

## Interconnecting Distributed Generation

Thank you for requesting information about interconnecting distributed generation to Pella Cooperative Electric's system. To assist our members, we have developed a streamlined process for the safe, reliable, efficient, and cost-effective interconnection of small renewable energy systems.

Our objective is to protect the safety of cooperative personnel and members, maintain the integrity and reliability of the grid, and to ensure rate equity for all members. Because distributed generation can affect the safety and reliability of the distribution system, we have developed technical interconnection rules that address those impacts. These rules ensure that we can continue to provide you and all other members with safe and reliable electric service.

We are ready to help you by providing information and answering questions. We want to give you the tools you need to make an informed decision about distributed generation.

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### **Pella Cooperative Electric Association**

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Pella, IA 50219

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# An Overview of the Interconnection Process

## Guiding Principles

First and foremost, the Pella Cooperative Electric will emphasize:

1. **Safety.** Taking all necessary precautions to ensure the safety of the cooperative's employees and members.
2. **Reliability.** Performing necessary tasks to protect and maintain the reliability and integrity of the power grid.
3. **Cost Fairness.** Operating with fairness to other members of the cooperative from a cost causation point of view. (The cost causer will be the cost bearer.)

## Member & Cooperative Responsibilities

The cooperative and the member must work together in connecting distributed generation to the grid, following any applicable federal or state laws or regulations. A written agreement between the cooperative and the member is required in order to facilitate a safe, reliable, and fair connection. This agreement must be executed prior to connecting to the facility to the grid.

Members are responsible for paying all costs associated with interconnection and additional system protection that may be required to protect the qualifying facility, the cooperative's distribution system, or CIPCO's transmission system.

Issue	Required	Responsibility
Obtain FERC Certification	Yes	Member
Initial Contact With Cooperative	Yes	Member
Insurance	Yes	Member
Written Agreement	Yes	Cooperative & Member
Interconnection	Yes	Cooperative & Member
Interconnection Costs	Yes	Member
Inspection	Yes	Cooperative & Member
Service, Maintenance	Yes	Member

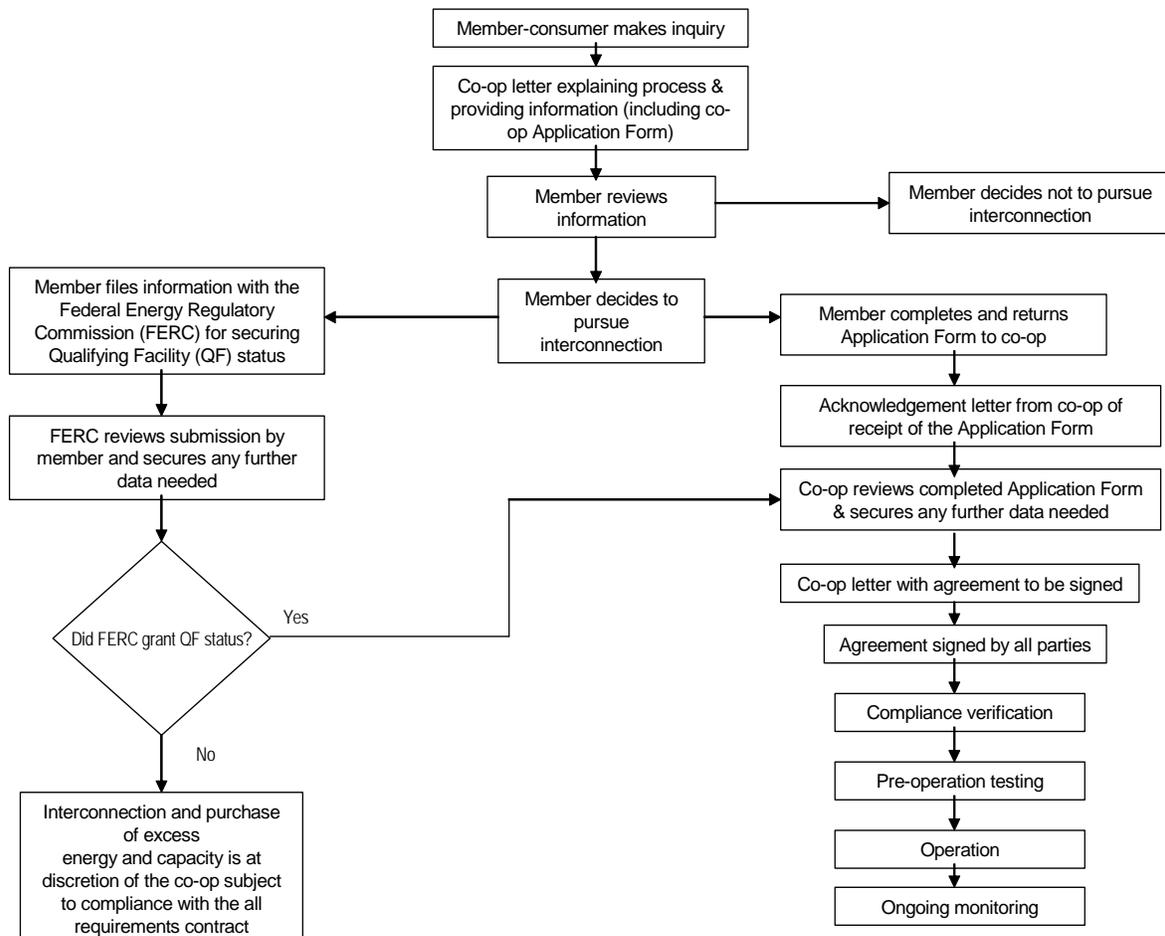
## Written Agreement

The written agreement shall address the following items:

