Lamar Electric Cooperative

Distributed Generation Guidelines

For the Interconnection and Parallel Operation of Distributed Generation

Approval and Version History

Lamar Electric Cooperative, (LEC) developed the policies, procedures, and requirements contained in the LEC Distributed Generation Guidelines Manual (DG Guidelines Manual) for LEC's members that intend to install, interconnect, and operate in parallel, approved Distributed Generation systems (DG Systems).

Below are the approvals and version history of the Lamar Electric Cooperative DG Guidelines Manual:

Version	Effective Date	Approval By	Approval Signature
2025.1	6/26/2025	Bryan Story	

Introduction

Distributed Generation (DG) technologies continue to develop and have reached a level of cost-effectiveness that has led an increasing number of energy consumers to consider the installation of DG systems, especially renewable DG systems. Lamar Electric Cooperative (LEC) has developed the policies, procedures and requirements contained in this Guidelines Manual to ensure DG installations in the LEC service area **meet procedural, technical, and operational requirements for the safe interconnection and parallel operation of DG systems on the Cooperative's electric distribution system**.

This Distributed Generation Guidelines Manual (DG Guidelines Manual) is intended to provide Cooperative members with accurate procedural, technical and policy information that will assist and guide them through the interconnection process and support informed decisions at every stage or phase of this process.

The DG Guidelines Manual is organized in the following manner:

Section	Purpose
1. Overview - Q&A	Answer questions that members will likely ask / need to know prior to starting on a DG project.
2. Definitions	Define the main terms associated with DG to ensure members understand the terms that are associated with LEC's DG policies, procedures, and requirements.
3. Technical Requirements	Provide the engineering-based technical requirements and specifications that all DG systems must meet prior to installation / interconnection of the DG system.
4. Procedural and Policy Requirements	Identify the process and policy requirements that must be satisfied to interconnect a DG system.
5. Application Form	The DG application must be completed and submitted prior to a Member beginning the process to install and interconnect a DG system.
6. DG Agreement - Commercial	The DG agreement between LEC and a Member with a Commercial account that intends to install, interconnect, and operate a DG system in parallel with the LEC distribution system.
7. DG Agreement - Residential	The DG agreement between LEC and a Member with a Residential account that intends to install, interconnect, and operate a DG system in parallel with the LEC distribution system.
8. DG Interconnection Diagrams	Diagrams that illustrates key installation and interconnection requirements for standard configurations of DG systems.

Section 1: Distributed Generation

Overview - Q&A

What is the purpose of Lamar Electric Cooperative Distributed Generation (DG) Interconnection Guidelines?

Lamar Electric Cooperative, (LEC) Distribution Generation Interconnection Guidelines Manual was developed to establish the requirements and procedures for the safe installation, interconnection, and parallel operation of distributed generation facilities within the Cooperative's electric service area.

LEC's DG Interconnection Guidelines are aligned with the Texas Public Utility Commission's (PUC) DG rules and regulations (P.U.C. SUBST. R. 25.211, 25.212 and 25.217) as well as other statutory guidelines, including the Texas Public Utilities Regulatory Act (PURA), which provides for the interconnection and parallel operation of Distributed Renewable Generation with electric utilities in Texas.

The information contained in this Manual has been developed for LEC's members that are interested in and/or considering the installation of interconnected distributed generation. LEC wants to ensure that our members have all the technical and procedural information needed to have a full understanding of the requirements involved with this process in advance of any decision to install a DG system.

This Manual also provides information for LEC members regarding the rate that LEC has put in place regarding the purchase of any energy that is generated by a DG system and delivered to the LEC distribution system.

The bottom line: LEC is committed to the safe interconnection and operation of all DG installations on the LEC distribution system.

I am a LEC Member and considering installing a DG system. Where should I start?

Lamar Electric Cooperative (LEC) members should contact the Cooperative very early in the "DG decision-making" process. Our representatives will be glad to take time to answer questions and provide both technical and procedural information regarding the interconnection and operation of a potential DG installation. **The LEC DG Policy is clear: DG systems will not be allowed to interconnect and/or operate until the following steps have occurred:**

1. Member must submit information and application to LEC and pay the required application fees for the proposed DG system(s). The LEC DG Application Form is included in the LEC DG Guidelines Manual and is also available on the Cooperative's website (Lamar Electric Cooperative Guidelines) and at the Cooperative office.
2. The DG application must be reviewed and approved by LEC, prior to installation of the DG system. LEC must confirm that the proposed system meets the technical requirements and specifications and determine if the proposed DG installation requires an engineering study. In some cases, engineering studies are essential to ensure the safe and proper operation of the DG system. Engineering studies may also result in the denial of a DG application.
3. Once the DG system is installed LEC will confirm the installation is consistent with the DG Application and meets all LEC requirements. This on-site verification must take place prior to interconnecting the DG system with the LEC distribution system.

