

**Appendix D – Levels 2 to 4: standard application form**

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

Interconnection Member-Consumer Contact Information

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

Alternative Contact Information (if different from Member-Consumer 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 Coop member): \_\_\_\_\_  
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 Member-Consumer 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 Cooperative)
- Self-Use and Sales to the Cooperative (Unit will operate in parallel and may export and sell excess power to Cooperative pursuant to the Cooperative's tariff and a separate power purchase agreement to be executed by the parties)
- 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.)
- Other: (Please Explain): \_\_\_\_\_  
\_\_\_\_\_

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 and \_\_\_\_\_ (AC Volts)

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 Cooperative.

- Level 2 – Lab-certified interconnection equipment with an aggregate electric nameplate capacity less than or equal to 150 kW. 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 kW.)
  
- Level 3 – Distributed generation facility does not export power. Nameplate capacity rating is less than or equal to 50 kW if connecting to area network or less than 150 kW if connecting to a radial distribution feeder. (Application fee amount is \$500 plus \$2.00 per kW.)
  
- Level 4 – Nameplate capacity rating is less than or equal to 10 MW 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 kW, 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 Appendix A of the Cooperative's tariff.

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 Cooperative 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 Cooperative 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

Disconnect Switch: Identify type and location of disconnect switch: \_\_\_\_\_  
\_\_\_\_\_

Member-Consumer 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: \_\_\_\_\_

Cooperative Acknowledgement:

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

Cooperative Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

**Appendix E – 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 MW or less)

This agreement (“Agreement”) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, by and between \_\_\_\_\_ (“interconnection member-consumer”), as an individual person, or as a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_, and Farmers Electric Cooperative, Inc., (“Cooperative”), a corporation existing under the laws of the State of Iowa. Interconnection member-consumer and Cooperative each may be referred to as a “Party,” or collectively as the “Parties.”

Recitals:

Whereas, interconnection member-consumer 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 member-consumer on \_\_\_\_\_; and

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

Whereas, interconnection member-consumer desires to interconnect the distributed generation facility with Cooperative’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 the Cooperative’s tariff.
  
- 1.2    This Agreement governs the terms and conditions under which the distributed generation facility will interconnect to, and operate in parallel with, the Cooperative’s electric distribution system.

- 1.3 This Agreement does not constitute an agreement to purchase or deliver the interconnection member-consumer's power.
- 1.4 Nothing in this Agreement is intended to affect any other agreement between the Cooperative and the interconnection member-consumer.
- 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 Cooperative shall construct, own, operate, and maintain its interconnection facilities in accordance with this Agreement.
  - 1.6.3 The interconnection member-consumer 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 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 member-consumer 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 Cooperative.
  - 1.6.6 The interconnection member-consumer shall designate an operator who will be responsible for day-to-day operations of the distributed generation facility and available for communication on a 24 hour per day/7 day per week basis with the Cooperative, G&T, the Local Balancing Authority, MISO and other applicable entities with jurisdiction over the operation of the Facility and the Cooperative's System.

## 1.7 Parallel Operation Obligations

Once the distributed generation facility has been authorized to commence parallel operation, the interconnection member-consumer 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 member-consumer 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 member-consumer with a distributed generation facility larger than or equal to 1 MW shall design their distributed generation facilities to maintain a power factor at the point of interconnection between .96 lagging and .96 leading at all times. Interconnection member-consumers with a distributed generation facility smaller than 1 MW shall design their distributed generation facility to maintain a power factor at the point of interconnection between .94 lagging and .94 leading at all times.

1.9.2 Any Cooperative 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 Cooperative'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 member-consumer 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 member-consumer is in default, and the terms of Article 6.5 apply.

## 1.10 Standards of Operations

The interconnection member-consumer 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

member-consumer is responsible for coordinating and synchronizing the distributed generation facility with the Cooperative'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 member-consumer agrees to be primarily liable for any damages resulting from the continued operation of the distributed generation facility after the Cooperative ceases to energize the line section to which the distributed generation facility is connected. In Attachment 4, the Cooperative shall specify the shortest reclose time setting for its protection equipment that could affect the distributed generation facility. The Cooperative shall notify the interconnection member-consumer 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 member-consumer 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 member-consumer shall not operate its distributed generation facility in parallel with the Cooperative's electric distribution system without prior written authorization by the Cooperative as provided for in Articles 2.1.1-2.1.3.

