

**LORAIN-MEDINA RURAL ELECTRIC COOPERATIVE, INC.
NORTH CENTRAL ELECTRIC COOPERATIVE, INC.**

RULES AND REGULATIONS FOR DISTRIBUTED RESOURCES (DR)

OBJECTIVES

To provide for the safety of consumers, Cooperative personnel, and the public in general, and to assure reliable electric service consistent with the Cooperative's Operational Policy relating to DR facilities, the following rules and regulations are established for the interconnection and operation of consumer-owned or operated DR facilities. Capitalized terms used but not defined herein shall have the meanings assigned to them in the Cooperative's Operational Policy for DR facilities.

PROCEDURE

I. The following rules and regulations apply to all Qualifying Facilities having a capacity of not more than 10 MVA, and to all DR facilities that are not Qualifying Facilities but that are approved by Buckeye and the Cooperative. Qualifying Facilities of more than 10 MVA of capacity will be treated on an individual case by case basis. These rules and regulations amend and restate the Rules and Regulations for Qualifying Cogeneration and Small Power Production Facilities, Service Policy No. 425, previously adopted by the Cooperative on 08/05/2006. These rules and regulations apply to both existing and proposed installations, and are subject to change from time to time as may be deemed necessary or desirable by the Cooperative or as may be required by governmental authorities.

POLICY

- A. All consumers wishing to interconnect a DR facility to the Cooperative distribution system shall submit for Cooperative review and approval detailed electrical circuit diagrams of the installation, equipment nameplate data for interface devices and control systems, and a site plan. Such submittal shall be in sufficient detail to provide reasonable assurance that the DR facility can at all times be operated in a safe, reliable, and lawful manner. Without limiting the generality of the foregoing, the owner, or operator of the DR facility shall submit to the Cooperative a completed Application for Distributed Resource in the form attached hereto as Attachment 1, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or the Cooperative as noted on the application. As a part of its application review process, the Cooperative may require an opinion as to the safety and reliability of the system from a licensed professional engineer. No DR facility shall be interconnected and synchronized with the Cooperative's electric system without the Cooperative's advance approval of such facility as being in compliance with these rules and regulations.

- B. If a consumer's completed application indicates that the DR facility at issue is a Qualifying Facility, the interconnection and related rights and obligations of the Cooperative and the consumer shall be governed pursuant to the agreements set forth in Paragraphs (S), (T) and (U) below. If a consumer's completed application indicates that the DR facility at issue is not a Qualifying Facility, the interconnection and/or operation of such facilities shall be governed pursuant to the agreements set forth in Paragraphs (Q) and (R) below. Only the "Responsible Party," i.e. the owner or operator of a DR facility that is proposed for interconnection to the Cooperative's distribution system, may apply for interconnection and contract with the Cooperative for the interconnection of a DR facility.
- C. The Cooperative shall clearly explain all costs to be recovered from an applicant with respect to the application process or the interconnection of a DR facility prior to the incurrence of such costs, and shall incur said costs only upon the applicant's authorization thereof. The Cooperative may require separate, non-refundable deposits from an applicant prior to processing the consumer's application for the interconnection and/or operation of a DR facility, and prior to the actual interconnection of a Qualifying Facility or a Permitted Synchronized Generation Facility in such amounts as are sufficient to insure the applicant's intent to interconnect and/or operate the DR facility in accordance with the terms hereof.
- D. The Cooperative may require that the owner or operator of a DR facility enter into a system study agreement, in substantially the form attached hereto as Attachment 2, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate, setting forth the terms and conditions upon which the Cooperative will perform a system impact study to assess the ability of the existing Cooperative system to accommodate the connection and safe operation of the DR facility, including the cost to be paid by the DR facility owner or operator for such study. The owner or operator shall pay for all costs associated with any addition or alteration to the Cooperative's system required for metering and for the safe and reliable operation of the DR facility in parallel with the Cooperative's electric system, including those set forth in the system impact study. Where alterations to the Cooperative's electric system are required due to the collective presence of two or more DR facilities operating in parallel with the Cooperative, the cost of such additions or alterations shall be shared by those owners or operators on an equitable basis to be determined by the Cooperative.
- E. The completed installation must meet all applicable local, state and national codes, regulations or other laws, and electric utility standards for the safety of the public and personnel responsible for utility electric power system operations, maintenance and repair, and is subject to inspection by any authorities having jurisdiction before commencement of operation;

the Responsible Party is responsible for such compliance. The installation of any Qualifying Facility or Permitted Synchronized Generation Facility that will operate in parallel with the Cooperative distribution system must comply with the Cooperative's Technical Guidelines for Interconnection and Parallel Operation attached hereto as Attachment 3. The Cooperative may inspect or require a test of the facility at any time without advance notice.