4. The Member must execute a DG Agreement with LEC. A DG Agreement is required prior to interconnecting the DG system with the LEC distribution system. The DG Agreement confirms that the system meets all technical requirements and sets forth the rate at which LEC will purchase any energy that is delivered to LEC (energy in excess of the DG output that is used by the Member).

What are the technical specifications and requirements for the interconnection of a DG system?

The term "technical requirements" can be a little confusing in terms of the DG application, installation, and agreement process. Here are some key things to know and consider regarding technical requirements:

- ✓ LEC has adopted the technical requirements and specifications that are aligned and consistent with the Texas Public Utility Commission (PUC) DG Rule. These specifications set forth the requirements for the safe interconnection and operation of DG systems. These requirements also establish the criteria used to determine if an engineering study is needed.
- ✓ Many technical requirements are addressed / covered by having "pre-certified" equipment with appropriate IEEE, UL and other "stamps of approval" from the DG system manufacturer. For most systems, these certifications signal to LEC that the system being installed meets and/or exceeds technical engineering requirements for the major components of the system (e.g., the solar panels and inverter(s)).
- ✓ One important technical requirement is the NEC Article 690.12 Rapid Shutdown of PV Systems on Building. LEC will check to ensure that all relevant NEC requirements are met, including PV system circuits installed on or in buildings shall include a rapid shutdown function to reduce shock hazard for firefighters in accordance with 690.12(A) through 690.12(D).
- ✓ There are also technical requirements related to the installation. LEC has provided the requirements (technical and procedural) in this Manual. Several of these requirements are included in the DG Application Form and the DG Agreement. These documents are included in this Manual.

Are there any DG system size restrictions or size thresholds to consider?

- ✓ Yes. LEC limits the interconnection of DG systems to a maximum installed capacity of:
    - 20KW AC for Residential DG installations.
    - 50KW AC for Commercial installations.
- ✓ The Cooperative encourages members considering the installation and interconnection of DG system to "right-size" these systems. A good rule to consider is to size DG systems at not larger than 30-40% of the premise (residence or business) peak demand. For most residential premises, this means a "right-sized" DG system would be in the 2-10 kW AC range.

Does LEC sell and/or install DG systems? Does LEC have listed DG vendors or contractors?

LEC does not sell and/or install DG systems. LEC is committed to the safe and reliable operation and maintenance of the LEC distribution system.

LEC understands that our members look to the Cooperative for sound and unbiased information related to electric energy topics and issues. And with that in mind, LEC can provide general industry information to our members regarding distributed generation. However, ***LEC will not endorse or recommend systems, vendors, or contractors for DG system installations***.

The Cooperative encourages all members to understand"

- ✓ How DG systems work and operate;
- ✓ Ensure understanding of the proposal and projected energy output, payback scenarios, and economics of a proposed DG system.
- ✓ Please utilize the following resources for more information"
  - **Solar Consumer Protection**." *National Renewable Energy Laboratory,* Office of Energy Efficiency and Renewable Energy, US Department of Energy, https://www.nrel.gov/state
  - **"Tips to Avoid Solar Scams."** Austin Energy, https://austinenergy.com/green-power/solar-solutions/participating-solar-contractors/avoid-solar-pv-scams.
  - **PV Watts Calculator** (NREL). PVWatts Calculator (nrel.gov)

How will LEC account for (and reimburse) energy that a DG system sends to the electric grid?

LEC will reimburse members for energy "delivered to" the LEC distribution system at the "avoided cost of generation" rate (ACGR). The ACGR is determined by the average per kWh cost of wholesale generation costs for electric energy purchased by LEC from its wholesale electric energy provider(s). LEC reserves the right to amend the ACGR at any time. Reimbursements will be a credit on the Member's monthly bill; however, LEC may make other arrangements for reimbursement based on the amount of energy that is delivered to the Cooperative from the DG system.

What fees are associated with a DG system interconnection?

LEC requires an application fee for the interconnection, and parallel operation of a DG system on the LEC distribution system. Note that application fees paid at time application is submitted to LEC.

