

**EAST CENTRAL OKLAHOMA
ELECTRIC COOPERATIVE, INC.**



**Distributed Generation
Procedures & Guidelines
Manual for Members**

January 2023

TABLE OF CONTENTS

GENERAL..... 4

I. DETERMINE THE CATEGORY OF DG FACILITY..... 5

 1) Connection Level Category..... 5

 2) Power Export Category..... 5

 3) Qualifying or Non-Qualifying Category..... 5

 4) Size Category 6

II. MEMBER’S INITIAL REQUIREMENTS 6

 1) Notification..... 6

 2) Service Request 7

 3) Submit a DG Plan..... 7

III. COOPERATIVE AND POWER SUPPLIER REVIEW PROCESS..... 7

IV. SALES TO AND PURCHASES FROM A DG INSTALLATION..... 8

 1) For all facilities where the Member desires to export power..... 8

 2) For facilities ≤ 25 kW where the Member desires to export power 8

 3) For facilities > 25 kW & < 100 kW where the Member desires to export power..9

V. MEMBER’S RESPONSIBILITY PRIOR TO OPERATION 9

 1) Line Extension and Modifications to Cooperative Facilities 9

 2) Applicable Regulations 10

 3) Liability Insurance..... 10

 4) Contracts..... 11

 5) Initial Interconnection..... 11

VI. REFUSAL TO INTERCONNECT SERVICE OR DISCONNECTION OF INTERCONNECTION SERVICE 12

VII. OPERATION OF PARALLEL FACILITY 12

 1) Ownership of facilities..... 12

 2) Self-Protection of DG Facilities 12

 3) Quality of service 13

 4) Safety disconnects..... 13

 5) Access..... 14

 6) Liability for Injury and Damages..... 14

 7) Metering/Monitoring 14

 8) Notice of Change in Installation 15

 9) Testing and Record Keeping 16

 10) Disconnection of Service 16

OTHER INFORMATION

AGREEMENT FOR INTERCONNECTION OF DG

Short Form Contract "A"	17
Long Form Contract "B"	24
EXHIBIT "A" - Description of Facilities and of Interconnection.....	31
APPLICATION FOR OPERATION OF CUSTOMER-OWNED DG	33
TARIFF: DISTRIBUTED GENERATION RIDER.....	37
Distributed Generation Policy Checklist.....	40

GENERAL

In order to receive service from East Central Oklahoma Electric Cooperative, Inc. (the Cooperative or ECOEC), a customer must join or become a “member.” Throughout this manual, ECOEC customers will be referred to as members. For more information about the Cooperative membership application process, including any applicable membership fees or deposits, contact the Cooperative to request new member information.

It is the intent of the Cooperative to allow Members to install Distributed Generation (DG) if so desired, provided the Member’s DG facility does not adversely affect the Cooperative. The Member must conduct his/her own analysis to determine the economic benefit of DG operation.

DG operation that is not connected to the Cooperative distribution system in any way is known as “stand-alone” or “isolated” DG. The Member may operate a DG installation in stand-alone or isolated fashion as long as it does not adversely affect the Cooperative distribution system. A DG operation connected in any way to the Cooperative distribution system shall be considered as a “parallel” operation. For purposes of this manual only, a DG operation is considered as “parallel” anytime it is connected to the Cooperative distribution system in any way, even if it is not the intention of the Member to export power to the Cooperative or its Power Supplier. All provisions of this manual shall apply to parallel operation of DG facilities as so defined.

This manual is not a complete description or listing of all the laws, ordinances, rules and regulations the Members must or should follow, nor is it an installation or safety manual. The Member requesting DG service must follow, in addition to all provisions of this Manual, the Cooperative’s *Rules and Regulations and Tariffs for Electric Service*, the Cooperative’s *Line Extension Policy*, the *Policies and Procedures* of the Cooperative’s power supplier where applicable, the current *IEEE 1547 Standard Guide for Distributed Generation Interconnection* (a copy is on file at the Cooperative for inspection along with information so the Member may obtain his/her own copy), and any other applicable governmental and regulatory laws, rules, ordinances and/or requirements. All legal, technical, financial, etc. requirements must be met prior to interconnection.

A Member may serve all loads behind the meter at the location serving the DG installation but will not be allowed to serve multiple meters, multiple consuming facilities or multiple Members with a single DG installation or under a single DG application without prior approval by the cooperative.

DG facilities larger than 100 kW are not covered by this manual and will be considered by the Cooperative and its Power Supplier on a case-by-case basis.

I. DETERMINE THE CATEGORY OF DISTRIBUTED GENERATION FACILITY

1) Connection Level Category

- a) Connected to the Cooperative's system
The Member requests and/or the Member's DG facility requires connection to the Cooperative's system. All provisions of this manual cover this category.
- b) Connected to the Cooperative's Power Supplier's system
The Member requests and/or the Member's DG facility requires connection to the Cooperative's Power Supplier's system. This manual does NOT cover this category.

2) Power Export Category

- a) Parallel – no power export
The member operates a system connected in any way to the Cooperative distribution system but with no intention to export power to the Cooperative and/or its Power Supplier.
- b) Parallel – power generated to be both consumed and exported
The member operates a system connected in any way to the Cooperative distribution system designed primarily to serve the member's own load but with the intention to export excess power to the Cooperative and/or its Power Supplier.
- c) Parallel – power generated to be exported only
The member operates a system connected in any way to the Cooperative distribution system designed primarily with the intention to export power to the Cooperative and/or its Power Supplier.

3) Qualifying or Non-Qualifying Category

- a) Qualifying Facilities (QF) are defined by the Public Utility Regulatory Policies Act of 1978 (PURPA). Refer to CFR Title 26, Volume 4, Sec. 292.204.
- b) The distinction between QF and Non-Qualifying Facilities (NQF) mainly deals with fuel use.
 - (1) In general, a QF must have as its primary energy source biomass, waste, renewable resources, geothermal resources, or any combination.
 - (2) Other DG will be considered NQF by the Cooperative.
- c) The Cooperative and/or its Power Supplier will provide interconnection to DG members with Qualifying Facilities, subject to the provisions of this policy and other applicable rules and regulations.
- d) The Cooperative and/or its Power Supplier may require a power purchase agreement with QF DG members, subject to the provisions of this policy and other applicable rules and regulations.
- e) The Cooperative and/or its Power Supplier may negotiate a power purchase agreement with Non-QF DG members.

4) Size Category

a) Facilities 25 kW and smaller

- (1) Facilities \leq 25 kW of connected generation will be placed in this size category unless the Member requests connection under the $>$ 25 kW and $<$ 100 kW size category
- (2) Facilities $>$ 25 kW of connected generation may be placed in this size category if all the following conditions are met
 - (a) Member states total annual production from DG facilities will be less than 25,000 kWh on a calendar basis
 - (b) Member agrees to installation of metering equipment as specified and installed by the Cooperative at the Member's expense to separately meter production from DG facilities
 - (c) Member agrees that, should DG facilities annual production, on a calendar basis, as shown by the Cooperative's meter, exceed 25,000 kWh, the Member will no longer be eligible for service under this size category. In addition, the Member's retail billing and cost of energy purchased by the Cooperative from the Member may be re-calculated for the calendar year period based on the appropriate size category. Member will be billed for any additional amounts owed the Cooperative as a result of not qualifying for service under this size category.

b) Facilities above 25 kW and below 100 kW

- (1) Facilities $>$ 25 kW and $<$ 100 kW of connected generation will be placed in this size category unless the Member requests otherwise

c) Facilities with connected generation greater than 100 kW are not considered under this manual

II. MEMBER'S INITIAL REQUIREMENTS

1) Notification

- a) The Member must meet all the Cooperative's membership and service requirements in addition to the requirements in the manual.
- b) Anyone owning and/or operating a Parallel Distributed Generation (DG) facility served by the Cooperative must notify the cooperative of the existence, location and category of the facility.

2) Service Request

- a) In advance of requested interconnection, the Member must contact the Cooperative and complete the “Cooperative Application for DG Interconnection and Parallel Operation” (included).
- b) Facilities less than or equal to 25 kW in size may submit the Application Short Form (Contract “A”). All other facilities must submit the Application Long Form (Contract “B”).
- c) A separate form must be submitted for each facility and each location.

3) Submit a DG Plan

- a) Along with the application, the Member shall submit a plan detailing the electrical design, interconnection requirements, size, and operational plans. Either at the time of submission or at any time during the review process, the Cooperative and/or its Power Supplier may require additional information and/or may require the plans to be prepared by a registered Professional Engineer in the state.
- b) In the case of parallel facilities with no intention to export power to the Cooperative and/or its Power Supplier that are of standard design and intended entirely as emergency or back-up power supply for the facility, the Cooperative may, at its sole discretion, waive the application fee.
- c) Prior to review of the application and plan by the Cooperative and its Power Supplier, the Member shall pay an application fee as indicated below. A separate fee must be submitted for each facility and location.

