnection and configuration, the time to complete the interconnection feasibility study may be extended by the utility.
9. Study fees shall be based on actual costs and will be invoiced to interconnection customer after the study is transmitted to interconnection customer. The invoice must include an itemized listing of employee time and costs expended on the study.
10. Interconnection customer shall pay any actual study costs that exceed the deposit without interest within 30 calendar days on receipt of the invoice. Utility shall refund any excess deposit amount without interest within 30 calendar days after the invoice.

In witness whereof, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of interconnection customer]

Signed: _____
Name (Printed): _____ Title: _____

[Insert name of utility]

Signed: _____
Name (Printed): _____ Title: _____

ATTACHMENT A
Interconnection Feasibility Study Agreement

Assumptions Used in Conducting the Interconnection Feasibility Study

The interconnection feasibility study will be based upon the information in the interconnection request application form, agreed upon on _____:

1. Point of interconnection and configuration to be studied.

_____
_____
_____
_____
_____

2. Alternative points of interconnection and configurations to be studied.

_____
_____
_____
_____
_____

Note: 1 and 2 are to be completed by the interconnection customer. Any additional assumptions (explained below) may be provided by either the interconnection customer or the utility.

_____
_____
_____
_____
_____
_____
_____

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.19(476) Appendix F – Standard interconnection system impact study agreement.

INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT

This agreement ("Agreement") is made and entered into this _____ day of _____, by and between _____ ("interconnection customer"), as an individual person, or as a _____ organized and existing under the laws of the State of _____, and _____, ("utility"), a _____ existing under the laws of the State of Iowa. Interconnection customer and utility each may be referred to as a "Party," or collectively as the "Parties."

Recitals:

Whereas, interconnection customer is proposing to develop a distributed generation facility or modifying an existing distributed generation facility consistent with the interconnection request application form completed by interconnection customer on _____; and

Whereas, interconnection customer desires to interconnect the distributed generation facility to utility's electric distribution system; and

Whereas, utility has completed an interconnection feasibility study and provided the results of said study to interconnection customer (this recital to be omitted if the Parties have agreed to forego the interconnection feasibility study); and

Whereas, interconnection customer has requested utility to perform an interconnection system impact study to assess the impact of interconnecting the distributed generation facility to utility's electric distribution system;

Now, therefore, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

1. All terms defined in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.1) shall have the meanings indicated in that rule when used in this Agreement.
2. Interconnection customer elects and utility shall cause to be performed an interconnection system impact study consistent with Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.11).
3. The scope of the interconnection system impact study shall be based upon the information set forth in the interconnection request application form and in Attachment A to this Agreement.
4. The interconnection system impact study shall be based upon the interconnection feasibility study and the technical information provided by interconnection customer in the interconnection request application form. Utility reserves the right to request additional technical information from interconnection customer. If interconnection customer modifies its proposed point of interconnection, interconnection request, or the technical information provided therein is modified, the time to complete the interconnection system impact study may be extended.
5. The interconnection system impact study report shall provide the following information:
   - 5.1 Identification of any equipment short circuit capability limits exceeded as a result of the interconnection,
   - 5.2 Identification of any thermal overload or voltage limit violations resulting from the interconnection,
   - 5.3 Identification of any instability or inadequately damped response to system disturbances resulting from the interconnection, and

5.4 Description and nonbinding estimated cost of facilities required to interconnect the distributed generation facility to utility's electric distribution system and to address the identified short circuit, thermal overload, voltage, and instability issues as required under Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.11(5) "b").

6. Interconnection customer shall provide a study deposit equal to 100% of the estimated nonbinding study costs at least 20 business days prior to the date upon which the study commences.
7. The interconnection system impact study, if required, shall be completed and the results transmitted to interconnection customer within 45 business days after this Agreement is signed by the Parties or the complete study deposit is received by the utility, whichever occurs later. If the interconnection customer's study request involves more than one point of interconnection and configuration, the time to complete the interconnection system impact study may be extended by the utility.
8. Study fees shall be based on actual costs and shall be invoiced to interconnection customer after the study is transmitted to interconnection customer. The invoice shall include an itemized listing of employee time and costs expended on the study.
9. Interconnection customer shall pay any study costs that exceed the deposit within 30 calendar days after receipt of the invoice. Utility shall refund any excess deposit amount within 30 calendar days of the invoice.

In witness thereof, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of interconnection customer]

Signed: _____
Name (Printed): _____ Title: _____

[Insert name of utility]

Signed: _____
Name (Printed): _____ Title: _____

ATTACHMENT A
Interconnection System Impact Study Agreement

Assumptions Used in Conducting the Interconnection System Impact Study

The interconnection system impact study shall be based upon the results of the interconnection feasibility study, subject to any modifications in accordance with Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.11), and the following assumptions:

1. Point of interconnection and configuration to be studied.

_____
_____
_____
_____

2. Alternative Points of interconnection and configurations to be studied.

_____
_____
_____
_____

Note: 1 and 2 are to be completed by the interconnection customer. Any additional assumptions (explained below) may be provided by either the interconnection customer or the utility.