- F. An approved disconnecting device operable by the Cooperative and suitable for disconnecting the DR facility may be required. Any such device shall be operated in accordance with the procedures agreed to by the owner or operator and the Cooperative.
- G. After the initial installation and acceptance by the Cooperative of a DR facility, the owner or operator shall obtain approval from the Cooperative prior to making any revisions to the DR facility, interface equipment, control devices, or protective system.
- H. The control and protective system and site plan of the DR facility must be approved by the Cooperative. The control and protective system must operate in accordance with these safety and reliability standards:
 - 1. The system shall provide for the immediate automatic shutdown or separation of the DR facility's generator and storage devices from the Cooperative's lines in the event of any of the following conditions, whether emanating from the Cooperative's system or the DR facility:
 - a. Momentary or extended interruption of power on the Cooperative's lines serving the DR facility.
 - b. Deviation of frequency or voltage on the Cooperative's lines serving the DR facility from within the Cooperative's normal standards.
 - c. If the DR facility is operating in parallel with three phase service, existence of abnormal rotation of phases, or existence on any phase or phases of a condition listed in (a) or (b) above.
 - 2. The shutdown or separation shall continue until the interruption, deviation, or abnormal condition listed in (1) above has been eliminated and all applicable parameters listed in (1) above are returned to within the Cooperative's normal standards.
- I. In the event the Cooperative determines, in its sole judgment, that the DR facility poses any safety hazard to any person or property, poses a hazard to the reliability of the Cooperative's electric system or any system with

which it is connected, unreasonably interferes with the use and enjoyment of property by any person, or that the DR facility's protective equipment is operating improperly, the Cooperative, through its authorized personnel, shall have the right to enter onto the property where the DR facility is located and immediately disconnect the DR facility from its lines.

- J. Cooperative shall have access rights to the DR facility during normal business hours and all emergency situations.
- K. Cooperative shall require the Responsible Party for any DR facility interconnected to and operating in parallel with Cooperative's distribution system to be responsible for the safe and effective operation and maintenance of the facility and to demonstrate that the facility will be capably developed, constructed and operated, maintained, and repaired.
- L. The owner or operator shall pay all costs of changes for safety purposes or repairs or losses due to adverse effects on the equipment or facilities of other consumers or the Cooperative itself caused by the connection or operation of a DR facility.
- M. Should parallel operation of a DR facility cause interference or adversely affect voltage, frequency, harmonic content, or power factor in the Cooperative's or other consumers' services, the Cooperative may require disconnection of the DR facility from the Cooperative's electric system until the condition has been corrected.
- N. The Cooperative may require such liability insurance coverage by the DR facility owner or operator as the Cooperative determines in its sole judgment to be appropriate in the circumstances, and the owner or operator shall provide such proof of insurance coverage as may be required by the Cooperative. Review or testing of the DR facility by the Cooperative does not constitute assumption of liability by the Cooperative for the safe, reliable and lawful operation of the DR facility.
- O. If the owner or operator of the DR facility fails to comply with the above rules and regulations, or if the DR facility at any time constitutes a safety hazard or hazard to the reliability of the Cooperative's electric system or any system with which it is connected or is in violation of any code, regulation or law, the Cooperative may at any time require termination of operation of the DR facility and the owner or operator shall be liable for any loss, damage, or injury resulting from such failure, hazard, or violation.
- P. Connections between a DR facility and the electric system of the Cooperative shall only be made pursuant to a written contract between the Cooperative and the owner or operator of such facility which shall be in

accordance with applicable laws as well as the applicable rules, regulations, policies, and rate schedules of the Cooperative.