DG Size (Connected Load)	Application Fee	Additional Engineering Fee
< 5 kW	\$25	None
5 kW to 100 kW	\$50	As Required
> 100 kW	Not covered by this manual	

III. COOPERATIVE AND POWER SUPPLIER REVIEW PROCESS

1) Plan Review Process

- a) The Cooperative and its Power Supplier will review the application and accompanying documents, plans, specifications, and other information provided and will return an interconnection analysis to the Member within 60 days or less of receipt of final plans and specifications.
- b) Technical review will be consistent with guidelines established by the most recent *IEEE Standard 1547 Guide for Distributed Generation Interconnection*.
- c) If corrections or changes to the plans, specifications and other information are to be made by the Member, the 60-day period may be reinitialized when such changes or corrections are provided to the Cooperative and its Power Supplier. In addition, any changes to the site or project requiring new analysis by the

Cooperative may require additional cost and a new plan. The cost will be determined by the Cooperative.

- d) Any review or acceptance of such plans, specifications, and other information by the Cooperative and/or its Power Supplier shall not impose any liability on the Cooperative and/or its Power Supplier and does not guarantee the adequacy of the Member's equipment to perform its intended function. The Cooperative and its Power Supplier disclaims any expertise or special knowledge relating to the design or performance of generating installations and does not warrant the efficiency, cost-effectiveness, safety, durability, or reliability of such DG installations.
- e) In the event it is necessary at the time of initial interconnection or at some future time for the Cooperative and/or its Power Supplier to modify electric delivery systems in order to serve the Member's DG facilities and/or purchase or continue to purchase the Member's output, or because the quality of the power provided by the Member's DG adversely affects the Cooperative and/or its Power Supplier's delivery system, the Member will reimburse the Cooperative and/or its Power Supplier for all costs of modifications required for the interconnection of the Member's DG facilities.

IV. SALES TO AND PURCHASES FROM A DG INSTALLATION

- 1) For all facilities where the Member desires to export power
 - a) All facilities will be connected under one of the Cooperative's existing rate tariffs.
 - b) Sales to a Member shall be consistent with the applicable retail rate schedule established by the Cooperative and in use by the Member as if there were no DG installation, with any additional charges added.
 - c) All applicable rates and charges included in the Cooperative rate tariffs shall apply to a DG facility in addition to any special charges listed in the DG tariff.
 - d) The Member shall pay all rates and charges so listed.
 - e) Neither the Cooperative nor its Power Supplier is under any obligation to purchase power from an NQF.
- 2) For facilities \leq 25 kW where the Member desires to export power:
 - a) For power produced in excess of on-site requirements, the Member will be compensated by the retail purchase meter running in reverse (Net metering). The Cooperative shall bill the Member for the excess energy supplied by the Cooperative over and above the energy supplied by the Member during each billing period according to the Cooperative's applicable retail rate schedule.
 - b) When the energy supplied by the Member exceeds the energy supplied by the Cooperative during a billing period, the monthly charge and/or minimum bill of the retail rate schedule shall be billed by the Cooperative in addition to the monthly metering charge, and the excess energy shall be purchased by the Cooperative from the Member at the Cooperative's avoided cost, as defined in the Cooperative's DG tariff.
 - c) The Member shall sign the approved application and agreement for interconnection service with the Cooperative.
 - d) In addition to all other charges, the Cooperative may bill the member for any additional facilities charges as determined in the contract for service or the

Cooperative's DG tariff, as well as any applicable charges as defined in the cooperatives rules and rates

- e) The Cooperative and/or its power supplier may, at its sole discretion, purchase power from a NQF under the terms of this section.
- 3) For facilities > 25 kW and < 100 kW where the Member desires to export power:
- a) No net metering shall be used. The type of metering to be used shall be specified at the sole discretion of the Cooperative. The metering shall provide data so the Cooperative can determine each billing period the energy supplied to the Member by the Cooperative and the energy supplied to the Cooperative's Power Supplier by the Member.
 - b) An approved load profile meter shall be used which can be remotely read by the Cooperative and/or its Power Supplier through an approved communications link. If the site selected makes the installation of an approved communications link not feasible, the member shall be read monthly by Cooperative personnel and the Member shall be billed for the additional cost of reading the meter.
 - c) The Cooperative shall bill the Member for the energy used by the Member during each billing period according to the Cooperative's applicable retail rate schedule.
 - d) In addition to all other charges, the Cooperative may add an additional monthly customer charge for DG Members to recover any additional billing, meter reading and/or customer service costs.
 - e) The Cooperative's Power Supplier shall pay the Member on a monthly basis for the energy supplied by the Member to the Cooperative. The rate paid by the Cooperative's Power Supplier to the Member shall be the Cooperative's Power Supplier's avoided cost of generation.
 - f) The Member may be required to sign an approved contract for Interconnection with the Cooperative and for Power Purchase with the Cooperative's Power Supplier.
 - g) In addition to all other charges, the Cooperative may bill the member for any additional facilities charges as determined in the contract for service.
 - h) The Cooperative and/or its Power Supplier may, at their sole discretion, purchase power from a NQF under the terms of this section.

V. MEMBER'S RESPONSIBILITY PRIOR TO OPERATION

1) Line Extension and Modifications to Cooperative Facilities

- a) As a part of the interconnection analysis performed by the Cooperative and its Power Supplier, the Member will be provided with an estimate of any line extension or other cost to be incurred in providing electric delivery service to the Member's DG facility.
- b) Without regard to the Cooperative's line extension policy, the Member shall pay in advance the full cost of the construction of any transmission, substation, distribution, transformation, metering, protective, or other facilities or equipment which, at the sole discretion of the Cooperative and/or its Power supplier, is installed at the direction of the Cooperative and/or its Power Supplier to serve the Member's DG facility.

- c) In the event it is necessary at the time of initial interconnection or at some future time for the Cooperative and/or its Power Supplier to modify electric delivery systems in order to serve the Member's DG facilities and/or purchase or continue to purchase the Member's output, or because the quality of the power provided by the Member's DG adversely affects the Cooperative and/or its Power Supplier's delivery system, the Member will reimburse the Cooperative and/or its Power Supplier for all costs of modifications required for the interconnection of the Member's DG facilities.
- d) In all cases, the Member shall pay the full cost of the installation of a visible load break disconnect switch by and to the sole specification of the Cooperative. The switch will be readily accessible to Cooperative personnel and of a type that can be secured in an open position by a Cooperative lock.

2) Applicable Regulations

- a) The Member shall comply with all applicable tariffs, policies and procedures of the Cooperative and its Power Supplier. (DG tariffs, policies and procedures included.)
- b) The Member shall comply with all applicable laws, ordinances rules and regulations of any federal, county, state, and/or local authority, including, but not limited to: the most recent *IEEE Standard 1547 Guide for Distributed Generation Interconnection*, applicable ANSI standards, including ANSI C84.1 Range A relating to installation, safety, easements, code restrictions, operation and other matters.
- c) The Member shall be solely responsible for compliance with all applicable environmental laws, requirements and regulations, including but not limited to reporting and permits.

3) Liability Insurance

- a) Facilities 25 kW and smaller

- (1) As described in the Application and Agreement.

- b) Facilities larger than 25 kW

- (1) Prior to interconnection, the Member must provide a certificate of insurance showing satisfactory liability insurance including contractual liability insurance covering indemnity agreements which insures the Member against all claims for property damage and for personal injury or death arising out of, resulting from or in any manner connected with the installation, operation and maintenance of the Member's generating equipment.
 - (2) The amount of such insurance coverage shall be not less than \$1,000,000 per occurrence. This amount may be increased at the sole discretion of the Cooperative if the nature of the project so requires.
 - (3) The certificate shall provide that the insurance policy will not be changed or canceled during its term without thirty days written notice to the Cooperative. The term of the insurance shall be coincident with the term of

the interconnection contract or shall be specified to renew throughout the length of the interconnection contract.

- (4) The Member shall provide proof of such insurance to the Cooperative at least annually.

4) Contracts

a) Interconnection Contract

- (1) The Member will sign and deliver an interconnection contract to the Cooperative for each generation system connected to the Cooperative's distribution system.
- (2) If so required, the Cooperative will provide any required application/agreement/contract forms.

b) Purchase Power Contract (where required)

- (1) ≤ 25 kW: Net Metering: As outlined in the Cooperative's tariffs
- (2) > 25 kW and < 100 kW: The Member may be required to sign and deliver a power purchase contract with the Cooperative's Power Supplier.

