

Lake Region Electric Cooperative

**Distributed Generation Interconnection
Agreement & Guidelines
Manual for Members**

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GENERAL

This interconnection agreement covers distributed generation (DG) operation that is connected or may be connected to the Lake Region Electric Cooperative (LREC) distribution system in any way. The Member may operate a DG installation in stand-alone or isolated fashion. Members that have DG must follow the provisions of this manual for any DG operation connected in any way to the LREC distribution system.

This manual is not a complete description or listing of all the laws, ordinances, rules and regulations that 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, LREC's *Rules and Regulations* and *Tariffs for Electric Service*, LREC's *Line Extension Policy*, the *Policies and Procedures* of the LREC's power supplier where applicable, the current *IEEE 1547 Standard Guide for Distributed Generation Interconnection* (a copy is on file at LREC for inspection along with information on how 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, and other requirements in the following sections of this manual must be met prior to interconnection.

This interconnection agreement covers Member's own use only. 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 LREC. The Member must conduct his/her own analysis to determine the economic benefit of DG operation for the member.

DG facilities larger than 100 kW are not covered by this manual and will be considered by LREC on a case-by-case basis.

I. DETERMINE THE CATEGORY OF DISTRIBUTED GENERATION FACILITY1) Connection Level Categorya) **Connected to LREC's system:**

The Member requests and/or the Member's DG facility require connection to LREC's electrical system. All provisions of this manual cover this category.

b) **Not connected to LREC's system:**

This manual does **NOT** cover the Member's DG facility that do not require connection to LREC's electrical system.

c) **Connected to transmission system:**

This manual does **NOT** cover the Member requests and/or the Member's DG facility require connection to bulk electrical system (transmission system).

2) Size Category

Facilities capable of supporting a demand of 100 kW or less of connected generation, shall be eligible for service under this manual. Facilities capable of supporting greater than 100 kW of demand are not covered by this manual and will be considered by LREC on a case-by-case basis.

3) Qualifying or Non-Qualifying Category (PURPA)

- a) Qualifying Facilities (QF) are defined by the Public Utility Regulatory Policies Act of 1978 (PURPA). Refer to CFR Title 26, Volume 4, Section 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 LREC.
- c) LREC will provide interconnection to DG members with Qualifying Facilities, subject to the provisions of this policy and other applicable rules and regulations.
- d) LREC will compensate DG Members with Qualifying Facilities for excess energy produced in accordance with the provisions of this policy and other applicable rules and regulations.
- e) LREC may negotiate a power purchase agreement with Non-QF DG members.

II. MEMBER'S INITIAL REQUIREMENTS1) Notification

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

2) Service Request

- a) In advance of requested interconnection, the Member must contact LREC and complete the "LREC Application for DG Interconnection and Operation" (starting on page 21).
- b) QF will always be considered for connection by LREC. NQF may be considered for connection at the sole discretion of LREC.
- 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, LREC 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 DG facilities with no intention to export power to LREC that are of standard design and intended entirely as emergency or back-up power supply for the facility, LREC may, at its sole discretion, waive the application fee.
- c) Prior to review of the application and plan by LREC, 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
< 25 kW	\$25	As Required
> 25 kW	\$50	As Required

III. LREC’S REVIEW PROCESS

1) Plan Review Process

- a) LREC 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 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 sixty (60) day period may be reinitialized when such changes or corrections are provided to LREC. In addition, any changes to the site or project requiring new analysis by LREC may require additional cost and a new plan. The cost will be determined by LREC.
- d) Any review or acceptance of such plans, specifications and other information by LREC shall not impose any liability on LREC and does not guarantee the adequacy of the Member’s equipment to perform its intended function. LREC 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 LREC to modify electric delivery systems in order to serve the Member’s DG facilities and/or receive or continue to receive the Member’s output, or because the quality of the power provided by the Member’s DG adversely affects LREC’s delivery system, the Member will reimburse LREC for all costs of modifications required for the interconnection of the Member’s DG facilities.