- Cooperative representatives must be allowed access to the facilities for purposes of inspecting or testing member's equipment, facilities or apparatus and the accuracy of the cooperative's metering equipment.
- The member and the cooperative will have access to the interconnection switch at all times and the interconnection will be provided with a switch that provides a visible break or opening. The switch must be capable of being padlocked in the open position.
- Communication indicating that the member is responsible for the costs of installation and maintenance of power factor correction capacitors required to maintain the equivalent of an average power factor of 90 percent (lagging) at the interconnection.

- A requirement that the member's electric generating equipment be designed, operated, and maintained in a manner which does not adversely affect the cooperative's voltage wave form.
- Acknowledgment that the member is responsible for costs incurred by the cooperative for connection of the facility.
- Acknowledgment that the member agrees to insure and indemnify the cooperative and its representatives against liability for any injuries or damages caused by the operation of the facility. This requires the member to maintain liability insurance or other proof of financial responsibility.
- Acknowledgment that the member will regularly inspect, maintain, and service the facility for safe and reliable operation and maintain a record or log.
- Acknowledgment that the member's facility will be subject to disconnection without notice by the cooperative in the event the facility causes unacceptable safety, voltage, or frequency conditions, service interruptions, or communications interference.
- Acknowledgment that the member will furnish and install an over-current device on the facility to automatically disconnect the facility at all currents that exceed the full-load current rating of the facility.
- Acknowledgment that the member's facility will be equipped with automatic disconnection upon loss of electric voltage supplied by the cooperative.
- Certain other technical requirements as outlined in the cooperative's tariff.

## Interconnection Process



## Frequently Asked Questions: Interconnecting Distributed Generation

- 1. What is distributed generation?** Also known as co-generation, it is any form of electricity generating technology installed by a customer or independent energy producers that is connected to the grid at the distribution level.
- 2. What is required by the cooperative if I install distributed generation?** Cooperatives must adhere to all applicable federal and state laws when working with a member to connect generation to the grid. The cooperative has outlined the interconnection process in its Tariff, filed with the Iowa Utilities Board and included in this packet, specifically, Section 25: Co-generation and Small Power Production.

When considering the installation, a strong emphasis must be placed on safety considerations for the cooperative's employees and members; protection of the cooperative's and members' delivery system; and fairness to other members of the cooperative from a cost perspective. A written agreement between the cooperative and the member is developed to ensure proper communication and protections are in place, prior to connection of the facility to the grid. Consideration must also be given to established requirements for installation, maintenance, metering, switching and liability insurance.

- 3. What is required of me, as a member, if I decide to install distributed generation?** The general requirements include paying for any interconnection devices that are necessary to protect the safety of the cooperative representatives and to maintain the integrity of the delivery system. The member is also required to carry liability insurance in the amount of \$1,000,000. Individuals must pay for the necessary metering equipment used to measure energy delivered back to the grid by the member. The member will also be responsible for all engineering costs or additional equipment associated with the interconnection.
- 4. Why do I have to carry \$1 million dollars of liability insurance?** It is very common for businesses and individual homeowners to carry liability policies to insure against various types of losses or claims. Conceptually and generally, customers should not view carrying liability insurance on distributed generation any differently than the liability insurance that is carried to drive an automobile. Insurance on automobiles is carried to provide coverage for damages to others and their property. This basic business principle applies to carrying liability insurance for distributed generation. Just as it is true for other personal property, it is up to the owner of a system to assume responsibility for insurance coverage.
- 5. What if I disagree with some of the requirements of the cooperative — what is the process for challenging this?** Members are encouraged to discuss any concerns with Pella Cooperative Electric representatives to resolve questions or issues associated with connecting distributed generation to the grid. As your rural electric cooperative, it is our goal to work with our members to address questions and concerns. However, many of the requirements are based on federal or state statutes and regulations. Pella Cooperative Electric can't modify these requirements.