5) Initial Interconnection

- a) Upon satisfactory completion of the review process and execution of required agreements as outlined in this manual, the cooperative will begin interconnection of DG facilities. Interconnection will be completed as soon as practical after completion of the review process and execution of the necessary contracts. After completion of interconnection requirements and prior to initiation of service, the Cooperative will conduct a final inspection of the facilities and interconnection to the Cooperative's system. Upon satisfactory final inspection, the Cooperative will initiate service to the DG member.
- b) The Cooperative's review process and final inspection is intended as a means to safeguard the Cooperative's facilities and personnel. Any review by the Cooperative and/or its Power Supplier shall not impose any liability on the Cooperative and/or its Power Supplier and does not guarantee the adequacy of the Member's equipment to perform its intended function. The Cooperative and its Power Supplier disclaims any expertise or special knowledge relating to the design or performance of generating installations and does not warrant the efficiency, cost-effectiveness, safety, durability, or reliability of such DG installations.

VI. REFUSAL TO INTERCONNECT SERVICE OR DISCONNECTION OF INTERCONNECTION SERVICE

The Cooperative may, at its sole discretion, prevent the interconnection or disconnect the interconnection of DG installations due to reasons such as safety concerns, reliability issues, power quality issues, breach of interconnection contract or any other reasonable issue. This disconnection may be without prior notice.

VII. OPERATION OF PARALLEL FACILITY

The purpose of this section is to outline the Cooperative's DG Operational requirements and is not intended to be a complete listing of all operational, regulatory, safety and other requirements.

1) Ownership of facilities

- a) The Member shall own and be solely responsible for all expense, installation, maintenance and operation of all facilities, including all power generating facilities, at and beyond the point of common coupling as defined by the IEEE except as indicated in item 1) b).
- b) At its sole discretion, the Cooperative may locate cooperative owned metering equipment and transformers past the point of common coupling.

2) Self-Protection of DG Facilities

- a) The Member will furnish, install, operate and maintain in good order and repair all equipment necessary for the safe operation of the power generating installation in parallel with the Cooperative electric distribution system.
- b) Equipment will have capability to both establish and maintain synchronism with the Cooperative system and to automatically disconnect and isolate the DG installation from the Cooperative system.
- c) The Member's DG installation will be designed, installed and maintained to be self-protected from normal and abnormal conditions on the Cooperative system including, but not limited to, overvoltage, undervoltage, overcurrent, frequency deviation, and faults. Self-protection will be compatible with all applicable Cooperative protection arrangements and operating policies.
- d) Additional protective devices and/or functions may be required by the Cooperative when, in the sole judgment of the Cooperative, the particular DG installation and/or the Cooperative system characteristics so warrant.

3) Quality of service

- a) Member's DG installation will generate power at the nominal voltage of the Cooperative electrical distribution system at the Member's delivery point as defined by ANSI C84.1 Range A.
- b) Member's DG installation will generate power at a frequency within the tolerances as defined by IEEE 1547.
- c) Member's DG installation shall produce power at a minimum power factor of at least 95% or shall use power factor correction capacitors to ensure at least a 95% power factor.
- d) The overall quality of the power provided by the Member's DG installation including, but not limited to, the effects of harmonic distortion, voltage regulation, voltage flicker, switching surges and power factor, will be such that the Cooperative system is not adversely affected in any manner.

- e) In the event that the adverse effects are caused in whole or in part by the Member's DG installation, the Member will correct the cause of such effects, reimburse the Cooperative for required correction, or be disconnected from the Cooperative system.

4) Safety disconnects

- a) The Member shall install a visible load break disconnect switch at the Member's expense and to the Cooperative's specifications.
- b) The switch will be located so as to be readily accessible to Cooperative personnel in a location acceptable to both the Member and Cooperative.
- c) The switch shall be a type that can be secured in an open position by a Cooperative lock. If the Cooperative has locked the disconnect switch open, the Member shall not operate and/or close the disconnect switch
- d) The Cooperative shall have the right to lock the switch open when, in the judgment of the Cooperative:
 - (1) It is necessary to maintain safe electrical operating and/or maintenance conditions,
 - (2) The Member's DG adversely affects the Cooperative system, or
 - (3) There is a system emergency or other abnormal operating condition warranting disconnection.
- e) The Cooperative reserves the right to operate the disconnect switch for the protection of the Cooperative system even if it affects the Member's DG installation. In the event the Cooperative opens and/or closes the disconnect switch:
 - (1) The Cooperative shall not be responsible for energization or restoration of parallel operation of the DG installation.
 - (2) The Cooperative will make reasonable efforts to notify the Member.
- f) The Member will not bypass the disconnect switch at any time for any reason.
- g) Signage shall be placed by the Cooperative at the location of the disconnect indicating the purpose of the switch along with contact names and numbers of both the Member and the Cooperative.
- h) Members with DG facilities as defined in this manual which are solely for the purpose of emergency backup or peak shaving without intent to export power shall not operate their DG facilities unless visibly disconnected from the Cooperative system.
- i) Should the Cooperative lose power from its system serving the Member's DG facilities for any reason, Members with DG facilities which are intended to export power shall not operate their DG facilities unless disconnected from the Cooperative system.

5) Access

- a) Persons authorized by the Cooperative will have the right to enter the Member's property for purposes of testing, operating the disconnect switch, reading or testing the metering equipment or other DG and/or service requirement. Such entry onto the Member's property may be without notice.
- b) If the Member erects or maintains locked gates or other barriers, the Member will furnish the Cooperative with convenient means to circumvent the barrier for full access for the above-mentioned reasons.

6) Liability for Injury and Damages

- a) The Member assumes full responsibility for electric energy furnished at and past the point of interconnection and shall indemnify the Cooperative against and hold the Cooperative harmless from all claims for both injuries to persons, including death resulting there from, and damages to property occurring upon the premises owned or operated by Member arising from electric power and energy delivered by the Cooperative or in any way arising directly or indirectly from the Member's DG installation.
- b) The Cooperative shall not be liable for either direct or consequential damages resulting from failures, interruptions, or voltage and waveform fluctuations occasioned by causes reasonably beyond the control of the Cooperative including, but not limited to, acts of God or public enemy, sabotage and/or vandalism, accidents, fire, explosion, labor troubles, strikes, order of any court or judge granted in any bona fide adverse legal proceeding or action, or any order of any commission, tribunal or governmental authority having jurisdiction.

7) Metering/Monitoring

- a) The Cooperative shall specify, install and own all metering equipment.
- b) Facilities \leq 25 kW

The facility will be net metered by installing either a single meter which measures the flow of energy in each direction or by installing a meter measuring the flow of energy to the Member and a second meter measuring the flow of energy to the Cooperative and netting the reading. Which method is used shall be determined at the sole discretion of the Cooperative.

- c) Facilities $>$ 25 kW
 - (1) Power transfer at the point of interconnection will be measured by metering equipment as installed and specified at the sole discretion of the Cooperative and/or its Power Supplier.
 - (2) There shall be no net metering.
 - (3) The meter shall be read at a time or times of month determined at the sole discretion of the Cooperative and/or its Power Supplier for remotely acquiring metering data. The Member shall provide an approved

communications link at the Member's cost for this purpose if so requested by the Cooperative and/or its Power Supplier.

(4) The type of communications link and metering equipment measuring purchase of power by the Cooperative's Power Supplier shall be installed and specified at the sole discretion of the Cooperative's Power Supplier

- d) The Cooperative may, at its sole discretion, require the Member to reimburse the Cooperative for metering and monitoring equipment and installation expense.
- e) Meter testing shall follow the Cooperative's standard policy on metering testing and accuracy.
- f) At its sole discretion, the Cooperative may meter the facility at primary or secondary level.

8) Notice of Change in Installation, Occupancy or Ownership

- a) The Member will notify the Cooperative in writing thirty (30) days in advance of making any change affecting the characteristics, performance, or protection of the DG installation.
- b) If any modification undertaken by the Member will create or has created conditions which may be unsafe or adversely affect the Cooperative system, the Member shall immediately correct such conditions or be subject to immediate disconnection from the Cooperative system.
- c) Any change in the operating characteristics of the DG installation including, but not limited to, size of generator, total facility capacity, nature of facility, fuel source, site change, hours of operation, or type of generator used, will required a new application process, including, but not limited to, application form, application fee, DG plan and DG plan review by the Cooperative and/or its Power Supplier.
- d) When a Member elects to terminate purchase, the Cooperative is to be notified, either by phone, if subsequently confirmed in writing, or in writing, as to the proposed effective date of such termination. Having or leaving an interconnection to DG facilities at vacant premises does not constitute consent by the Cooperative for the new occupant of such premises to interconnect or delivery electric energy without making proper application for said purchase

9) Testing and Record Keeping

- a) The Member will test all aspects of the protection systems up to and including tripping of the generator and interconnection point at start-up and thereafter as required. Testing will verify all protective set points and relay/breaker trip timing and shall include procedures to functionally test all protective elements of the system. The Cooperative may witness the testing.
- b) The Member will maintain records of all maintenance activities, which the Cooperative may review at reasonable times.