Please contact:

Cooperative Office:

- **Email:** tessi@lamarelectric.coop
- **Phone:** 903-784-4303
- **Address:** Lamar Electric Cooperative, 5225 U.S. Hwy 82 E., Blossom, TX 75416

Section 2: Distributed Generation Definitions

DG Definitions

- **Automatic Disconnect Device:** A switch that is capable of opening and closing automatically at the Point of Interconnection that provides clear indication of the switch position, and when in the open position isolates the distributed generation installation.
- **Cooperative DG Contact Person:** The person or persons designated by the Cooperative Manager to serve as the Cooperative's contact for all matters related to distributed generation interconnection.
- **Battery Storage System:** Technology developed for storing electric charge by using specially developed batteries so the stored energy can be utilized at a later time. The system typically utilizes an electro-chemical solution and includes batteries, inverters, and disconnect switches. The system may be connected to and serve critical loads when utility power is unavailable.
- **Commission:** The Public Utility Commission of Texas or its successor organization having jurisdiction over the matters herein contained.
- **Member:** A person or entity interconnected or seeking interconnection to the LEC electric system for the purpose of receiving or exporting electric power from or to the LEC electric system.
- **DG Agreement:** An agreement between a Member and the Cooperative that sets forth the contractual conditions under which a company and a Member agree that one or more facilities may be interconnected with the Cooperative's electric system.
- **DG Application:** The form of application of a Member seeking interconnection and parallel operation of distributed generation with the Cooperative's electric system.
- **Distributed Generation (DG):** An electrical generating facility located at a Member's point of delivery (point of common coupling) of ten (10) megawatts (MW) or less and connected at a voltage less than sixty (60) kilovolts (kV) which may be connected in parallel operation to Lamar Electric Cooperative's electric system.
- **Distributed Generation Owner:** An owner of distributed generation, the Member on whose side of the meter distributed generation is installed and operated, regardless of whether the Member takes ownership of the distributed generation, or a person who by contract is assigned ownership rights to energy produced from distributed generation located at the premises of the Member on the Member's side of the meter.
- **Energy Delivered:** Electric energy, measured in kWh, sent / delivered to the Member (premise) by Lamar Electric Cooperative.
- **Energy Received:** Electric energy, measured in kWh, sent / delivered to Lamar Electric Cooperative distribution system by the DG Member.
- **ERCOT:** The Electric Reliability Council of Texas, Inc. or successor independent organization under Public Utility Regulatory Act ("PURA') §39.151 for the power region to which Lamar Electric Cooperative electric system is connected.
- **Interconnection:** The physical connection of distributed generation to the utility system in accordance with the requirements of this ordinance so that parallel operation can occur.
- **Interconnection study:** A study or studies that may be undertaken by the Cooperative in response to its receipt of a completed DG Application. Pre-interconnection studies may include, but are not limited to, service studies, coordination studies and utility system impact studies.

- **Manual Disconnect Device:** A manual switch at the Point of Interconnection that provides clear indication of the switch position, and when in the open position isolates the distributed generation from load unrelated to generation of electricity or operation of the facility.
- **Parallel Operation:** The operation of distributed generation by a Member while the Member is connected to the LEC electric system.
- **Point of Interconnection (Point of Service, Point of Common Coupling):** The point where the electrical conductors of Lamar Electric Cooperative utility system are connected to the Member's conductors and where any transfer of electric power between the Member and Lamar Electric Cooperative utility system takes place, such as switchgear near the meter.
- **Pre-certified Equipment:** A specific generating and protective equipment system or systems that have been certified as meeting the applicable parts of this ordinance relating to safety and reliability by an entity approved by the Commission.
- **Stabilized:** The LEC electric system shall be considered stabilized when, following a disturbance, the system returns to the normal range of voltage and frequency for a duration of two minutes.

Section 3: Distributed Generation Technical Requirements

Technical Requirements for the Installation and Parallel Operation of a DG System

1. General Requirements

1.1. All interconnections shall comply with P.U.C. SUBST. R. 25.212 and successors. In addition, all interconnections shall comply with applicable state and federal laws and regulations.

1.2. All interconnections shall comply with local building and electric codes as adopted by Lamar Electric Cooperative. The installation of all interconnections shall be inspected by Lamar Electric Cooperative. Inspection and approval of the installation by Lamar Electric Cooperative is a prerequisite and a continuing condition of interconnection and parallel operation of distributed generation.

1.3. Variations from the Technical Requirements herein must be reviewed and approved by Lamar Electric Cooperative prior to implementation. Variations in the point of interconnection must be approved by Lamar Electric Cooperative General Manager (or designee) and included in the executed DG Agreement.

2. Protection of line workers and Cooperative's system

2.1. The distributed generation facility must have an interrupting device capable of interrupting the maximum available fault current, an interconnection disconnect device, a generator disconnect device, an over-voltage trip, an under-voltage trip, an over/under frequency trip, and a manual or automatic synchronizing check (for facilities with stand-alone capability).