2.1.1    The Cooperative shall perform a witness test after construction of the distributed generation facility is completed, but before parallel operation, unless the Cooperative specifically waives the witness test. The interconnection member-consumer shall provide the Cooperative at least 15 business days' notice of the planned commissioning test for the distributed generation facility. If the Cooperative performs a witness test at a time that is not concurrent with the commissioning test, it shall contact the interconnection member-consumer 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 Cooperative 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 Cooperative 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 Cooperative, the interconnection member-consumer has 30 business days to address and resolve any deficiencies. This time period may be extended upon agreement in writing between the Cooperative and the interconnection member-consumer. If the interconnection member-consumer 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 member-consumer shall, if requested by the Cooperative, provide a copy of all documentation in its possession regarding testing conducted pursuant to IEEE Standard 1547.1.

2.1.2 If the interconnection member-consumer conducts interim testing of the distributed generation facility prior to the witness test, the interconnection member-consumer shall obtain permission from the Cooperative before each occurrence of operating the distributed generation facility in parallel with the electric distribution system. The Cooperative 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 Cooperative 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 Cooperative shall affix an authorized signature to the certificate of completion and return it to the interconnection member-consumer approving the interconnection and authorizing parallel operation. The authorization shall not be conditioned nor delayed.

## 2.2 Commercial Operation

The interconnection member-consumer 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 Cooperative must have access to the isolation device or disconnect switch and metering equipment of the distributed generation facility at all times. When practical, the Cooperative shall provide notice to the member-consumer 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 member-consumer may terminate this Agreement at any time by giving the Cooperative 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 Cooperative may terminate, upon 60 calendar days' prior written notice, for failure of the interconnection member-consumer 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 Cooperative may terminate this Agreement, upon 60 calendar days' prior written notice, if the interconnection member-consumer has abandoned, cancelled, permanently disconnected or stopped development, construction, or operation of the distributed generation facility, or if the interconnection member-consumer fails to operate the distributed generation facility in parallel with the Cooperative's electric system for three consecutive years.

3.3.5 Upon termination of this Agreement, the distributed generation facility will be disconnected from the Cooperative'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 member-consumer 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 Cooperative determines is likely to cause an adverse system impact, or is likely to have a material adverse effect on the Cooperative's electric distribution system, interconnection facilities or other facilities, or is likely to interrupt or materially interfere with the provision of electric Cooperative service to other member-consumers; or (3) that is likely to cause a material adverse effect on the distributed generation facility or the interconnection equipment. Under emergency conditions, the Cooperative or the interconnection member-consumer 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 Cooperative must notify the interconnection member-consumer when it becomes aware of any conditions that might affect the interconnection member-consumer's operation of the distributed generation facility. The interconnection member-consumer shall notify the Cooperative when it becomes aware of any condition that might affect the Cooperative'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 Cooperative may interrupt interconnection service or curtail the output of the distributed generation facility and temporarily disconnect the distributed generation facility from the Cooperative's electric distribution system when necessary for scheduled maintenance, construction, or repairs on Cooperative's electric distribution system. To the extent possible, the Cooperative shall provide the interconnection member-consumer with notice five business days before an interruption. The Cooperative shall coordinate the reduction or temporary disconnection with the interconnection member-consumer; however, the interconnection member-consumer is responsible for out-of-pocket costs incurred by the Cooperative for deferring or rescheduling maintenance, construction, or repair at the interconnection member-consumer's request.

- 3.4.3 Forced outages – The Cooperative may suspend interconnection service to repair the Cooperative’s electric distribution system. The Cooperative shall provide the interconnection member-consumer with prior notice, if possible. If prior notice is not possible, the Cooperative shall, upon written request, provide the interconnection member-consumer with written documentation, after the fact, explaining the circumstances of the disconnection.
- 3.4.4 Adverse system impact – the Cooperative must provide the interconnection member-consumer with written notice of its intention to disconnect the distributed generation facility, if the Cooperative determines that operation of the distributed generation facility creates an adverse system impact. The documentation that supports the Cooperative’s decision to disconnect must be provided to the interconnection member-consumer. The Cooperative may disconnect the distributed generation facility if, after receipt of the notice, the interconnection member-consumer 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 Cooperative may continue to leave the generating facility disconnected until the adverse system impact is corrected to the satisfaction of both the Cooperative and the adversely-impacted member-consumer.
- 3.4.5 Modification of the distributed generation facility – The interconnection member-consumer must receive written authorization from the Cooperative prior to making any change to the distributed generation facility, other than a minor equipment modification. If the interconnection member-consumer modifies its facility without the Cooperative’s prior written authorization, the Cooperative 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 Cooperative’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 the Cooperative's tariff.
- 3.4.8 The Cooperative is not responsible for any lost opportunity or other costs incurred by interconnection member-consumer 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 member-consumer shall pay for the cost of the interconnection facilities itemized in Attachment 3. The Cooperative shall identify the additional interconnection facilities necessary to interconnect the distributed generation facility with the Cooperative'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 member-consumer is responsible for its expenses, including overheads, associated with owning, operating, maintaining, repairing, and replacing its interconnection equipment.