6. **What is the process for installing distributed generation?** Before investing in any form of distributed generation or before connecting it to the grid, the member-consumer should meet with the appropriate Pella Cooperative Electric representatives to gain an understanding of the expectations for both the cooperative and the member. The member and the cooperative will work together toward a written agreement, which will address these expectations as well as each party's responsibilities. The agreement will also cover the terms and conditions associated with the interconnection, including rates that the cooperative will pay the member for the power they deliver to the grid, insurance requirements and metering requirements, to name a few. This agreement must be in place before the facility can be connected to the grid.
7. **How much does distributed generation cost?** It depends greatly on the type and size of generation installed. There are several aspects of cost: the cost of the generator, the cost of the balance of the plant (the power electronics, structure, installation), the cost of interconnection (including any required engineering studies to ensure that the system can be integrated with the grid without impacting the quality or reliability of service to neighboring cooperative consumers, and any upgrades needed to the distribution system), and the cost of maintenance from a reliable service provider.
8. **Which vendors should I work with to purchase a generator?** Pella Cooperative Electric does not endorse one particular vendor. There are several resources, the Iowa Energy Center for example, which may give you some additional background information on a particular vendor. Members should fully research a company before purchasing generating equipment. Pella Cooperative Electric suggests you ask these questions of your vendor:
  1. **How reliable is the rated energy output? How did you calculate the output?** Experts advise ignoring peak output and power curved provided by vendors. Rather, look for the monthly or annual energy numbers – in kilowatt-hours – for the generator. For example, if you are considering a wind turbine, ask the manufacturer to calculate the output for the average wind speeds that you expect or have measured at your site. If the vendor does not provide energy production estimates, find another manufacturer.
  2. **Is the inverter UL listed?** If the inverter is not UL listed, find another vendor. Most utilities require that an inverter have a UL 1741 certification for interconnection with the grid. As part of the certification, the inverter is required to fail open in the absence of power on the grid.
  3. **What is the estimated total installed cost?** It's important to know the total installed cost of a system to ensure sufficient budgeting. For a wind system, you would need to budget not only for the turbine, but also the tower, installation labor expenses, as well as the cost of equipment rental, materials, shipping, and sales tax.
  4. **How long is the warranty? What does it cover? Parts? Labor? Can it be extended? If so, what will it cost?** Warranties generally range from one to five years. The longer the warranty, the better. Make sure the warranty covers labor as well as parts. Cooperative members should ask owners of systems purchased from the same vendor about performance and reliability before making a decision on an extended warranty, if available. (Special Note: If you live in an area prone to lightning strikes and are considering a wind system, you should consider the option of lightning protection. If not available through the vendor, third-party vendors can design and install adequate protection systems.)
  5. **What are your credentials? How long have you been in business? How many systems have you sold? Have your systems been certified?** Look for vendors that have been in business for at least five years, or have acquired the product line of another

vendor. In addition, cooperative members should ask the vendor for the names of at least two people who have installed a system that is the same as or similar to the model the cooperative member is interested in.

- 9. How long will it take before I am able to generate electricity?** This will depend on several variables including design and engineering studies, installation of required interconnection equipment, construction time, availability of necessary equipment, weather, etc. By working with Pella Cooperative Electric, a timeline can be established taking into account the variables related to connecting to the grid.
- 10. How much electricity can be generated?** You should first determine how much electricity you want to generate. Based on your current electricity usage, decide how many kilowatt-hours you would like to produce. Once you know how much energy you want, you can select a the right system to meet your needs.

The vendor should be able to give you an idea of the output capacity of the system, but it's also necessary to look at local conditions. For example, the wind speed at your site at the height you intend to erect your wind turbine is a critical factor in estimating your energy output and may vary from the figures your vendor used to calculate output.

- 11. Do I have to have two meters if I install distributed generation?** Cooperatives require metering capability to measure electrons being drawn from the grid by the member and metering capability to measure electrons being delivered to the grid by the member. Most situations may necessitate two meters.
- 12. Does the cooperative offer “net metering?”** Pella Cooperative Electric does not offer net metering as it violates the cost-causer principle and negates cost-fairness among cooperative members.

Most cooperatives have chosen not to net meter consumer-owned generation because it is a subsidy that raises costs for other consumers on the system. Net metering policies require utilities to pay consumers the retail price for wholesale power. The retail rate utilities charge includes not only the marginal cost of power, but also recovers costs incurred by utilities for transmission, distribution, generating capacity, and other utility services not provided by the consumer-generator. The policies also require utilities to pay high costs for what may be low-value power. Power from wind and photovoltaic (PV) systems is intermittent, cannot be scheduled or dispatched reliably to meet system requirements. Further, net metering allows customers to underpay the fixed costs they impose on the system. A utility has to install sufficient facilities to meet the peak requirements of the consumer and recover the costs of those facilities through a kilowatt-hour charge. When the net meter rolls backwards, it understates the total energy used by the consumer, and thus understates the consumer's impact on the fixed costs of the systems. It also understates the consumer's total share of other fixed charges borne by all consumers such as taxes.

- 13. What rate will the cooperative pay me for electricity generated?** Pella Cooperative Electric will pay rates based on avoided cost for energy that the member generates and delivers to the grid to ensure other members on the system do not bear an undue cost for their electricity. This avoided cost standard is pursuant to federal regulations. Please contact the cooperative for this information.