IV. SALES TO AND PURCHASES FROM A DG INSTALLATION

- a) All sales of electric power and energy by the Cooperative to a Member shall be consistent with the applicable retail rate schedule as if there were no DG installation at the Member’s premises.
- b) 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.
- c) 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.

V. MEMBER'S RESPONSIBILITIES PRIOR TO OPERATION

1) Line Extension and Modifications to LREC Facilities

- a) As a part of the interconnection analysis performed by LREC, the Member will be provided with an estimate of any line extension or other cost to be incurred in providing service to the Member's DG facility.
- b) Without regard to LREC'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 LREC, is required to be installed 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 LREC 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 LREC's delivery system, the Member will reimburse LREC for all costs of modifications required for the interconnection of the Member's DG facilities.
- d) In the event LREC at any time in the future changes primary voltage of distribution facilities serving the DG installation such that metering equipment, transformers and/or any Member owned equipment must be changed, the full cost of the change will be borne by the Member.
- e) 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 LREC. The switch will be readily accessible to LREC personnel and of a type that can be secured in an open position by a LREC lock.

2) Applicable Regulations

- a) The Member shall comply with all applicable tariffs, policies and procedures of LREC. (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 National Electric Code, National Electric Safety Code, *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

- (1) LREC will determine if the type of generation warrants the Member to carry liability insurance.
- (2) Should insurance be required, 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.
- (3) The certificate shall provide that the insurance policy will not be changed or canceled during its term without thirty days written notice to LREC. 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 LREC at least annually.

4) Contracts

- a) For each generation system connected to the LREC distribution system, the member will sign and deliver an interconnection contract to LREC. The required contract form is provided with these guidelines.

5) Initial Interconnection

- a) Upon satisfactory completion of the review process and execution of required agreements as outlined in this manual, LREC 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, LREC will conduct a final inspection of the facilities and interconnection to LREC's system. Upon satisfactory final inspection, LREC will initiate service to the DG member.
- b) LREC's review process and final inspection is intended as a means to safeguard LREC's facilities and personnel. Any review by LREC shall not impose any liability on LREC and does not guarantee the adequacy of the Member's equipment to perform its intended function. LREC 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 INTERCONNECTED SERVICE

- a) LREC may, at its sole discretion, prevent the interconnection of or disconnect an interconnected DG installation, for reasons such as safety concerns, reliability issues, power quality issues, breach of interconnection contract or any other reasonable issue. Such disconnection may be without prior notice.

VII. OPERATION OF DG FACILITY

The purpose of this section is to outline LREC'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 procurement, installation, maintenance, and operation of all facilities, including all power generating facilities, at and beyond the point of common coupling as defined by IEEE, except as indicated in item 1) b).
- b) At its sole discretion, LREC may install and maintain LREC-owned metering equipment and transformers past the point of common coupling.
- c) The Member shall provide access to facility production and status if relevant to LREC.

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

3) Quality of service

- a) Member's DG installation will generate power at the nominal voltage of the LREC 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 LREC's 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 LREC for required correction, or be disconnected from LREC's system.

4) Safety disconnect

- a) The Member shall install a visible load break disconnect switch at the Member's expense and to LREC's specifications.
- b) The switch will be located so as to be readily accessible to LREC personnel in a location acceptable to both the Member and LREC.
- c) The switch shall be a type that can be secured in an open position by a LREC lock. If LREC has locked the disconnect switch open, the Member shall not operate and/or close the disconnect switch
- d) LREC shall have the right to lock the switch open when, in the judgment of LREC:
 - (1) It is necessary to maintain safe electrical operating and/or maintenance conditions,
 - (2) The Member's DG adversely affects LREC system, or
 - (3) There is a system emergency or other abnormal operating condition warranting disconnection.
- e) LREC reserves the right to operate the disconnect switch for the protection of LREC's system even if it affects the Member's DG installation. In the event LREC opens and/or closes the disconnect switch:
 - (1) LREC shall not be responsible for energization or restoration of parallel operation of the DG installation.
 - (2) LREC 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 LREC at the location of the disconnect indicating the purpose of the switch along with contact names and numbers of both the Member and LREC.
- 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 LREC's system.
- i) Should LREC 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 LREC's system.