10) Disconnection of Service

The Cooperative may, at its sole discretion, discontinue the interconnection of DG installations due to reasons such as safety concerns, reliability issues, power quality issues, breach of interconnection contract or any other reasonable issue.

CONTRACT A
EAST CENTRAL ELECTRIC COOPERATIVE
APPLICATION AND AGREEMENT FOR INTERCONNECTION OF QUALIFYING
DISTRIBUTED GENERATION SYSTEMS LESS THAN OR EQUAL TO 25 KW

Cooperative Use Only:

RECEIVED ON: _____

BY: _____

Map #: _____

PROCEDURES:

I. Members Applying for New Interconnection/Submission of Plans/Specifications.

Complete Sections **A, B, C, D, F** and **G** attaching all required documents, plans, diagrams, etc. as required by the applicable section(s) of this Application and Agreement and return to the Cooperative. All applicable fees as outlined in the Distributed Generation Procedures & Guidelines Manual for Members must be paid in advance. Where provisions of the Cooperative's Terms and Condition of Service, Tariffs, Policies or Distributed Generation Procedures & Guidelines Manual for Members shall conflict with this Agreement, the provisions of this Agreement shall control.

This Application and Agreement is only for Qualifying Facilities as described in the Distributed Generation Procedures and Guidelines Manual for Members.

An approval or denial will be granted within approximately 30 days or less.

II. Members Having Received Approval of Application and Submitted Plans/Specifications.

Construct the Member-Generator System in compliance with the approved plans and specifications set forth in the Application and Agreement. After construction is finished, complete Section **H**, and re-submit this Application and Agreement to the Cooperative for review and final approval (Section **I**). Upon receipt of a completed Application and Agreement (including Section **H**) and payment of any applicable costs or other aid to construction, Cooperative will interconnect the Member-Generator's System to Cooperative's electrical system as soon as possible and mutually agreeable by both parties.

III. Member Assuming Ownership or Operational Control of an Existing Interconnected Member-Generator System.

Complete Sections **A, B, C, D, F, G** and **H** attaching all required documents, diagrams, etc. as required by the applicable section(s) of this Application and Agreement and return to Cooperative for review and final approval of the Cooperative (Section **I**).

INTERCONNECTION REQUEST:

A. Member-Generator's Information

Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Service/Street Address (if different from above): _____
City: _____ State: _____ Zip Code: _____
Daytime Phone: _____ Fax: _____ E-Mail: _____
Cell Phone: Emergency Contact Phone: _____
Cooperative Account No. (from Electric Bill): _____

B. Member-Generator's System Information

Manufacturer's Name Plated Output: AC Power Rating: (rated) _____ kW; (max) _____ kW
Voltage: _____ Volts
System Type: Solar _____ Wind _____ Biomass _____ Fuel Cell _____ Other (describe) _____
Service/Street Address: _____
Inverter/Interconnection Equipment Manufacturer: _____
Inverter/Interconnection Equipment Model No.: _____
Are Required Wiring Diagram, System Plans & Specifications Attached? Yes _____ No _____
Inverter/Interconnection Equipment Location (describe): _____

Outdoor Manual / Utility Accessible & Lockable Disconnect Switch Location (describe): _____

Location and Description of Automatic Mechanism to Disable the System and Prevent Back-feed: _____

Service Character: Single Phase: _____ Three Phase: _____

C. Installation Information

County / City Permit Number (if applicable): _____
Person or Company Installing: _____
Contractor's License No. (if applicable): _____
Approximate Installation Date: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Daytime Phone: _____ Fax: _____ E-Mail: _____
Cell Phone: Emergency Contact Phone: _____

D. Installation Compliance

Qualified Professional/Registered Electrician or Engineer Who Will Inspect/Certify Installation: _____

Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____ E-Mail: _____

E. TERMS AND CONDITIONS:

In addition to abiding by the Cooperative's Bylaws, rules, policies and regulations as well as the Distributed Generation Procedures & Guidelines Manual for Members, the Member-Generator by completing and signing this Application and Agreement, agrees to comply with the following specific terms and conditions:

1. Required Documentation. Member-Generator shall provide a site-specific wiring diagram, the plans and specifications describing the parallel generation, and interconnection facilities (herein collectively referred to as the "Member-Generator's System") and submit them to Cooperative as set forth in this Application and Agreement.

2. Binding Contract. When this fully completed and executed Member-Generator Application and Agreement receives final approval from Cooperative; it shall become a binding contract and shall govern the Member-Generator's relationship with Cooperative in regard to interconnection of the Member-Generator System. All Applications and Agreements receiving final approval from Cooperative must be acted upon by the Member-Generator within one year of the date of approval.

3. Operation/Disconnection. If it appears to the Cooperative, that at any time and in the reasonable exercise of its judgment, that operation of the Member-Generator's System is adversely affecting safety, power quality or reliability of Cooperative's electrical system, Cooperative may immediately disconnect and lock-out Member-Generator's System from Cooperative's electrical system. Member-Generator shall permit Cooperative's employees and inspectors reasonable access to inspect, test, and examine Member-Generator's System to determine if same is adversely affecting safety, power quality or reliability of Cooperative's electrical system.

4. Metering Equipment. All cost for any special metering equipment that is necessary to accommodate the member-generator's distributed generation installation will be the member's responsibility.

5. Costs of Generator System, Additional Metering and Other Equipment. Member-Generator shall, at Member-Generator's cost and expense, install, operate, maintain, repair, and inspect, and otherwise be fully responsible for Member-Generator's System. Member-Generator further agrees to pay or reimburse Cooperative for all costs of additional metering beyond the Member-Generator's existing meter equipment and any additional distribution equipment necessary for Cooperative to interconnect the Member-Generator's System. Cooperative shall in its sole discretion determine the specific type of metering equipment necessary for Cooperative to interconnect the Member-Generator's System. Members-Generator's advanced payment for Cooperative's costs for additional metering and other equipment shall be construed as aid to construction only and Member-Generator will not acquire any ownership interest in meters, wiring, safety devices or other equipment installed by Cooperative at Members-Generator's site.

Cooperative may install and maintain, at its expense, load research metering for monitoring the Member's energy generation and usage and thereafter use or disclose to others all data collected in any manner deemed appropriate by the Cooperative.

6. Severability. If any portion or provision of this Application and Agreement is held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion shall be deemed separate and independent, and the remainder of this Application and Agreement shall remain in full force and effect.

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

8. Energy Sales to Cooperative. Member-Generator agrees that interconnection of the Member-Generator's System with the Cooperative's electrical system does not grant Member-Generator the right to export power, nor does it constitute an agreement by Cooperative to purchase power or wheel Member-Generator's excess power. For Qualifying Facilities less than 25 KW the cooperative will use a net metering process as explained in the Distributed Generation Procedures and Guidelines Manual for Members and the Cooperative's net metering tariff.

9. Terms and Termination Rights. This Application and Agreement becomes effective when signed by all parties hereto and shall continue in effect until terminated. Thereafter, Member-Generator may terminate this Application and Agreement at any time by giving Cooperative at least thirty (30) days prior written notice. In such event, Member-Generator shall, no later than the date of termination of the Application and Agreement, completely disconnect Member-Generator's System from parallel operation with Cooperative's electric distribution system. A representative of Cooperative shall be present to witness the disconnect of the Member-Generator's System or thereafter have the right to examine the Member-Generator's System so as to verify that it has been physically disconnected from Cooperative's electrical system. Any party may terminate this Agreement by giving the other party at least thirty (30) days prior written notice that another party is in default of any of the terms and conditions of this Application and Agreement, except default by Member-Generator in payment of their power bill from Cooperative, as long as the notice specifies the basis for termination, and there is a reasonable opportunity to cure the default. If Member-Generator is in default because of failure to timely pay their power bill, Cooperative may terminate this Application and Agreement upon disconnection of electric service by Cooperative to Member-Generator under Cooperative's applicable policies. This Application and Agreement may also be terminated at any time by mutual written agreement of the parties hereto.