- 14. How does the cooperative determine what rate it will pay a member for energy?** This is based on the avoided cost principle and may vary depending on the size of the particular generating facility. Federal regulations require a standard rate for qualifying facilities with a design capacity of 100 kilowatts or less and the regulations allow for an individually negotiated rate for units over 100 kilowatts. Currently, our standard rate for qualifying facilities varies. Please contact the cooperative for this information.
- 15. Does the cooperative charge a different rate to generators versus customers that do not generate their own electricity?** No, Pella Cooperative Electric does not currently have a separate price or rate schedule for co-generators, but reserves the right to create a separate price or rate based upon the unique characteristics of such member-consumers.
- 16. What is the cooperative's backup rate when my generator is not generating?** The rate customers pay during this time period is the normal cost-based rate for the rate class applicable to the customer. However, under federal regulations the cooperative can charge a different rate for backup, supporting and maintaining power.
- 17. What rebates or other incentives do entities such as the state or federal government have for distributed generation?** Incentives can come in the form of tax credits, low interest loans or other delivery mechanisms. Your tax accountant or tax attorney can advise you on the availability of various tax credits or other tax incentives relating specifically to your installation of a generator. Incentives may include:
- The Farm Bill Extension Act of 2007, which continued agricultural programs through 2012, provides \$500 million in grants for small-scale renewable energy projects. The grants are available for agricultural producers that earn at least 50% of their income from agricultural products. Small rural businesses also are eligible. The application process for a grant or loan under Section 9006 can be complicated and time-consuming. A sample application form is available on the Department of Energy's (DOE's) website at [http://www.eere.energy.gov/windandhydrop/windpoweringamerica/pdfs/farm\\_bill\\_small\\_wind\\_sample\\_application.pdf](http://www.eere.energy.gov/windandhydrop/windpoweringamerica/pdfs/farm_bill_small_wind_sample_application.pdf).
  - The State of Iowa has incentives to help reduce the installed cost of distributed generation. The Database of State Incentives for Renewables and Efficiency (DSIRE) provides detailed information on incentives at <http://www.dsireusa.org>.
- 18. What kind of payback can I expect in terms of breaking even?** The payback period can range from several years to several decades, depending on the cost of the system and it's output. You can estimate a simple payback by the following formula, assuming the system is properly sized not to exceed your demand:

(Installed cost including interconnection costs, \$)

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(kwh/year x retail price of electricity, \$/year) – (annual operation and maintenance cost, \$/year)

The annual operation and maintenance costs include insurance premiums, maintenance calls, service contracts, and the net present worth of long-term repairs.

- 19. Do I have to pay any taxes, such as property taxes, if I install distributed generation?** Depending on the particular situation, the generator may be subject to some replacement taxes. This question should be directed to your tax accountant and/or tax lawyer.
- 20. Is distributed generation worthwhile to put up?** Installing your own generation is an individual decision for each member. A cooperative's role in this process is to help educate the member regarding the co-op's expectations in this process. First and foremost, Pella Cooperative Electric must protect the safety of cooperative members and employees as well as maintain the integrity and reliability of the grid and establish mechanisms to ensure cost fairness. The greatest payback to the member occurs when you consume all the energy produced by the generator.

The cooperative will try to help you obtain information you deem relevant to your decision-making process. However, the decision is one you must make on your own or with the assistance of consultants hired to provide you with advice.

## **Interconnection Resources**

### **Iowa Energy Center**

2521 University Boulevard, Suite 124  
Ames, IA 50010-8229

P: (515) 294-8819

W: <http://www.energy.iastate.edu>

### **Iowa Office of Energy Independence**

Lucas State Office Building  
312 East 12<sup>th</sup> Street  
Des Moines, IA 50319

P: (515) 281-0187

W: <http://www.energy.iowa.gov>

### **U.S. Department of Energy – Energy Efficiency and Renewable Energy**

Office of the Assistant Secretary  
Energy Efficiency and Renewable Energy  
Mail Stop EE-1  
Department of Energy  
Washington, D.C. 20585

P: (877) 337-3463

W: <http://www.eere.energy.gov>

## **Section 25. COGENERATION AND SMALL POWER PRODUCTION**

Cooperative is a member of Central Iowa Power Cooperative ("CIPCO") and obtains all of its wholesale power from CIPCO. Accordingly, any qualifying facility seeking services pursuant to this tariff should coordinate their efforts with the Cooperative, which will then coordinate with CIPCO if necessary.

### **25.1 Availability**

This section shall apply to any member-consumer within the Cooperative's assigned service area with a qualifying facility who meets the definition under the rules of the Public Utility Regulatory Policies Act of 1978, as a qualifying alternate energy production facility, or a qualifying small hydro facility. A member-consumer with electric generating equipment shall not connect it in parallel with the Cooperative or CIPCO's system without the prior written consent of the Cooperative or CIPCO. Failure of the member-consumer to comply with the Cooperative or CIPCO's requirements for parallel generation shall be justification for discontinuance of such parallel operation in such a manner as to least inconvenience the member-consumer until such time as full compliance has been accomplished. Each of these types of facilities shall comply with all of the Cooperative or CIPCO requirements of general rules for electric service as well as the specific provisions of this section.

### **25.2 Definitions**

**Avoided Costs** means the incremental costs to the Cooperative/CIPCO of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, the Cooperative/CIPCO would generate itself or purchase from another source. The Cooperative purchases all of its power requirements from its wholesale power supplier, CIPCO. Cooperative's avoided costs shall equal those of CIPCO and CIPCO shall be responsible for calculating the Cooperative's Avoided Costs.