3. Manual Disconnect

3.1. The Member shall provide and install a manual load break switch that provides clear indication of the switch position to provide separation between Lamar Electric Cooperative electrical system and the Member's electrical generation system. The location of the disconnect switch must be located within 10 feet of the Cooperative's electric meter and must be approved by Lamar Electric Cooperative. The disconnect switch shall be easily visible, mounted separately from metering equipment, readily accessible to Lamar Electric Cooperative personnel at all times, and capable of being locked in the open position with a Lamar Electric Cooperative padlock. Lamar Electric Cooperative reserves the right to open the disconnect switch isolating the Member's electrical generating system (which may or may not include the Member's load) from Lamar Electric Cooperative electrical system for any of the following reasons:

3.1.1. To facilitate maintenance or repair of Lamar Electric Cooperative electrical system, or

3.1.2. When emergency conditions exist on Lamar Electric Cooperative electrical system, or

3.1.3. When the Member's electrical generating system is determined to be operating in a hazardous or unsafe manner or is or potentially can unduly affect Lamar Electric Cooperative electrical system waveform, or

3.1.4. When the Member's electrical generating system is determined to be adversely affecting other electric consumers on Lamar Electric Cooperative electrical system, or

3.1.5. Failure of the Member to comply with applicable codes, regulations, and standards in effect at the time, or

3.1.6. Failure of the Member to abide by any contractual arrangement or operating agreement with Lamar Electric Cooperative.

4. Rapid Shutdown of PV Systems

4.1. Per NEC Article 690.12 Rapid Shutdown of PV Systems on Building: PV system circuits installed on or in buildings shall include a rapid shutdown function to reduce shock hazard for firefighters in accordance with 690.12(A) through 690.12(D).

5. Power Quality

5.1. Voltage: Lamar Electric Cooperative shall endeavor to maintain the distribution voltages on the electrical system but shall not be responsible for factors or circumstances beyond its control. The Member shall provide an automatic method of disconnecting generation equipment from Lamar Electric Cooperative electrical system within 10 cycles should a voltage deviation greater than +5% or -10% from normal be sustained for more than 30 seconds (1800 cycles) or a voltage deviation greater than +10% or -30% from normal be sustained for more than 10 cycles. If high or low voltage complaints or flicker complaints result from the operation of the Member's electrical generation, the Member's generating system shall be disconnected until the problem is resolved.

5.2. Frequency: Lamar Electric Cooperative shall endeavor to maintain a 60-hertz nominal frequency on the electrical system. The Member shall provide an automatic method of disconnecting generation equipment from Lamar Electric Cooperative electrical system within 15 cycles should a deviation in frequency of +0.5Hz or -0.7Hz from normal occur.

5.3. Harmonics: In accordance with IEEE 519, the total harmonic distortion (THD) of voltage shall not exceed 5% of a pure sine wave of 60-hertz frequency or 3% of the 60-hertz frequency for any individual harmonic when measured at the point of interconnection with Lamar Electric Cooperative electrical system. Also, the total current distortion shall not exceed 5% of the fundamental frequency sine wave. If harmonics beyond the allowable range result from the operation of the Member's electrical generation, the Member's generating system shall be disconnected until the problem is resolved.

5.4. Flicker: The distributed generation facility shall not cause excessive voltage flicker on Lamar Electric Cooperative electrical system. This flicker shall not exceed 3% voltage dip, in accordance with IEEE 519 (Section 10.5), as measured at the point of interconnection.

5.5. Power factor: The Member's electrical generation system shall be designed, operated and controlled at all times to provide reactive power requirements at the point of interconnection from 0.97 lagging to 0.97 leading power factor. Induction generators shall have static capacitors that provide at least 97% of the magnetizing current requirements of the induction generator field. Lamar Electric Cooperative may, in the interest of safety, authorize the omission of capacitors. However, where capacitors are used for power factor correction, additional protective devices may be required to guard against self-excitation of the Member's generator field.

6. Loss of Source

6.1. The Member shall provide approved protective equipment necessary to immediately, completely and automatically disconnect the Member's electrical generation equipment from Lamar Electric Cooperative electrical system in the event of a fault on the Member's system, a fault on Lamar

Electric Cooperative system or loss of source on Lamar Electric Cooperative system. Such protective equipment shall conform to the criteria specified in UL 1741 and IEEE 1547.