4.2 Distribution Upgrades

The Cooperative 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 member-consumer 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 Cooperative shall bill the interconnection member-consumer for the design, engineering, construction, and procurement costs of member-consumer 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 member-consumer 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 member-consumer deposit funds have been expended.

5.1.2 Within 90 calendar days after completing the construction and installation of the Cooperative's interconnection facilities and distribution upgrades described in Attachments 2 and 3 to this Agreement, the Cooperative shall provide the interconnection member-consumer with a final accounting

report of any difference between (1) the actual cost incurred to complete the construction and installation of the Cooperative's interconnection facilities and distribution upgrades; and (2) the interconnection member-consumer's previous deposit and aggregate payments to the Cooperative for the interconnection facilities and distribution upgrades. If the interconnection member-consumer's cost responsibility exceeds its previous deposit and aggregate payments, the Cooperative shall invoice the interconnection member-consumer for the amount due and the interconnection member-consumer shall make payment to the Cooperative within 30 calendar days. If the interconnection member-consumer's previous deposit and aggregate payments exceed its cost responsibility under this Agreement, the Cooperative shall refund to the interconnection member-consumer an amount equal to the difference within 30 calendar days after the final accounting report. Upon request from the interconnection member-consumer, if the difference between the budget estimate and the actual cost exceeds 20%, the Cooperative 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 Member-Consumer Deposit

At least 20 business days prior to the commencement of the design, procurement, installation, or construction of the Cooperative's interconnection facilities and distribution upgrades, the interconnection member-consumer shall provide the Cooperative 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 Cooperative.

## **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 member-consumer 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 Cooperative. 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 member-consumer can assign this Agreement, without the consent of the Cooperative, 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 member-consumer shall indemnify and defend the Cooperative and the Cooperative's directors, officers, employees, and agents, from all claims, damages, and expenses, including reasonable attorney's fees, to the extent resulting from the interconnection member-consumer's negligent installation, operation, modification, maintenance, or removal of its distributed generation facility or interconnection facilities, or

the interconnection member-consumer's willful misconduct or breach of this Agreement.

- 6.3.3 The Cooperative shall indemnify and defend the interconnection member-consumer and the interconnection member-consumer's directors, officers, employees, and agents from all claims, damages, and expenses, including reasonable attorney's fees, to the extent resulting from the Cooperative's negligent installation, operation, modification, maintenance, or removal of its interconnection facilities or electric distribution system, or the Cooperative'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 150 kW, the interconnection member-consumer 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 150 kW or above; but less than 1 MW, the interconnection member-consumer shall carry sufficient coverage so that the maximum comprehensive/general liability coverage that is continuously maintained by the interconnection member-consumer during the terms shall be not less than \$1,000,000 for each occurrence. The Cooperative, its officers, employees and agents shall be added as an additional insured on this policy.
- 7.3 For distributed generation facilities with a nameplate capacity of 1 MW or above, the interconnection member-consumer shall carry sufficient insurance coverage so that the maximum comprehensive/general liability coverage that is continuously maintained by the interconnection member-consumer 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 Cooperative, its officers, employees and agents shall be added as an additional insured on this policy.
- 7.4 The interconnection member-consumer agrees to provide the Cooperative 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, 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 Member-Consumer:

Interconnection Member-Consumer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

If Notice is to Cooperative:

Cooperative: \_\_\_\_\_  
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 Member-Consumer:

Interconnection Member-Consumer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

### If Billing or Payment is to Cooperative:

Cooperative: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

## 10.3 Designated Operating Representative

The Parties shall 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.