**Qualifying Alternate Energy Production Facility (QAEPF)** means any of the following:

- ❑ An electric production facility which derives 75% or more of its energy input from solar energy, wind, waste management, resource recovery, refuse-derived fuel, agricultural crops or residues, or wood burning;
- ❑ Land, systems, buildings, or improvements that are located at the project site and are necessary or

- convenient to the construction, completion, or operation of the facility; or
- Transmission or distribution facilities necessary to conduct the energy produced by the facility to the purchasing utility.

A facility which is a qualifying facility under 18 CFR Part 292, Subpart B, is not precluded from being an alternate energy production facility.

**Qualifying Facility (QF)** means a cogeneration facility or a small power production facility which is a qualifying facility under 18 CFR Part 292, Subpart B.

**Qualifying Small Hydro Facility (QSHF)** means any of the following:

- A hydroelectric facility at a dam;
- Land, systems, buildings, or improvements that are located at the project site and are necessary or convenient to the construction, completion or operation of the facility; or
- Transmission or distribution facilities necessary to conduct the energy produced by the facility to the purchasing utility.

A facility which is a qualifying facility under 18 CFR Part 292, Subpart B, is not precluded from being a small hydro facility.

### **25.3 Requirements for Interconnection**

All facilities shall meet certain requirements to be eligible for interconnection pursuant to the terms and conditions of this section.

#### **25.31 Acceptable Standards**

Permission to interconnect with the Cooperative or CIPCO electric system is contingent upon the following conditions:

- A. The member-consumer shall comply with acceptable standards for interconnection, safety, and operating reliability. Acceptable standards include the most current revisions of the following, as adopted in the Iowa Administrative Code section 199.15.10(1) in order to be eligible for interconnection to the Cooperative or CIPCO electric system:

1. Standard for Interconnecting Distributed Resources with Electric Power Systems, ANSI/IEEE 1547-2003. For

guidance in applying IEEE Standard 1547, the cooperative 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.
2. Iowa Electrical Safety Code, as defined in 199 – Chapter 25.
3. National Electrical Code, ANSI / NFPA 70-2008

- B. The member-consumer facility shall automatically and effectively disconnect from the area electric power system upon loss of electric voltage supplied by the Cooperative/CIPCO.
- C. The member-consumer shall furnish and install an overcurrent device on the facility to automatically disconnect the facility at all currents that exceed the full-load current rating of the facility. A fuse shall not be used to satisfy this requirement because its condition and performance cannot be determined through testing without destroying the fuse.
- D. The member-consumer shall furnish the Cooperative or CIPCO with sufficient data in order to verify that all conditions in Parts A, B and C above are met. Cooperative or CIPCO approval is required before interconnection is permitted.
- E. The interconnection shall be provided with a switch that provides a visible break or opening. The switch shall be capable of being padlocked in the open position. Both the operator of the qualifying facility (or qualifying alternate energy production facility, or qualifying small hydro facility) and the Cooperative or CIPCO shall have access to the interconnection switch at all times.
- F. 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.
- G. The member-consumer facility shall be subject to disconnection without notice by the Cooperative/CIPCO in the event the facility causes a hazard to the public or to property or unacceptable safety,

voltage, voltage wave form, frequency conditions, service interruption, or communications interference.

- H. The member-consumer will regularly inspect, maintain, and service the facility for safe and reliable operation and maintain a record or log, available for inspection by the Cooperative or CIPCO, showing when the facility is shut down for repairs or maintenance, the maintenance or repair completed, and when the facility is placed back in service. If requested by the Cooperative or CIPCO, the member-consumer shall submit to the Cooperative or CIPCO a maintenance schedule, prior to October 1, of each year, for the following calendar year.
- I. The member-consumer shall agree to insure and indemnify the Cooperative and CIPCO and their representatives against liability for any injuries or damages caused by the operation of the member-consumer's equipment or by any failure of the member-consumer to maintain such equipment in satisfactory or safe operating condition. The member-consumer will arrange for and maintain liability insurance in the amount of \$1,000,000 or other proof of financial responsibility will be required by Cooperative/ and shall be approved by the Cooperative/ prior to interconnection. Failure to maintain required insurance or proof of financial responsibility shall be cause for disconnection. The Cooperative and CIPCO shall be named as additional insureds.
- J. The member-consumer shall reimburse the Cooperative or CIPCO for costs incurred by the Cooperative or CIPCO for all costs of connection, switching, metering, transmission, distribution, safety provisions and administrative costs incurred by the Cooperative or CIPCO directly related to the installation and maintenance of the physical facilities necessary to permit interconnected operations with a qualifying facility (or qualifying alternate energy production facilities, or qualifying small hydro facilities), to the extent the costs are in excess of the corresponding costs which the Cooperative or CIPCO would have incurred if it had not engaged in interconnected operations, but instead generated an equivalent amount of electric energy itself or purchased an equivalent amount of electric energy or capacity from other sources. Interconnection costs do not include any costs included in the calculation of avoided costs.
- K. The member-consumer shall agree to discontinue sales to Cooperative/CIPCO when, due to operational circumstances, purchases from the member-consumer will result in CIPCO costs greater than those which CIPCO would incur if it did not make such

purchases, but instead generated an equivalent amount of energy, provided, however, that CIPCO shall notify the member-consumer within a reasonable amount of time to allow the member-consumer to cease the delivery of energy.