5) Access

- a) Persons authorized by LREC 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 LREC 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 LREC against and hold LREC 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 LREC or in any way arising directly or indirectly from the Member's DG installation.

- b) LREC 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 LREC 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) LREC shall specify, install and own all metering equipment.
 - (1) The facility will have the opportunity to be net metered by installing a meter which measures the flow of energy in each direction.
 - (2) Power transfer at the point of interconnection will be measured by metering equipment as installed and specified at the sole discretion of LREC.
 - (3) The meter shall be read at a time or times of month determined at the sole discretion of LREC 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 LREC.
 - (4) The type of communications link and metering equipment measuring purchase of power by LREC shall be installed and specified at the sole discretion of LREC.
- b) LREC may, at its sole discretion, require the Member to reimburse LREC for metering and monitoring equipment and installation expense.
- c) Meter testing shall follow LREC's standard policy on metering testing and accuracy.
- d) At its sole discretion, LREC may meter the facility at primary or secondary level.

8) Notice of Change in Installation

- a) The Member will notify LREC 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 LREC system, the Member shall immediately correct such conditions or be subject to immediate disconnection from LREC's 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 LREC.

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. LREC may witness the testing.
- b) The Member will maintain records of all maintenance activities, which LREC may review at reasonable times.

10) Disconnection of Service

- a) LREC 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.

AGREEMENT FOR INTERCONNECTION AND PARALLEL OPERATION OF DISTRIBUTED GENERATION

This Interconnection Agreement ("Agreement") is made and entered into this ____ day of _____, 20____, by LREC Rural Electric Cooperative, ("LREC"), a corporation organized under the laws of Oklahoma, 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 LREC 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 LREC's electric power distribution system ("System").

The provisions of LREC'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 LREC and enters the wires or facilities provided by DG Owner/Operator is the "Point of Interconnection." LREC and DG Owner/Operator agree to interconnect the Facilities at the Point of Interconnection in accordance with LREC'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 LREC 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 LREC 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.

LREC 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 LREC 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** - LREC 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 LREC's provision of electric service to DG Owner/Operator and the services provided by LREC pursuant to this Agreement, LREC's liability to DG Owner/Operator shall be limited as set forth in LREC's tariffs and terms and conditions for electric service, which are incorporated herein by reference.
- b. Neither LREC 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 LREC 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 from the disruption of business. This paragraph does not create a liability on the part of the DG Owner/Operator to LREC or a third person, but requires indemnification where such liability exists.
- d. LREC 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. LREC, 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 LREC, only with LREC's prior written authorization are LREC's service wires and the DG Owner/Operator's facilities to be connected.

6. Design Reviews and Inspections - The DG Owner/Operator shall provide to LREC 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 - LREC 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 LREC 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 LREC 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 LREC.

10. Disconnection of Unit - DG Owner/Operator retains the option to disconnect its Facilities from the System, provided that DG Owner/Operator notifies LREC of its intent to disconnect by giving LREC 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, LREC shall provide DG Owner/Operator with seven (7) business days' notice of service interruption.

LREC 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, LREC shall have the right to suspend service to effect repairs on the System, but LREC shall use its efforts to provide the DG Owner/Operator with reasonable prior notice.

11. Metering - Metering shall be accomplished as described in LREC's DG Manual.

12. **Insurance** – Insurance shall be required as described in LREC’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 LREC sixty days' written notice; (b) LREC 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 LREC, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) LREC 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 LREC'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 Stillwater, Payne County, Oklahoma.
15. **Compliance with Laws, Rules and Tariffs** - Both LREC 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 Oklahoma, and LREC'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 LREC as applicable to the electric service provided by LREC, which tariffs and rules are hereby incorporated into this Agreement by this reference. LREC shall have the right to publish changes in rates, classification, service or rule, with the proper notification to all DG owners/operators and LREC 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 Point(s) 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 either Party 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 LREC in advance of the assignment. LREC'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** - LREC 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 LREC's System. The fees associated with the Application are listed in the most current fee schedule issued by LREC. 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 LREC.