10. Transfer of Ownership. If ownership or operational control of Member-Generator's System transfers to any other party than Member-Generator, a new Application and Agreement must be completed by the person or persons taking over ownership or operational control of the existing Member-Generator's System. Cooperative shall be notified in writing no less than thirty (30) days before Member-Generator anticipates transferring ownership or operational control of Member-Generator's System. The person or persons taking over operational control of Member-Generator's System must receive written authorization from Cooperative before the existing Member-Generator System can remain interconnected with Cooperative's electrical system.

11. Maintenance and Operation. Member-Generator agrees to maintain their system and facilities in accordance with applicable manufacturer's recommended maintenance schedule and standard prudent engineering practices. Member-Generator covenants and agrees to operate their system, facilities and equipment so as to minimize the likelihood for a malfunction or other disturbance, damaging or otherwise affecting or impairing Cooperative's electrical system. Member-Generator shall comply with all applicable laws, regulations, zoning, building codes, safety rules and other environmental regulations or restrictions applicable to the design, installation, operation and maintenance of the Member-Generator's System.

Member-Generator must, at least once every year, conduct a test to confirm that Member-Generator's System automatically ceases to energize the output (interconnection equipment output voltage goes to zero) within two (2) seconds of being disconnected from Cooperative's electrical system. Disconnecting the Member-Generator's System from Cooperative's electrical system at the

visible disconnect switch and measuring the time required for the unit to cease to energize the output shall satisfy this test. Member-Generator shall maintain a record of the results of these tests and, upon request by Cooperative, shall provide a copy of the test results to Cooperative. If Member-Generator is unable to provide a copy of the test results upon request, Cooperative shall notify Member-Generator by mail that Member-Generator has thirty (30) days from the date Member-Generator receives the request to provide Cooperative with the results of a test. If Member-Generator does not provide Cooperative with the test results within the thirty (30) daytime period or if the test results provided to Cooperative show that Member-Generator's distributed generation unit is not functioning correctly; Cooperative may immediately disconnect Member-Generator's System from Cooperative's electrical system. If Member-Generator's equipment ever fails this test, Member-Generator shall immediately disconnect Member-Generator's System from Cooperative's electrical system. Member-Generator's System shall not be reconnected to Cooperative's electrical system by the Member-Generator until Member-Generator's System is repaired and operating in a normal and safe manner. Cooperative shall have the right to have a representative present and informed when any such tests are conducted. Cooperative does not warrant the testing procedures or results by the presence of its representative. Member-Generator is responsible for protecting their equipment from transient high voltage spikes caused by lightning and/or transient low voltage conditions caused by faults or short circuits, and from any other causes or events. Therefore, Cooperative shall not be responsible for damage to Member-Generator's equipment allegedly caused by transient high voltage spikes caused by lightning and/or transient low voltage conditions caused by faults or short circuits or other causes or events. Member-Generator agrees to notify Cooperative no less than thirty (30) days prior to modification of the components or design of the Member-Generator's System that in any way may degrade or significantly alter the System's output characteristics. Member-Generator acknowledges that any such modifications will require submission of a new Application and Agreement to Cooperative.

12. Point of Interconnection. The interconnection point between the Member-Generator's System and Cooperative's electrical system shall be at the meter(s).

13. Liability Insurance. Cooperative suggests and recommends that Member-Generator have in place sufficient insurance coverage in place as long as the Member-Generator's System is interconnected with Cooperative's electrical system. Insurance should provide coverage for all risk of liability for personal injuries (including death) and damage to property arising out of or caused by the operation of Member-Generator's System.

Member-Generator may provide the recommended coverage by contracting with a provider of liability insurance licensed to conduct business in the State of Oklahoma. In such event, Member-Generator will upon request furnish Cooperative with a certificate of insurance evidencing such coverage and naming Cooperative as an additional insured.

Member-Generator may self-insure against the risk of liability for personal injuries (including death) and damage to property arising out of or caused by the operation of Member-Generator's System. In such event, Member-Generator should have sufficient assets and property to cover the potential liability, ensuing losses, claims, legal actions, expenses including attorney fees and court costs incurred by Member-Generator for personal injuries (including death) and damage to property caused by operation of Member-Generator's System.

Please indicate (by checking box and initialing) whether Member-Generator will either:

- Obtain liability insurance. (*initial*) _____
- Self-Insure. (*initial*) _____

14. Member-Generator’s Liability and Indemnification. Member-Generator shall assume all liability for and shall indemnify and hold harmless East Central Electric Cooperative headquartered in Okmulgee Oklahoma, KAMO Power, headquartered in Vinita Oklahoma, AECI – Associated Electric Cooperative headquartered in Springfield Missouri as well as Western Farmers Electric Cooperative headquartered in Anadarko Oklahoma its members, trustees, directors, officers, managers, employees, agents, representatives, affiliates, successors and assigns from and against any claims, losses, costs and expenses of any kind or character to the extent they result from Member-Generator’s negligence or other wrongful conduct in connection with the design, construction, installation, operation or maintenance of the Member-Generator’s System. Such indemnity shall include, but is not limited to, financial responsibility for monetary losses, reasonable costs and expenses of defending an action or claim, damages related to death or injury, damages to property, and damages for the disruption of business.

F. Member-Generator Acknowledgement:

I have fully read, understand, and accept all provisions, terms and conditions set forth in this Application and Agreement. Furthermore, I agree not to operate the Member-Generator System in parallel with the Cooperative’s electrical distribution system until this Application and Agreement has been approved in writing by Cooperative.

Signed (Member-Generator): _____ Date: _____

G. Pre-Construction Certification

I, _____ (print name), the undersigned, a professional/registered (City, County or State) electrician or engineer (please circle one) do hereby certify that:

The Member-Generator’s proposed System hardware complies with all applicable National Electrical Safety Code (NESC), National Electric Code (NEC), Institute of Electrical and Electronics Engineers (IEEE) and Underwriters Laboratories (UL) requirements for electrical equipment and their installation. As applicable to System type, these requirements include, but are not limited to, UL 1741, IEEE 929-2000, IEEE 1547-2003 as well as IEEE 1547.1-2005 or most current revision. The proposed installation complies with all applicable state regulations, local electrical codes and all reasonable safety requirements of Cooperative. The proposed System has a lockable, visible, manual disconnect device, clearly marked "Distributed Generation Disconnect" accessible at all times to Cooperative personnel located at the metering point or other location mutually agreed to between Member-Generator and Cooperative. In addition to the one lockable, visible disconnect device, the System has a functioning mechanism that automatically disables the Member-Generator’s System and interrupts the flow of electricity back onto the Cooperative’s distribution system in the event that electrical service to the Member-Generator is interrupted, thereby preventing the possibility of back-feed.

The Member-Generator’s proposed System has functioning controls as specified by IEEE and UL standards, including, but not limited to control to prevent voltage flicker, DC injection, over voltage, under voltage, over frequency, under frequency, and over current, and to provide for System synchronization to Cooperative’s electrical system. The proposed System does have an anti-islanding function that prevents the generator from continuing to supply power when Cooperative’s electric system is not energized or operating normally. If the proposed System is designed to provide uninterruptible power to critical loads, either through energy storage or back-up generation, the proposed System includes a parallel blocking scheme for this backup source that prevents any

backflow of power to Cooperative's electrical system when the electrical system is not energized or not operating normally.

Signature: _____ Date: _____

Print Name: _____

(If Applicable) License # _____ Expiration Date: _____ Issued by: _____

H. Post-Construction Certification

I, _____ (print name), the undersigned, a professional/registered electrician or engineer (please circle one) do hereby certify that the Member-Generator's System referenced herein and now fully constructed satisfies all requirements noted in Section **G**, as set forth above.

Signature: _____

Date: _____

Print Name: _____

(If Applicable) License # _____ Expiration Date: _____

Issued by: _____

I. Approval of Application and Agreement. Cooperative does not, by approval of this Application and Agreement, assume any responsibility or liability for damage to property or physical injury to persons due to malfunction of Member-Generator's System or Member-Generator's negligence.

This Application and Agreement is approved by:

Cooperative Representative Name and Title (print): _____

Signature of Cooperative Representative: _____

Date: _____

CONTRACT B

EAST CENTRAL ELECTRIC COOPERATIVE

DISTRIBUTION COOPERATIVE AGREEMENT FOR INTERCONNECTION AND PARALLEL OPERATION OF QUALIFYING DISTRIBUTED GENERATION GREATER THAN 25 KW

This Interconnection Agreement ("Agreement") is made and entered into this _____ day of _____, 20____, by _____, ("Cooperative"), a corporation organized under the laws of _____, and _____ ("DG Owner/Operator"), each hereinafter sometimes referred to individually as "Party" or both referred to collectively as the "Parties." In consideration of the mutual covenants set forth herein, the Parties agree as follows:

1. Scope of Agreement -- This Agreement is applicable to conditions under which the Cooperative and the DG Owner/Operator agree that one or more generating facilities (described in Exhibit A) owned by the DG Owner/Operator of _____ kW or less, to be interconnected at _____ kV or less ("Facilities") may be interconnected to the Cooperative's electric power distribution system ("System").