- L. A contract reflecting the conditions of this tariff shall be required between the Cooperative/CIPCO and the member-consumer.
- M. The member-consumer shall permit Cooperative or CIPCO representatives to enter upon member-consumer's property at any reasonable time for the purpose of inspecting or testing member-consumer's equipment, facilities or apparatus and the accuracy of the Cooperative or CIPCO's metering equipment, but such inspections shall not relieve the member-consumer of the obligation to maintain the member-consumer's facilities in satisfactory operating conditions. The Cooperative or CIPCO may charge the direct expense of such inspecting or testing of the member-consumer's equipment, facilities or apparatus to the member-consumer, unless the member-consumer can demonstrate the inspecting and testing was not necessary.
- N. The member-consumer shall be responsible for the costs of installation and maintenance of power factor correction capacitors required to maintain the equivalent of an average power factor of 90% (lagging) at the interconnection.
- O. The member-consumer's electric generating equipment shall be designed, operated and maintained in such a manner that it does not adversely affect the Cooperative's or CIPCO's voltage wave form.

## **25.4 Prices**

### **25.41 Prices for purchases by the member-consumer from the Cooperative**

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

### **25.42 Prices for purchases from member-consumer**

***QFs with design capacity of 100 kW or less***

Payment for purchases from the member-consumer pursuant to this tariff provision shall be as follows:

The price(s) for purchases from qualifying facility (as defined above) and with a design capacity of 100 kilowatts or less are available by contacting the Cooperative. These prices will be consistent with 18 CFR 292.304.

***QFs greater than 100 kW***

The price(s) for purchases from qualifying facilities (as defined above) and with a design capacity above 100 kilowatts are available on a negotiated case-by-case basis with the Cooperative/CIPCO.

**25.43 Wheeling Charges**

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

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**AGREEMENT FOR ELECTRIC SERVICE TO A QUALIFYING FACILITY  
AND FOR PURCHASE OF SURPLUS DEMAND AND ENERGY FROM A  
QUALIFYING FACILITY**

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, by and between PELLA COOPERATIVE ELECTRIC ASSOCIATION, an Iowa cooperative corporation with its principal place of business in Pella, Iowa (“**Cooperative**”) and \_\_\_\_\_, an individual residing in \_\_\_\_\_, Iowa (“**Member-Consumer**”);

**WITNESSETH:**

WHEREAS, the Corporation is a public utility under Chapter 476 of the Code of Iowa (1999), owns, operates and maintains electric distribution facilities in Iowa; and

WHEREAS, Cooperative is a member of Central Iowa Power Cooperative (“**CIPCO**”) of Cedar Rapids, Iowa, and subject to all requirement restrictions of the Wholesale Power Contract; and,

WHEREAS, Member-Consumer is a member of Cooperative and purchases electric power and energy from Cooperative; and,

WHEREAS, Member-Consumer owns and operates a qualifying co-generator or small power production facility (“**QF**”) under the federal Public Utility Regulatory Policies Act of 1978 (“**PURPA**”), and desires to purchase from Cooperative emergency and backup electric utility service, and sell surplus demand and energy to the Cooperative, and to interconnect with the electric distribution system of Cooperative in order to do so; and,

WHEREAS, Cooperative and Member-Consumer desire to set forth in this Agreement the terms and conditions pursuant to which said interconnection, purchases, and sales shall be made;

IT IS, THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS HEREINAFTER SET FORTH, AGREED BY AND AMONG THE PARTIES AS FOLLOWS:

1. Member-Consumer represents and warrants to Cooperative that its QF has a maximum available capacity of 100 kW or less and that its QF has been certified by the Federal Energy Regulatory Commission as a qualifying facility pursuant to the requirements of PURPA.
2. Cooperative shall furnish, sell and deliver to Member-Consumer, and Member-Consumer shall purchase from Cooperative, any electric power and energy not generated by the QF which Member-Consumer may need at the location described in Exhibit “A”, attached hereto and by this reference made a part hereof, subject to the remaining provisions of this Agreement.

3. Electrical service provided by Cooperative shall be 120/240 volts a.c. unless three-phase service is available, and the point of interconnection shall be 120/240 volts a.c. unless three-phase service is available.

4. Member-Consumer shall not use the electric power and energy furnished pursuant to this Agreement as an auxiliary or supplement to any other source of electric power and energy, other than that generated by the Member-Consumer's QF located on its premises, and shall not resell electric power and energy purchased hereunder.

5. Member-Consumer shall pay Cooperative for service at the applicable rate class and upon the terms and conditions set forth in the Cooperative Tariff filed with the Iowa Utilities Board, except as provided otherwise herein. The backup rate may apply for the remainder of the term of this Agreement, except as adjusted pursuant to Section 6 of this Agreement.