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:

If to LREC

LREC

Attn: DG Interconnection

516 South Lake Region Rd.

PO. Box 127

Hulbert, OK 74441-0127

If to DG Owner / Operator

Print Name: _____

Acct# / Map Location: _____

Address: _____

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 LREC.

24. **Net Metering Agreement (Members with DG installations producing less than 25,000 kWh per year)**

- 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). LREC shall bill the Member for the excess energy supplied by LREC over and above the energy supplied by the Member during each billing period according to LREC's applicable retail rate schedule.
- b. When the energy supplied by the Member exceeds the energy supplied by LREC during a billing period, the monthly charge and/or minimum bill of the retail rate schedule shall be billed by LREC in addition to the monthly metering charge. All excess energy supplied by the Member shall be donated to LREC.
- c. In addition to all other charges, LREC may bill the member for any additional facilities charges as determined in the contract for service. LREC may, at its/their sole discretion, purchase power from a NQF under the terms of this section.

25. **Avoided Cost Purchase Agreement**

- a. For power produced in excess of on-site requirements, the Member will be compensated by purchase of the excess energy supplied to the cooperative at the cooperative's avoided cost rate.
- b. The avoided cost rate shall be applied to all kWh delivered to the cooperative as metered.
- c. LREC's avoided cost rate shall be determined periodically based on the avoided cost of wholesale power.

26. **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 LREC 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.

27. **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.

28. **Regulation** – The delivery of electricity is regulated by the State and Federal Governments, A change in any law could cause this Agreement to be modified with notice of the applicable law..

29. **Term** – Unless otherwise terminated, this Agreement shall be for a term of one (1) calendar year from the Effective Date to December 31 of that year (the “Term”). This Agreement shall renew for an additional one-year term automatically every year thereafter, unless either Party gives ninety (90) day written notice to the other Party of its intent to terminate the Agreement.

30. **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.

AGREED TO BY

Lake Region Electric Cooperative

[DG OWNER/OPERATOR NAME]

SIGN: _____

SIGN: _____

PRINT: _____

PRINT: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____

Account # / Map Location: _____

EXHIBIT B

FACILITIES SCHEDULE:

[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, LOSS ADJUSTMENT DUE TO LOCATION, AND OTHER):	
5. NORMAL OPERATION OF INTERCONNECTION:	
6. ONE LINE DIAGRAM ATTACHED (CHECK ONE):	No <input type="checkbox"/> Yes <input type="checkbox"/>
7. FACILITIES TO BE FURNISHED BY LREC:	
8. FACILITIES TO BE FURNISHED BY DG OWNER/OPERATOR:	
9. COST RESPONSIBILITY:	
10. CONTROL AREA INTERCHANGE POINT (CHECK ONE):	No <input type="checkbox"/> Yes <input type="checkbox"/>
11. SUPPLEMENTAL TERMS AND CONDITIONS ATTACHED (CHECK ONE):	No <input type="checkbox"/> Yes <input type="checkbox"/>
12. LREC RULES FOR DG INTERCONNECTION ATTACHED (CHECK ONE):	No <input type="checkbox"/> Yes <input type="checkbox"/>

Lake Region Electric Cooperative

[DG OWNER/OPERATOR NAME]

SIGN: _____

SIGN: _____

PRINT: _____

PRINT: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____

EXHIBIT C

This application should be completed as soon as possible and returned to LREC’s Customer Service representative in order to begin processing the request. *This application is used by LREC 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:			
County:	City:	State:	Zip:
Representative:		Phone Number:	

PROJECT DESIGN/ENGINEERING (as applicable)