The provisions of the Cooperative's Distributed Generation Manual shall be considered to be a part of this contract.

2. Establishment of Point of Interconnection - The point where the electric energy first leaves the wires or facilities owned by the Cooperative and enters the wires or facilities provided by DG Owner/Operator is the "Point of Interconnection." Cooperative and DG Owner/Operator agree to interconnect the Facilities at the Point of Interconnection in accordance with the Cooperative's Rules and Regulations and DG Manual relating to interconnection of Distributed Generation (the "Rules") and as described in the attached Exhibit A. The interconnection equipment installed by the customer ("Interconnection Facilities") shall be in accordance with the Rules as well.

3. Responsibilities of Cooperative and DG Owner/Operator for Installation, Operation and Maintenance of Facilities - DG Owner/Operator will, at its own cost and expense, operate, maintain, repair, and inspect, and shall be fully responsible for, its Facilities, unless otherwise specified on Exhibit A. DG Owner/Operator shall conduct operations of its Facilities in compliance with all aspects of the Rules, and Cooperative shall conduct operations of its electric distribution facilities in compliance with all aspects of the Rules, or as further described and mutually agreed to in the applicable Facilities Schedule. Maintenance of Interconnection Facilities shall be performed in accordance with the applicable manufacturers' recommended maintenance schedule. The DG Owner/Operator agrees to cause its Interconnection Facilities to be constructed in accordance with specifications equal to or better than those provided by the National Electrical Safety Code and the National Electrical Code, both codes approved by the American National Standards Institute, in effect at the time of construction.

The DG Owner/Operator covenants and agrees to cause the design, installation, maintenance, and operation of its Interconnection Facilities so as to reasonably minimize the likelihood of a malfunction or other disturbance, damaging or otherwise affecting or impairing the System. DG Owner/Operator shall comply with all applicable laws, regulations, zoning codes, building codes, safety rules and environmental restrictions applicable to the design, installation and operation of its Facilities.

Cooperative will notify DG Owner/Operator if there is evidence that the Facilities' operation causes disruption or deterioration of service to other customer(s) served from the System or if the Facilities' operation causes damage to the System. DG Owner/Operator will notify the Cooperative of any emergency or hazardous condition or occurrence with the DG Owner/Operator's Facilities, which could affect safe operation of the System.

4. Operator in Charge - The Cooperative and the DG Owner/Operator shall each identify an individual (by name or title) who will perform as "Operator in Charge" of the facilities and their section of the Interconnection Facilities. This individual must be familiar with this Agreement as well as provisions of other agreements and any regulations that may apply.

5. Limitation of Liability and Indemnification

- a. Notwithstanding any other provision in this Agreement, with respect to the Cooperative's provision of electric service to DG Owner/Operator and the services provided by the Cooperative pursuant to this Agreement, Cooperative's liability to DG Owner/Operator shall be limited as set forth in the Cooperative's tariffs and terms and conditions for electric service, which are incorporated herein by reference.
- b. Neither Cooperative nor DG Owner/Operator shall be liable to the other for damages for any act or omission that is beyond such party's control, including, but not limited to, any event that is a result of an act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm, flood, explosion, breakage or accident to any part of the System or to any other machinery or equipment, a curtailment, law, order, or regulation or restriction by governmental, military, or lawfully established civilian authorities.
- c. Notwithstanding Paragraph 5.b of this Agreement, the DG Owner/Operator shall assume all liability for, and shall indemnify Cooperative for, any claims, losses, costs, and expenses of any kind or character to the extent that they result from DG Owner/Operator's negligence or other wrongful conduct in connection with the design, construction or operation of the Facilities or Interconnection Facilities. Such indemnity shall include, but is not limited to, financial responsibility for (a) monetary losses; (b) reasonable costs and expenses of defending an action or claim; (c) damages related to death or injury; (d) damages to property; and (e) damages for the disruption of business. This paragraph does not create a liability on the part of the DG Owner/Operator to the Cooperative or a third person but requires indemnification where such liability exists.
- d. Cooperative and DG Owner/Operator shall each be responsible for the safe installation, maintenance, repair and condition of their respective lines, wires, switches, or other equipment or property on their respective sides of the Point of Interconnection. The Cooperative, while retaining the right to inspect, does not assume any duty of inspecting the DG Owner/Operator's lines, wires, switches, or other equipment or property and will not be responsible, therefore. DG Owner/Operator assumes all responsibility for the electric service supplied hereunder and the facilities used in connection therewith at or beyond the Point of Interconnection.
- e. For the mutual protection of the DG Owner/Operator and the Cooperative, only with Cooperative prior written authorization are the connections between the Cooperative's

service wires and the DG Owner/Operator's service entrance conductors to be energized.

6. Design Reviews and Inspections - The DG Owner/Operator shall provide to the Cooperative the following documentation and inspection results:

- a. One-Line Diagram. The diagram shall include at a minimum, all major electrical equipment that is pertinent to understanding the normal and contingency operations of the DG Interconnection Facilities, including generators, switches, circuit breakers, fuses, protective relays and instrument transformers.
- b. Testing Records. Testing of protection systems shall be limited to records of compliance with standard acceptance procedures and by industry standards and practices. These records shall include testing at the start of commercial operation and periodic testing thereafter.

7. Right of Access, Equipment Installation, Removal & Inspection - The Cooperative may send an employee, agent or contractor to the premises of the DG Owner/Operator at any time whether before, during or after the time the Facilities first produces energy to inspect the Interconnection Facilities, and observe the Facility's installation, commissioning (including any testing), startup, and operation.

At all times Cooperative shall have access to DG Owner/Operator's premises for any reasonable purpose in connection with the interconnection described in this Agreement, the Rules, or to provide service to its customers.

8. Confidentiality of Information - Unless compelled to disclose by judicial or administrative process, or by other provisions of law or as otherwise provided for in this Agreement, the DG Owner/Operator and the Cooperative will hold in confidence any and all documents and information furnished by the other party in connection with this Agreement.

9. Prudent Operation and Maintenance Requirements - The DG Owner/Operator shall operate and maintain its generation and interconnection facilities in accordance with industry standard prudent electrical practices. The said standards shall be those in effect at the time a DG Owner/Operator executes an interconnection agreement with the Cooperative.

10. Disconnection of Unit - DG Owner/Operator retains the option to disconnect its Facilities from the System, provided that DG Owner/Operator notifies the Cooperative of its intent to disconnect by giving the Cooperative at least thirty (30) days' prior written notice. Such disconnection shall not be a termination of the agreement unless DG Owner/Operator exercises rights under Section 13.

DG Owner/Operator shall disconnect Facilities from the System upon the effective date of any termination under Section 13.

Subject to the Rules, for routine maintenance and repairs on the System, Cooperative shall provide DG Owner/Operator with seven (7) business days' notice of service interruption.

Cooperative shall have the right to suspend service in cases where continuance of service to DG Owner/Operator will endanger persons or property. During the forced outage of the System serving DG Owner/Operator, Cooperative shall have the right to suspend service to effect repairs

on the System, but the Cooperative shall use its efforts to provide the DG Owner/Operator with reasonable prior notice.

11. **Metering** - Metering shall be accomplished as described in the Cooperative's DG Manual.

12. **Insurance** – Insurance shall be required as described in the Cooperative's DG Manual.

13. **Effective Term and Termination Rights** - This Agreement becomes effective when executed by both Parties and shall continue in effect until terminated. This agreement may be terminated as follows: (a) DG Owner/Operator may terminate this Agreement at any time by giving the Cooperative sixty days' written notice; (b) Cooperative may terminate upon failure by the DG Owner/Operator to generate energy from the Facilities in parallel within six (6) months after completion of the interconnection; (c) either Party may terminate by giving the other Party at least thirty (30) days prior written notice that the other Party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Cooperative, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) Cooperative may terminate by giving DG Owner/Operator at least sixty (60) days notice in the event that there is a material change in an applicable law, or any requirement of the Cooperative's wholesale electric suppliers or any transmission utility, independent system operator or regional transmission organization having responsibility for the operation of any part of the System.