- Q. If a DR facility is a Permitted Synchronized Generation Facility, and will therefore interconnect to and operate in parallel with Cooperative's electric distribution system, Cooperative shall require the owner or operator of such facility to enter into an Agreement for Electric Service with an Appendix, in substantially the form attached hereto as Attachment 4, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate, setting forth the terms and conditions for synchronization of generation, which shall be in accordance with applicable laws as well as the applicable rules, regulations, policies, and rate schedules of the Cooperative.
- R. If a DR facility is operated for purposes of minimizing the consumer's contribution to a PJM 5-CP System Annual Demand, i.e. peak-shaving, Cooperative may enter into an agreement with consumer and Buckeye, in substantially the form attached hereto as Attachment 5, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate, setting forth the terms and conditions upon which Cooperative will sell to consumer and install, and Buckeye will control the activation of, a peak warning device.
- S. If (i) a DR facility is a non-residential consumer's Qualifying Facility up to 100 kW, or a residential consumer's Qualifying Facility up to 25 kW, (ii) the output of such facility is not reasonably anticipated to exceed the annual electric energy requirements of the consumer and (iii) provided that the total aggregate electric generating capacity of all such facilities interconnected to the electric distribution systems of the Buckeye members and net metered does not exceed 1% of Buckeye's aggregate peak electric demand of all of the Buckeye members, Cooperative shall require the owner or operator of such facility to enter into:
1. An agreement setting forth the terms and conditions for the interconnection and parallel operation of such Qualifying Facility, in substantially the form attached hereto as Attachment 6, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate; and
 2. An agreement setting forth the terms and conditions for electric service with net metering for such Qualifying Facility, in substantially the form attached hereto as Attachment 7, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate, and attaching the Net Metering Rate Schedule, in substantially the

form attached hereto as Attachment 8, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate.

- T. If (i) a DR facility is a non-residential consumer's Qualifying Facility greater than 100 kW, or a residential consumer's Qualifying Facility greater than 25 kW, but not more than 10 MVA, or (ii) the output of a non-residential consumer's Qualifying Facility up to 100 kW or a residential consumer's Qualifying Facility up to 25 kW is reasonably anticipated to exceed the annual electric energy requirements of the consumer, or (iii) the total aggregate electric generating capacity of all non-residential consumers' Qualifying Facilities up to 100 kW and all residential consumers' Qualifying Facilities up to 25 kW interconnected to the electric distribution systems of the Buckeye members and net metered exceeds 1% of Buckeye's aggregate peak electric demand of all of the Buckeye members, the Cooperative shall require the owner or operator of such facility to enter into:
1. An agreement setting forth the terms and conditions for the interconnection and parallel operation of such Qualifying Facility, in substantially the form attached hereto as Attachment 9 subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate; and
 2.
 - a. If the consumer is selling the net output of the Qualifying Facility to Buckeye, an agreement setting forth the terms and conditions for back-up and supplementary electric service, in substantially the form attached hereto as Attachment 10, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate, and attaching the Back-Up and Supplementary Electric Service Rate Schedule, in substantially the form attached hereto as Attachment 11, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate; or
 - b. If the consumer is selling the gross output of the Qualifying Facility to Buckeye, the Cooperative's standard agreement for electric service and regular retail rate schedule, subject to such additional changes as the FESCO President and General Manager of the Cooperative may deem necessary or appropriate.
- U. If a DR facility is a Qualifying Facility greater than 10 MVA and Buckeye, the Cooperative member, and the consumer have agreed on the terms and conditions for service, the Cooperative shall require the owner or

operator of such facility to enter into such agreements as determined on a case by case basis.

RESPONSIBILITY

- A. The Board of Trustees is responsible for the approval and the periodic review of this policy.
- B. The FESCO President and General Manager is responsible for the administration of this policy and for recommending to the Board of Trustees and changes or additions to this policy.

Effective: 08/05/2006
Revised: 12/11/2010
Revised: 08/01/2015

Secretary: Lorain-Medina Rural Electric Cooperative, Inc.

Effective: 08/05/2006
Revised: 12/11/2010
Revised: 08/01/2015

Secretary: North Central Electric Cooperative, Inc.