### Interconnection Member-Consumer's Operating Representative:

Name: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

### Cooperative's Operating Representative:

Name: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

#### 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 Member-Consumer:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

For the Cooperative:

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 member-consumer 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 Cooperative’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 Cooperative to determine the required modifications to the Cooperative’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 member-consumer, Cooperative, 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 member-consumer and the Cooperative. The interconnection agreement governs the connection of the distributed generation facility to the Cooperative’s electric distribution system and the ongoing operation of the distributed generation facility after it is connected to the Cooperative’s electric distribution system.

Interconnection member-consumer – The entity entering into this Agreement for the purpose of interconnecting a distributed generation facility to the Cooperative’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 Cooperative 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 member-consumer'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 Cooperative's electric distribution system.

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

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 member-consumer 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.

Witness test – For lab-certified equipment, verification (either by an on-site observation or review of documents) by the Cooperative 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 Cooperative of the on-site design tests required by IEEE Standard 1547 Section 5.1 and verification by the Cooperative of production tests required by IEEE Standard 1547 Section 5.2. All tests verified by the Cooperative 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 member-consumer 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 Cooperative's Interconnection Facilities

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

1. Required interconnection facilities, including any required metering.
2. An estimate of itemized costs charged by the Cooperative for interconnection, including overheads, based on results from prior studies.
3. An estimate for the time required to build and install the Cooperative'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 Cooperative 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 Cooperative and shall include the following:

1. The Cooperative's monitoring and control requirements must be specified, along with a reference to the Cooperative's written requirements and the 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 Cooperative and shall include the following:

1. The metering requirements for the distributed generation facility.
2. Identification of the appropriate metering rules as set out in the Cooperative's tariff 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 member-consumer and shall include the following:

When it returns the certificate of completion to the Cooperative, the interconnection member-consumer shall provide the Cooperative 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.

## Appendix F – Standard interconnection feasibility study agreement

### INTERCONNECTION FEASIBILITY STUDY AGREEMENT

This agreement (“Agreement”) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, by and between \_\_\_\_\_ (“interconnection member-consumer”), as an individual person, or as a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_, and Farmers Electric Cooperative, Inc., (“Cooperative”), a corporation existing under the laws of the State of Iowa. Interconnection member-consumer and the Cooperative each may be referred to as a “Party,” or collectively as the “Parties.”

#### Recitals:

Whereas, interconnection member-consumer 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 member-consumer on \_\_\_\_\_; and

Whereas, interconnection member-consumer desires to interconnect the distributed generation facility with Cooperative’s electric distribution system; and

Whereas, interconnection member-consumer has requested the Cooperative to perform an interconnection feasibility study to assess the feasibility of interconnecting the proposed distributed generation facility to Cooperative’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, unless otherwise specified. However, the Cooperative's agreement to utilize the definitions found in the Chapter 45 rules shall not be construed as an agreement concerning the applicability of the balance of said Chapter.
2. Interconnection member-consumer elects and the Cooperative shall cause to be performed an interconnection feasibility study
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 member-consumer in the interconnection request application form, as modified with the written agreement of the Parties.

Cooperative has the right to request additional technical information from interconnection member-consumer during the course of the interconnection feasibility study. If the interconnection member-consumer modifies its interconnection request, the time to complete the interconnection feasibility study may be extended by the Cooperative.

5. In performing the study, the Cooperative shall rely on existing studies of recent vintage to the extent practical. The interconnection member-consumer will not be charged for such existing studies; however, interconnection member-consumer is responsible for the cost of applying any existing study to the interconnection member-consumer specific requirements and for any new study that the Cooperative 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 Cooperative's electric distribution system
7. Interconnection member-consumer 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 member-consumer within 60 business days after this Agreement is signed by the Parties or the complete study deposit is received by the Cooperative, whichever occurs later. If the interconnection member-consumer'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 Cooperative.
9. Study fees shall be based on actual costs and will be invoiced to interconnection member-consumer after the study is transmitted to interconnection member-consumer. The invoice must include an itemized listing of employee time and costs expended on the study.
10. Interconnection member-consumer shall pay any actual study costs that exceed the deposit without interest within 30 calendar days on receipt of the invoice. The Cooperative 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 member-consumer]

- 
- Signed: \_\_\_\_\_
- Name (Printed): \_\_\_\_\_ Title: \_\_\_\_\_

Farmers Electric Cooperative, Inc.

Signed: \_\_\_\_\_  
Name (Printed): \_\_\_\_\_ Title: General Manager

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.