14. **Dispute Resolution** - Each party agrees to attempt to resolve any and all disputes arising hereunder promptly, equitably and in good faith. If a dispute arises under this Agreement that cannot be resolved by the parties within forty-five (45) working days after written notice of the dispute, the parties agree to submit the dispute to mediation by a mutually acceptable mediator. The parties agree to participate in good faith in the mediation for thirty (30) days. If the parties are unsuccessful in resolving their dispute through mediation, then the parties shall submit to arbitration pursuant to the Commercial Arbitration Rules of the American Arbitration Association. The venue of such arbitration shall be _____.

15. **Compliance with Laws, Rules and Tariffs** - Both the Cooperative and the DG Owner/Operator shall be responsible for complying with all applicable laws, rules and regulations, including but not limited to the laws of the state of _____, and the Cooperative's DG Manual, Tariffs, Rules and Regulations, By-Laws and other governing documents. The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the tariff schedules and rules of the Cooperative as applicable to the electric service provided by the Cooperative, which tariffs, and rules are hereby incorporated into this Agreement by this reference. The Cooperative shall have the right to publish changes in rates, classification, service or rule, with the proper notification to all DG owners/operators and Cooperative members.

16. **Severability** -If any portion or provision of this Agreement is held or adjudged for any reason to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.

17. **Amendment** - This Agreement may be amended only upon mutual agreement of the Parties, which amendment will not be effective until reduced to writing and executed by the Parties.

18. Entirety of Agreement and Prior Agreements Superseded - This Agreement, including the Rules and all attached Exhibits and Facilities Schedules, which are expressly made a part hereof for all purposes, constitutes the entire agreement and understanding between the Parties with regard to the interconnection of the facilities of the Parties at the Points of Interconnection expressly provided for in this Agreement. The Parties are not bound by or liable for any statement, representation, promise, inducement, understanding, or undertaking of any kind or nature (whether written or oral) with regard to the subject matter hereof not set forth or provided for herein or in the DG Owner/Operator application, or other written information provided by the DG Owner/Operator in compliance with the Rules. It is expressly acknowledged that the Parties may have other agreements covering other services not expressly provided for herein, which agreements are unaffected by this Agreement.

19. Force Majeure -For the purposes of this Agreement, a Force Majeure event is any event: (a) that is beyond the reasonable control of the affected party; and (b) that the affected party is unable to prevent or provide against by exercising reasonable diligence, including the following events or circumstances, but only to the extent that they satisfy the preceding requirements: acts of war, public disorder, rebellion or insurrection; floods, hurricanes, earthquakes, lightning, storms or other natural calamities; explosions or fires; strikes, work stoppages or labor disputes; embargoes; and sabotage. If a Force Majeure event prevents a party from fulfilling any obligations under this agreement, such party will promptly notify the other party in writing and will keep the other party informed on a continuing basis as to the scope and duration of the Force Majeure event. The affected party will specify the circumstances of the Force Majeure event, its expected duration and the steps that the affected party is taking to mitigate the effect of the event on its performance. The affected party will be entitled to suspend or modify its performance of obligations under this Agreement but will use reasonable efforts to resume its performance as soon as possible.

20. Assignment - At any time during the term of this Agreement, the DG Owner/Operator may assign this Agreement to a corporation, an entity with limited liability or an individual (the "Assignee"), provided that the DG Owner/Operator obtains the consent of the Cooperative in advance of the assignment. The Cooperative's consent will be based on a determination that the Assignee is financially and technically capable to assume ownership and/or operation of the DG unit. The company or individual to which this Agreement is assigned will be responsible for the proper operation and maintenance of the unit, and will be a party to all provisions of this Agreement.

21. Permits, Fees and Approvals - The Cooperative will have responsibility for the review, approval or rejection of the DG interconnection application. The approval process is intended to ensure that the implementation of the applicant's DG project will not adversely affect the safe and reliable operation of the Cooperative's System. The fees associated with the Application are listed in the most current fee schedule issued by the Cooperative. All fees are to be submitted in the form of a Bank Cashier's check along with the Application, unless other payment terms have been approved in advance by the Cooperative.

22. **Notices** - Notices given under this Agreement are deemed to have been duly delivered if hand delivered or sent by United States certified mail, return receipt requested, postage prepaid, to:

(a) If to Cooperative:

(b) If to DG Owner/Operator:

The above-listed names, titles, and addresses of either Party may be changed by written notification to the other, notwithstanding Section 17.

23. **Invoicing and Payment** - Invoicing and payment terms for services associated with this Agreement shall be consistent with applicable Rules of the Cooperative.

24. **Limitations (No Third-Party Beneficiaries, Waiver, etc.)** - 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 herein assumed are solely for the use and benefit of the Parties. This Agreement may not be assigned by the DG Owner/Operator without the prior written consent of the Cooperative as specified in Section 20. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered to waive the obligations, rights, or duties imposed upon the Parties.

25. **Headings** - The descriptive headings of the various articles and sections of this Agreement have been inserted for convenience of reference only and are to be afforded no significance in the interpretation or construction of this Agreement.

26. **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.

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

[COOPERATIVE NAME]

[DG OWNER/OPERATOR NAME]

BY: _____

BY: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____

EXHIBIT A
DESCRIPTION OF FACILITIES AND POINT OF INTERCONNECTION

DG Owner/Operator will, at its own cost and expense, operate, maintain, repair, and inspect, and shall be fully responsible for its Facilities, unless otherwise specified on Exhibit A.

FACILITIES SCHEDULE NO.

[The following information is to be specified for each Point of Interconnection, if applicable]

1. Name:
2. Facilities location:
3. Delivery voltage:
4. Metering (voltage, location, losses adjustment due to metering location, and other:
5. Normal Operation of Interconnection:
6. One line diagram attached (check one):/ _____ Yes / _____ No
7. Facilities to be furnished by Cooperative:
8. Facilities to be furnished by DG Owner/Operator:
9. Cost Responsibility:
10. Control area interchange point (check one): / _____ Yes / _____ No
11. Supplemental terms and conditions attached (check one): / _____ Yes / _____ No
12. Cooperative rules for DG interconnection attached (check one): / _____ Yes / _____ No

[COOPERATIVE NAME]

[DG OWNER/OPERATOR NAME]

BY: _____

BY: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____

Application for Operation of Customer-Owned Generation

This application should be completed as soon as possible and returned to the Cooperative Customer Service representative in order to begin processing the request. See *Distributed Generation Procedures and Guidelines Manual for Members* for additional information.

INFORMATION: *This application is used by the Cooperative to determine the required equipment configuration for the Customer interface. Every effort should be made to supply as much information as possible.*

PART 1 OWNER/APPLICANT INFORMATION

Company: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

PROJECT DESIGN/ENGINEERING (as applicable)

Company: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

ELECTRICAL CONTRACTOR (as applicable)

Company: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

TYPE OF GENERATOR (as applicable)

Photovoltaic _____ Wind _____ Microturbine _____

Diesel Engine _____ Gas Engine _____ Turbine Other _____

ESTIMATED LOAD INFORMATION

The following information will be used to help properly design the Cooperative customer interconnection. This information is not intended as a commitment or contract for billing purposes.

Total Site Load _____ (kW) Total DG Output _____ (kW)

Mode of Operation (check all that apply)

Isolated _____ Paralleling _____ Power Export _____

DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

Give a general description of the proposed installation, including when you plan to operate the generator.

PART 2

(Complete all applicable items. Copy this page as required for additional generators.)

SYNCHRONOUS GENERATOR DATA

Unit Number: _____ Total number of units with listed specifications on site: _____

Manufacturer: _____

Type: _____ Date of manufacture: _____

Serial Number (each): _____

Phases: Single _____ Three _____ R.P.M.: _____ Frequency (Hz): _____

Rated Output (for one unit): _____ Kilowatt _____ Kilovolt-Ampere _____

Rated Power Factor (%): _____ Rated Voltage (Volts) _____ Rated Amperes: _____

Field Volts: _____ Field Amps: _____ Motoring power (kW): _____

Synchronous Reactance (X'd): _____ % on _____ KVA base

Transient Reactance (X'd): _____ % on _____ KVA base

Sub transient Reactance (X'd): _____ % on _____ KVA base

Negative Sequence Reactance (Xs): _____ % on _____ KVA base

Zero Sequence Reactance (Xo): _____ % on _____ KVA base

Neutral Grounding Resistor (if applicable): _____

I_2^2t of K (heating time constant): _____
 Additional Information: _____

INDUCTION GENERATOR DATA

Rotor Resistance (Rr): _____ ohms Stator Resistance (Rs): _____ ohms
 Rotor Reactance (Xr): _____ ohms Stator Reactance (Xs): _____ ohms
 Magnetizing Reactance (Xm): _____ ohms Short Circuit Reactance (Xd''): _____ ohms
 Design letter: _____ Frame Size: _____
 Exciting Current: _____ Temp Rise (deg C°): _____
 Reactive Power Required: _____ Vars (no load), Vars _____ (full load)
 Additional Information: _____