6. In the event the rate paid by the Cooperative for the purchase of electric power and energy from CIPCO is modified, or in the event of changes in Cooperative's cost of labor, materials or other items affecting its costs of operation, Cooperative may change the rate for service provided under this Agreement. In said event, Cooperative shall provide Member-Consumer with thirty (30) days written notice of such rate modification, which modification shall become effective thirty (30) days following the giving of said notice.

7. The initial billing period shall commence when Member-Consumer begins receiving electric power and energy from Cooperative, or thirty (30) days after the date Cooperative notifies Member-Consumer in writing that service is available, whichever shall first occur.

8. Bills for service hereunder shall be paid at the office of the Cooperative in Pella, Iowa. The bill shall be considered rendered to the customer when presented to the customer, consistent with the Cooperative's Tariff, and is due and payable immediately. Twenty (20) days after the rendering of the bill, the bill shall be considered delinquent and a late payment charge will be applied. If the twentieth (20<sup>th</sup>) day is a Saturday, Sunday or legal holiday, the late payment charge will be applied starting with the next business day.

9. Member-Consumer shall be subject to the disconnection procedures and other provisions upon the terms and conditions set forth in the Cooperative's Tariff filed with the Iowa Utilities Board, except as otherwise provided herein.

10. Any notice of pending disconnection for failure to pay bills shall be a written notice setting forth the reason for the notice and the final date by which the account is to be settled or other specific action taken. The notice shall be considered rendered to the Member-Consumer when deposited in the U.S. Mail with postage prepaid. The final date for disconnection shall not be less than twelve (12) days after the notice is rendered. Discontinuance of service shall not relieve the Member-Consumer of any of its obligations under this Agreement.

11. Should the Member-Consumer become delinquent and disconnection is prohibited due to becoming eligible for winter energy assistance (November 1 to April 1) or for any other reason, any payment by Cooperative for purchases of power and energy from the QF shall instead be credited to the Member-Consumer's delinquent account balance until such balance is brought to a current status.

12. Member-Consumer shall become and remain a member of Cooperative during the initial term of this Agreement and any extensions thereof, shall pay the Cooperative's membership fee, if any, and shall be subject to the terms and conditions of the Cooperative's Articles of Incorporation, Bylaws, rules and regulations.

13. The Cooperative shall use reasonable diligence to provide a constant and uninterrupted supply of electric power and energy. If the supply of electric power and energy shall fail or be interrupted, or become defective through an act of God, negligent or intentional acts of Member-Consumer or a third party(ies), or omissions by Member-Consumer or by any such third person or entity not a party hereto, governmental authority, action of the elements, public enemy, accident, strikes, labor disputes, required maintenance work, inability to secure right-of-way, or any other causes beyond the reasonable control of the Cooperative, the Cooperative shall not be liable therefore or for damages caused thereby.

14. The Cooperative will meter the Member-Consumer to obtain the billing data necessary to fulfill the terms of this Agreement. The Cooperative shall install, own and maintain and the Member-Consumer shall reimburse the Cooperative for the metering equipment and pay all costs associated with the installation and maintenance of metering equipment necessary to measure all electrical flow between the Cooperative and Member-Consumer at the point of interconnection. Said metering may include equipment capable of recording real and reactive power flow and demand and energy in fifteen (15) minute intervals for the entire billing period format compatible with CIPCO's existing system interchange metering. Meters shall be read monthly by the Cooperative and any costs incurred for meter reading, data retrieval and translation shall be the Member-Consumer's. If the QF consists of a single wind-powered generator, which has a maximum output of 12.5 kW or less, energy-only metering shall be allowed at the Cooperative's option. The Cooperative shall have the right to install such additional metering equipment as it deems necessary for the collection of data for research purposes, which metering will be furnished and paid for by the Cooperative.

15. Member-Consumer agrees to sell to Cooperative, and Cooperative agrees to purchase from the Member-Consumer, electric power and energy generated by Member-Consumer's QF and delivered to the point of interconnection with the Cooperative's distribution system, pursuant to CIPCO's Qualifying Facility Purchase Rate Schedule and by this reference made a part hereof. The Cooperative agrees to receive said electric power and energy. (Current rate schedule attached to executed document.)

16. Before the QF is allowed to interconnect with the distribution system of the Cooperative, the Member-Consumer shall provide the Cooperative with a signed (by Member-Consumer) interconnection proposal acceptable to the Cooperative. The interconnection proposal shall include a description, a diagram, and the specifications of the QF. The interconnection

proposal shall also outline how the QF intends to meet the required interconnection and operating requirements contained in this Agreement. Any costs incurred by the Cooperative to evaluate and review the interconnection proposal shall be paid by the Member-Consumer.

17. Member-Consumer's QF shall be required to satisfy the Standards for Interconnection, Safety and Operating Reliability of Iowa Administrative Code 199-15.10, and any subsequent amendments thereto, before interconnection with Cooperative's system shall be permitted.