Company:			
Mailing Address:			
County:	City:	State:	Zip:
Representative:		Phone Number:	

ELECTRICAL CONTRACTOR (as applicable)

Company:			
Mailing Address:			
County:	City:	State:	Zip:
Representative:		Phone Number:	

TYPE OF GENERATOR

Photovoltaic	No _____ Yes _____	Wind:	No _____ Yes _____	Micro turbine:	No _____ Yes _____
Diesel Engine:	No _____ Yes _____	Gas Engine:	No _____ Yes _____	Turbine Other:	No _____ Yes _____

ESTIMATED LOAD INFORMATION

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**SYNCHRONOUS GENERATOR DATA**

Unit Number:	Total number of like units on site:
Manufacturer:	
Type:	Date of manufacture:
Serial Number(s):	
Single Phase: No Yes	Three Phase: No Yes
RPM:	Frequency (Hz):
Rated Output (each) (kW):	Rated Output (each) (kVA):
Rated Voltage (V):	Rated Amperes (A):
Field Voltage (V):	Field Amperes (A):
Rated Power Factor (%):	Motoring Power (kW):
Synchronous Reactance (X_d') (%):	kVA base:
Transient Reactance (X_d'') (%):	kVA base:
Sub-transient Reactance (X_d''') (%):	kVA base:
Negative Sequence Reactance (X_s) (%):	kVA base:
Zero Sequence Reactance (X_o) (%):	kVA base:
Neutral Grounding Resistor (if applicable):	
I_2^2t of K (heating time constant):	
Additional Information:	

INDUCTION GENERATOR DATA

Rotor Resistance (R_r) (ohms):	Stator Resistance (R_s) (ohms):
Rotor Reactance (X_r) (ohms):	Stator Reactance (X_s) (ohms):
Magnetizing Reactance (X_m) (ohms):	Short Circuit Reactance (X_d'') (ohms):
Design letter:	Frame Size:
Exciting Current:	Temp Rise ($^{\circ}$ C):
Reactive Power Required	
var (no load):	var (full load):
Additional Information:	

PRIME MOVER (Complete all applicable items)

Unit Number:	Type:
Manufacturer:	Serial Number:
Date of manufacturer:	Inertia Constant (lb-ft ²):
Horsepower Rating:	Horsepower Max.:
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):	Low Voltage (kV):
Connection: Delta _____ Wye _____	Connection: Delta _____ Wye _____
Neutral Grounding: Solid _____ Other _____	Neutral Grounding: Solid _____ Other _____
Neutral Grounding Resistor (if applicable):	
Transformer Impedance (Z) (%):	kVA base:
Transformer Resistance (R) (%):	kVA base:
Transformer Reactance (X) (%):	kVA base:

INVERTER DATA (if applicable)

Manufacturer:	Model:
Rated Voltage (Volts):	Rated Amperes:
Rated Power Factor (%):	Type commutation: Forced _____ Line _____
Inverter Type (Ferro-resonant, step, pulse-width modulation, etc.):	
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

Manufacturer:	Model:
Rated Voltage (kV):	BIL Rating:
Rated ampacity (A):	Interrupting rating (kA):
Interrupting Medium/Insulating Medium (Vacuum, gas, oil, etc.):	
Control Voltage (Closing): AC _____ DC _____	Control Voltage (Tripping): AC _____ DC _____
Current Transformers 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.

EXHIBIT C SIGN OFF AREA

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

Lake Region Electric Cooperative

[DG OWNER/OPERATOR NAME]

SIGN: _____

SIGN: _____

PRINT: _____

PRINT: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____

LAKE REGION ELECTRIC COOPERATIVE CONTACT FOR APPLICATION SUBMISSION AND FOR MORE INFORMATION:

LREC contact:

LREC

DG Interconnection

516 South Lake Region Rd.

P.O. Box 127

Hulbert, OK 74441-0127

Phone: 918-772-2526

Fax: 918-772-2828