_____
_____
_____
_____
_____
_____

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

199—45.20(476) Appendix G – Standard interconnection facilities study agreement.

INTERCONNECTION FACILITIES STUDY AGREEMENT

This agreement ("Agreement") is made and entered into this _____ day of _____, by and between _____ ("interconnection customer"), as an individual person, or as a _____ organized and existing under the laws of the State of _____, and _____, ("utility"), a _____ existing under the laws of the State of Iowa. Interconnection customer and utility each may be referred to as a "Party," or collectively as the "Parties."

Recitals:

Whereas, interconnection customer is proposing to develop a distributed generation facility or modifying an existing distributed generation facility consistent with the interconnection request application form completed by interconnection customer on _____; and

Whereas, interconnection customer desires to interconnect the distributed generation facility with utility's electric distribution system; and

Whereas, utility has completed an interconnection system impact study and provided the results of said study to interconnection customer; and

Whereas, interconnection customer has requested utility to perform an interconnection facilities study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to interconnect the distributed generation facility;

Now, therefore, in consideration of and subject to the mutual covenants contained in this Agreement, the Parties agree as follows:

1. All terms defined in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.1) shall have the meanings indicated in that rule when used in this Agreement.
2. Interconnection customer elects and utility shall cause to be performed an interconnection facilities study consistent with Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation Facilities (199 IAC 45.11).
3. The scope of the interconnection facilities study shall be determined by the information provided in Attachment A to this Agreement.
4. An interconnection facilities study report (1) shall provide a description, estimated cost of distribution upgrades, and a schedule for required facilities to interconnect the distributed generation facility to utility's electric distribution system; and (2) shall address all issues identified in the interconnection system impact study (or identified in this study if the system impact study is combined herein).
5. Interconnection customer shall provide a study deposit of 100% of the estimated nonbinding study costs at least 20 business days prior to the date upon which the study commences.
6. In cases where no distribution upgrades are required, the interconnection facilities study shall be completed and the results shall be transmitted to interconnection customer within 15 business days after this Agreement is signed by the Parties. In cases where distribution upgrades are required, the interconnection facilities study shall be completed and the results shall be transmitted to interconnection customer within 35 business days after this Agreement is signed by the Parties or the complete study deposit is received by the utility, whichever occurs later.
7. Study fees shall be based on actual costs and will be invoiced to interconnection customer after the study is transmitted to interconnection customer. The invoice shall include an itemized listing of employee time and costs expended on the study.

8. Interconnection customer shall pay any actual study costs that exceed the deposit within 30 calendar days on receipt of the invoice. Utility shall refund any excess deposit amount within 30 calendar days after the invoice.

In witness whereof, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of interconnection customer]

Signed: _____
Name (Printed): _____ Title: _____

[Insert name of utility]

Signed: _____
Name (Printed): _____ Title: _____

ATTACHMENT A
Interconnection Facilities Study Agreement

Minimum Information that the Interconnection Customer Must Provide with the Interconnection Facilities Study Agreement

Provide location plan and simplified one-line diagram of the distributed generation facilities.

For staged projects, please indicate size and location of planned additional future generation.

On the one-line diagram, indicate the generation capacity attached at each metering location. (Maximum load on CT/PT).

On the one-line diagram, indicate the location of auxiliary power. (Minimum load on CT/PT) Amps.

One set of metering is required for each generation connection to the utility's electric distribution system.

Number of generation connections: _____

Will an alternate source of auxiliary power be available during CT/PT maintenance?
Yes _____ No _____

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total distributed generation capacity? Yes _____ No _____
(Please indicate on the one-line diagram).

What type of control system or PLC will be located at the distributed generation facility?
_____.

What protocol does the control system or PLC use? _____.

Please provide a scale drawing of the site. Indicate the point of interconnection, distribution line, and property lines.

Number of third-party easements required for utility's interconnection facilities: _____

To be Completed in Coordination with the Utility

Is the distributed generation facility located in utility's service area?
Yes _____No _____

If No, please provide name of local provider: _____

Please provide the following proposed schedule dates:

Begin construction date: _____

Generator step-up transformers receive back feed power date: _____

Commissioning testing date: _____

Witness testing date: _____

Commercial operation date: _____

[**ARC 8859B**, IAB 6/16/10, effective 7/21/10]

These rules are intended to implement Iowa Code sections 476.1 and 476.8 and Section 211 of the Public Utilities Regulatory Policies Act of 1978, as amended by the Energy Policy Act of 2005.

[Filed ARC 8859B (Notice ARC 8201B, IAB 10/7/09), IAB 6/16/10, effective 7/21/10]
[Filed ARC 1359C (Notice ARC 1169C, IAB 11/13/13), IAB 3/5/14, effective 4/9/14]