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

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

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## Appendix G – 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 member-consumer”), as an individual person, or as a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_, and Farmers Electric Cooperative, Inc., (“Cooperative”), a corporation existing under the laws of the State of Iowa. Interconnection member-consumer and the Cooperative each may be referred to as a “Party,” or collectively as the “Parties.”

#### Recitals:

Whereas, interconnection member-consumer 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 member-consumer on \_\_\_\_\_; and

Whereas, interconnection member-consumer desires to interconnect the distributed generation facility to Cooperative’s electric distribution system; and

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

Whereas, interconnection member-consumer has requested the Cooperative to perform an interconnection system impact study to assess the impact of interconnecting the distributed generation facility to Cooperative’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, unless otherwise specified. However, Cooperative's agreement to utilize the definitions found in the Chapter 45 rules shall not be construed as an agreement concerning the applicability of the balance of said Chapter.
2. Interconnection member-consumer elects and the Cooperative shall cause to be performed an interconnection system impact study.
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 member-consumer in the interconnection request application form. The Cooperative reserves the right to request additional technical information from interconnection member-consumer. If interconnection member-consumer 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 the Cooperative's electric distribution system and to address the identified short circuit, thermal overload, voltage, and instability issues.
6. Interconnection member-consumer 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 member-consumer within 60 business days after this Agreement is signed by the Parties or the complete study deposit is received by the Cooperative, whichever occurs later. If the interconnection member-consumer'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 Cooperative.
8. Study fees shall be based on actual costs and shall be invoiced to interconnection member-consumer after the study is transmitted to interconnection member-consumer. The invoice shall include an itemized listing of employee time and costs expended on the study.
9. Interconnection member-consumer shall pay any study costs that exceed the deposit within 30 calendar days after receipt of the invoice. The Cooperative 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 member-consumer]

- 
- Signed: \_\_\_\_\_
- Name (Printed): \_\_\_\_\_ Title: \_\_\_\_\_

Farmers Electric Cooperative, Inc.

Signed: \_\_\_\_\_  
Name (Printed): \_\_\_\_\_ Title: General Manager

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, and the following assumptions:

1. Point of interconnection and configuration to be studied.

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

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

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## Appendix H – Standard interconnection facilities study agreement

### INTERCONNECTION FACILITIES STUDY AGREEMENT

This agreement (“Agreement”) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, by and between \_\_\_\_\_ (“interconnection member consumer”), as an individual person, or as a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_, and Farmers Electric Cooperative, Inc., (“Cooperative”), a corporation existing under the laws of the State of Iowa. Interconnection member-consumer and the Cooperative each may be referred to as a “Party,” or collectively as the “Parties.”

#### Recitals:

Whereas, interconnection member-consumer 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 member-consumer on \_\_\_\_\_; and

Whereas, interconnection member-consumer desires to interconnect the distributed generation facility with the Cooperative’s electric distribution system; and

Whereas, the Cooperative has completed an interconnection system impact study and provided the results of said study to interconnection member-consumer; and

Whereas, interconnection member-consumer has requested Cooperative 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, except as otherwise specified. However, the Cooperative's agreement to utilize the definitions found in the Chapter 45 rules shall not be construed as an agreement concerning the applicability of the balance of said Chapter.
2. Interconnection member-consumer elects and the Cooperative shall cause to be performed an interconnection facilities study.
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 Cooperative'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 member-consumer 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 member-consumer within 20 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 member-consumer within 45 business days after this Agreement is signed by the Parties or the complete study deposit is received by the Cooperative, whichever occurs later.
  7. Study fees shall be based on actual costs and will be invoiced to interconnection member-consumer after the study is transmitted to interconnection member-consumer. The invoice shall include an itemized listing of employee time and costs expended on the study.
  8. Interconnection member-consumer shall pay any actual study costs that exceed the deposit within 30 calendar days on receipt of the invoice. The Cooperative 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 member-consumer]

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• Signed: \_\_\_\_\_

• Name (Printed): \_\_\_\_\_ Title: \_\_\_\_\_

Farmers Electric Cooperative, Inc.

Signed: \_\_\_\_\_

Name (Printed): \_\_\_\_\_ Title: General Manager

ATTACHMENT A  
Interconnection Facilities Study Agreement

Minimum Information that the Interconnection Member-Consumer 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 Cooperative'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 Cooperative's interconnection facilities:  
\_\_\_\_\_  
.....

To be Completed in Coordination with the Cooperative

Is the distributed generation facility located in Cooperative'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: \_\_\_\_\_