18. Member-Consumer shall pay all costs associated with the QF's interconnection. These costs include, but are not limited to, automatic relaying, system protection, system upgrades and any engineering studies which may be required by the cooperative. Member-Consumer shall have protection equipment that will prevent it from re-energizing a de-energized line.

19. In order to provide adequate safety to Cooperative's employees, Member-Consumers and third parties, Member-Consumer shall furnish and install an Underwriter's Laboratory (UL) listed manual disconnect switch, as specified in the National Electric Code, Article 705, between Member-Consumer's QF and the Cooperative's system in order that the QF may be positively disconnected from Cooperative's system. The location of the switch shall be determined and approved by the Cooperative and shall be housed in an approved enclosure which shall be secured with a padlock or other locking device. Cooperative shall have access to the switch.

20. Operation of the QF must not cause any reduction in the quality of service provided to other member-consumers or interfere with the operation of the Cooperative's system. Member-Consumer shall take such corrective action as may be necessary in order to eliminate such condition, and shall reimburse the Cooperative for any costs incurred by the Cooperative in correcting or eliminating such conditions.

21. The electrical characteristics of the QF shall conform with standards established by the Cooperative, including but not limited to, voltage, current, frequency, harmonics, and automatic synchronization. Harmonic content shall comply with IEEE Standard 519-1992 of IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems. Voltage fluctuation shall not exceed three percent (3%) at the interconnection, and the Member-Consumer's load, in conjunction with generation, cannot be less than ninety percent (90%) power factor as measured on a continuous basis at the point of interconnection. Failure of the Member-Consumer to provide the equipment necessary to meet these requirements, when requested by the Cooperative shall be grounds for discontinuation of service.

22. Cooperative reserves the right to require Member-Consumer to provide at its expense suitable apparatus for filtering to avoid interference with telephone, radio, television, or other electrical signal reception caused by electrical equipment and apparatus on Member-Consumer's premises. Failure of Member-Consumer to provide filtering when requested by the Cooperative shall be grounds for discontinuation of service.

23. Member-Consumer shall comply with all applicable laws, rules and regulations governing the operation of its QF including the Cooperative's electric tariff governing cogeneration and small power provision, filed with the Iowa Utilities Board. Authorized representatives of Cooperative shall have the right to enter Member-Consumer's property at all reasonable times to inspect the QF and to ensure that it is being operated in compliance with the Cooperative's safety and operating standards, and with all other applicable safety laws, rules and regulations. Cooperative shall also have the right at all reasonable times to enter Member-Consumer's property to read meters and to verify the accuracy of Cooperative's meters. Such inspections shall not relieve Member-Consumer of its obligation to maintain its facilities in safe and satisfactory operating condition.

24. Cooperative reserves the right to open the disconnect switch, thereby isolating Member-Consumer's QF, without prior notice to Member-Consumer, for any of the following reasons:

- A. System emergency and/or maintenance operations which require such action.
- B. The existence of potentially hazardous condition relating to the QF.
- C. Interference with the quality of service provided to other Member-Consumers, and/or the operation of the Cooperative's system, caused by or resulting from the operation of the QF.

25. Member-Consumer shall agree to insure, indemnify and hold CIPCO and the Cooperative and their officers, directors, and employees harmless against liability for injuries or damages caused by the Member-Consumer or third parties, by and through the operation of the Member-Consumer's equipment, by any failure of Member-Consumer to maintain said equipment in satisfactory and safe operating condition, by any breach of this Agreement by Member-Consumer or by any violation by the Member-Consumer, or third party(ies) acting for or on Member-Consumer's behalf, of the Cooperative's tariff referred to in paragraph 23 herein - and further to hold such parties harmless from all such claims, including attorneys' fees. Member-Consumer shall provide comprehensive general liability insurance, naming the Cooperative as an additional insured, in an amount not less than \$1,000,000.00 prior to interconnection. Member-Consumer shall annually provide Cooperative with proof of insurance and shall notify Cooperative upon termination or modification of insurance coverage. Failure to maintain said insurance in force shall be cause for discontinuation of service.

26. This Agreement shall become effective on the date and year first above written, and it shall remain in effect for a term of two (2) years from and after the commencement of initial billing period. This Agreement shall thereafter continue for successive terms of one (1) year each, unless terminated by any party giving the other not less than three (3) months' written notice of its desire to terminate this Agreement.

27. This Agreement shall be subject to all federal and state laws and regulations relating to allocation of power.

28. This Agreement shall be binding upon the Parties and upon their respective successors and assigns, provided Member-Consumer may not assign its interest in this Agreement without the prior written consent of the Cooperative.

29. This Agreement shall be interpreted and construed in accord with laws of the State of Iowa.

30. This Agreement sets forth all of the terms and conditions forming the agreement between the parties with respect to the subject matter hereof.

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement on the day and Year first above written.

**PELLA COOPERATIVE ELECTRIC ASSOCIATION**

By: \_\_\_\_\_  
President

ATTEST:

\_\_\_\_\_  
Secretary

**MEMBER-CONSUMER**

By: \_\_\_\_\_  
Title of Officer\* (if Member-Consumer is not an Individual)

\*If other than president, vice president, partner or owner, a power of attorney must accompany contract.