PRIME MOVER (Complete all applicable items)

Unit Number: _____ Type: _____
 Manufacturer: _____
 Serial Number: _____ Date of manufacturer: _____
 H.P. Rates: _____ H.P. Max.: _____ Inertia Constant: _____ lb.-ft²
 Energy Source (hydro, steam, wind, etc.) _____

GENERATOR TRANSFORMER (Complete all applicable items)

TRANSFORMER (between generator and utility system)
 Generator unit number: _____ Date of manufacturer: _____
 Manufacturer: _____
 Serial Number: _____
 High Voltage: _____ KV, Connection: delta wye, Neutral solidly grounded? _____
 Low Voltage: _____ KV, Connection: delta wye, Neutral solidly grounded? _____
 Transformer Impedance (Z): _____ % on _____ KVA base
 Transformer Resistance (R): _____ % on _____ KVA base
 Transformer Reactance (X): _____ % on _____ KVA base
 Neutral Grounding Resistor (if applicable: _____

INVERTER DATA (if applicable)

Manufacturer: _____ Model: _____
 Rate Power Factor (%): _____ Rated Voltage (Volts): _____ Rated Amperes: _____
 Inverter Type (ferro resonant, step, pulse-width modulation, etc.): _____
 Type commutation: forced line
 Harmonic Distortion: Maximum Single Harmonic (%) _____
 Maximum Total Harmonic (%) _____

Note: Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms.

POWER CIRCUIT BREAKER (if applicable)

Manufacturer: _____ Model: _____

Rated Voltage (*kilovolts*): _____ Rated ampacity (*Amperes*) _____
 Interrupting rating (*Amperes*): _____ BIL Rating _____
 Interrupting medium / insulating medium (ex. Vacuum, gas, oil) _____/_____
 Control Voltage (Closing): ____ (Volts) AC DC
 Control Voltage (Tripping): ____ (Volts) AC DC Battery Charged Capacitor
 Close energy: Spring Motor Hydraulic Pneumatic Other: _____
 Trip energy: Spring Motor Hydraulic Pneumatic Other: _____
 Bushing Current Transformers: _____ (Max. ratio) Relay Accuracy Class: _____
 Multi Ratio? No Yes: (available taps) _____

ADDITIONAL INFORMATION

In addition to the items listed above, please attach a detailed one-line diagram of the proposed facility, all applicable elementary diagrams, major equipment (generators, transformers, inverters, circuit breakers, protective relays, etc.), specifications, test reports, etc., and any other applicable drawings or documents necessary for the proper design of the interconnection.

SIGN OFF AREA

The customer agrees to provide the Cooperative with any additional information required to complete the interconnection. The customer shall operate his equipment within the guidelines set forth by the Cooperative.

 Applicant Date

ELECTRIC COOPERATIVE CONTACT FOR APPLICATION SUBMISSION AND FOR MORE INFORMATION:

Cooperative contact: _____
 Title: _____
 Address: _____

 Phone: _____
 Fax: _____

EAST CENTRAL OKLAHOMA ELECTRIC COOPERATIVE, INC.

Distributed Generation Rider

Application.

Applicable to Distributed Generation smaller than 100 kW of connected generation connected in parallel operation to the Cooperative's lines in accordance with the Cooperative's service rules and regulations and the Cooperative's *Distributed Generation Procedures and Guidelines Manual for Members* (available on request).

This rate is not applicable to temporary, shared, or resale service. This rate is applicable to service supplied at one point of delivery and measured through one meter.

Sales to Customer

Sales to a Distributed Generation Customer shall be consistent with the applicable retail rate tariff established by the Cooperative and in use by the Customer as if there were no Distributed Generation installation.

Purchases from a Customer – Facility classified as 25 kW of connected generation and smaller

For power produced in excess of on-site requirements, the Customer shall be compensated by the retail purchase meter running in reverse (Net metering). The Cooperative shall bill the Customer for the excess of energy supplied by the Cooperative over and above the energy supplied by the Customer during each billing period according to the Cooperative's applicable retail rate schedule.

Net metering is defined as measuring the difference between the electricity supplied by the Cooperative and the electricity generated by the Customer's facility and fed back to the electric grid over the operable time period (in this case, a billing period).

When the energy supplied by the Customer exceeds the energy supplied by the Cooperative during a billing period, the monthly charge and/or minimum bill of the retail rate schedule shall be billed by the Cooperative in addition to the monthly metering charge, and the excess energy shall be purchased from the Customer at a rate equal to avoided cost..

Where purchases from the Customer exist in a billing period, avoided cost for facilities of 25 kW and less shall be defined using one of two methods, at the discretion of the Cooperative.

1. The Cooperative's avoided cost may be defined as the average wholesale energy and fuel rate billed to the Cooperative by its power supplier on the power supplier's most recent wholesale power billing to

- the Cooperative, as expressed in dollars per kWh. In such case the Customer will be compensated by the Cooperative by credit on the Customer's monthly electric service bill; or
2. The Cooperative's avoided cost may be defined as the Cooperative's Power Supplier's avoided cost as determined by the Cooperative's Power Supplier. In such case, the Cooperative's Power Supplier will compensate the Customer at its discretion by either direct payment from the Cooperative's Power Supplier to the Customer within 20 days of receipt of the meter registration information, or by an equal amount provided by the Cooperative's Power Supplier to the Cooperative, in which case the Cooperative shall show such a credit on the Customer's next monthly electric service bill.

Customer must be a Qualifying Facility (QF) as defined by the Public Utility Regulatory Policies Act of 1978 (PURPA). If Customer is not a QF, the Cooperative and/or its Power Supplier may, at its sole discretion, elect to purchase power from the Customer under the terms of this section.

Purchases from a Customer – Facility classified as greater than 25 kW and less than 100 kW of connected generation

Purchases from a Distributed Generation Customer shall be at the Cooperative's Power Supplier's avoided cost as determined by the Cooperative's Power Supplier. The avoided cost shall be calculated periodically, as provided by the Cooperative's Power Supplier.

Where purchases from the Customer exist in a billing period, the Cooperative's Power Supplier shall compensate the Customer either by direct payment from the Cooperative's Power Supplier to the Customer within 20 days of receipt of the meter registration information, or by an equal amount provided as a credit to the Cooperative, in which case the Cooperative shall show such credit on the Customer's monthly electric service bill. The method used for compensation shall be determined by Cooperative's Power Supplier.

There shall be no "net metering" for Distributed Generation facilities larger than 25 kW of connected generation. Net metering is defined as measuring the difference between the electricity supplied by the Cooperative and the electricity generated by the Customer's facility and fed back to the electric grid over the operable time period.

Customer must be a Qualifying Facility (QF) as defined by the Public Utility Regulatory Policies Act of 1978 (PURPA). If Customer is not a QF, the Cooperative and/or its Power Supplier may, at its sole discretion, elect to purchase power from the Customer under the terms of this section.

Monthly Rate.

At the discretion of the Cooperative board of directors, the Customer may be obligated to pay an added monthly customer charge to recover additional billing

and accounting costs incurred by the Cooperative in providing service to Customers receiving distribution service. If applied, all Customers receiving distribution service shall be billed the following charges in addition to all charges indicated on his/her base rate:

Administrative Fee @ \$ 5.83 per meter/month

Facilities Charge

As determined at the sole discretion of the Cooperative on a non-discriminatory case-by-case basis to recover any additional operation and maintenance expense caused by the Customer's facility.

Contracts

An Interconnection Contract between the Customer and the Cooperative shall be required in all cases. For Customers 25 kW and larger, a Purchased Power Contract between the Customer and the Cooperative's Power Supplier be required.



East Central Oklahoma Electric Cooperative Distributive Generation Policy Checklist

Members Name: _____

Members Address: _____

City: _____

Members Account: _____ Members Meter # _____

Map # _____

Safety (Load break) Disconnect:

Check/Verify Access to Disconnect (gates, locks, etc.) _____

Check for Load Break: Yes _____ No _____

Check for Visible Disconnect: Yes _____ No _____

Disconnect Labeled: Yes _____ No _____

Disconnect Lockable: Yes _____ No _____

Verify Size (kW): _____

Verify Voltage: _____

Testing Program: _____

Insurance Information: _____

Check Connections for Back Feed to Utility: _____

Member Signature: _____ Date: _____

East Central Electric Signature: _____ Date: _____

The Inspection has been completed. The Solar unit can be placed into service:

Yes _____ No _____