6.2. The Member's generating system shall automatically disconnect from the grid within 10 cycles if the voltage on one or more phases falls and stays below 70% of nominal voltage for at least 10 cycles. The automatic disconnecting device may be of the manual or automatic reclose type and shall not be capable of reclosing until after Lamar Electric Cooperative service voltage and frequency are restored to within the normal operating range and the system is stabilized.

6.3. DG systems equipped with battery storage systems may be equipped with an automatic disconnect switch to isolate from the utility system. Subpanels isolated by the automatic disconnect switch may be energized from the battery storage system. Returning to utility power will be according to section 12.1.

7. Coordination and Synchronization

7.1. The Member shall be solely responsible for coordination and synchronization of the Member's electrical generating system with all aspects of Lamar Electric Cooperative electrical system, and the Member assumes all responsibility for damage or loss that may occur from improper coordination and synchronization of its generating system with Lamar Electric Cooperative electrical system.

8. Metering

8.1. At the point of Member / premise interconnection, the Cooperative will provide a standard data recorder (meter) that can measure the "kWh Delivered" and the "kWh Received" in intervals established by Lamar Electric Cooperative. If special (non-standard) metering is required, the Cooperative will identify this requirement and any cost to the Member prior to approval of the DG Application.

9. **Interconnection Study**

9.1. Lamar Electric Cooperative will determine whether an interconnection study is necessary, based on relevant engineering factors including the output of the system, the location of the system and other Lamar Electric Cooperative distribution system factors. Interconnection studies, include service study, coordination study, and utility system impact study, as needed, and determined in the sole discretion of the Cooperative. If the interconnection study is deemed necessary, Lamar Electric Cooperative shall perform the study under reasonable terms and conditions agreed upon by both the Member and Lamar Electric Cooperative and at the Member's sole expense.

9.2. Any modifications or additions to Lamar Electric Cooperative Electric system identified through the interconnection study as required for the safe and reliable interconnection of Member's facility shall be solely at the Member's expense. Member shall not acquire any ownership in such modifications or additions to Lamar Electric Cooperative distribution system.

9.3. The interconnection study that may conclude the proposed system may not be approved / authorized by the Cooperative. In such cases, the Cooperative will make the study available to the Member and may also offer recommendations for modifications that could result in authorization to proceed with a revised system.

9.4. No study fee will be charged if all of the following apply to the proposed generation site:

9.4.1. The proposed generation equipment is pre-certified. Generation equipment that are less than 20 kW AC shall be considered pre-certified if a UL 1741 listed inverter that also meets IEEE 1547 specifications is used. For solar PV installations, to be pre-certified system must have UL 1703 listed PV modules, and

9.4.2. The proposed generation system does not expect to export more than 15% of total load on the feeder, and

9.4.3. The proposed generation system does not contribute more than 25% of the maximum possible short circuit current of the feeder.

10. **Protection.** The distributed generation facility must have interrupting devices capable of interrupting the maximum available fault current, an interconnection disconnect device, a generator disconnect device, an over-voltage trip, an under-voltage trip, an over/under frequency trip and a manual or automatic synchronizing check (for facilities with standalone capability). Facilities rated over 10kW, three-phase, must also have reverse power sensing and either a ground over-voltage or a ground over-current trip depending on the grounding system. Grounding shall be done in accordance with UL 1741, IEEE 1547, and NEC Article 250.

11. **Three-Phase Generators.**

11.1. Synchronous machines:

11.1.1. The distributed generation facility's circuit breakers shall be three-phase devices with electronic or electromechanical control.

11.1.2. The Member is solely responsible for proper synchronization of its generator with Lamar Electric Cooperative system.

11.1.2.1. The excitation system response ratio shall not be less than 0.5.

11.1.2.2. The generator's excitation system shall conform to the field voltage versus time criteria specified in ANSI Standard C50. 13-1989.

11.2. Induction machines: The induction machines used for generation may be brought up to synchronous speed if it can be demonstrated that the initial voltage drop at the point of interconnection is within the flicker limits specified in this document.

12. **Inverters:**

12.1. Line-commutated inverters do not require synchronizing equipment.

12.2. Self-commutated inverters require synchronizing equipment.

13. **Standards.** The distributed generation equipment shall be designed, installed, operated, and maintained in accordance with, but not limited to, ANSI standards, UL standards, IEEE standards, the National Electrical Code, ERCOT Operating Guides and any other applicable local, state, or federal codes and statutes. In the case of a conflict between the requirements in this document and any of those standards or codes, this document shall prevail.

Section 4: Distributed Generation Procedural and Policy Requirements

Process Overview

- **Member must submit information and application to LEC** for the proposed DG system(s). The LEC DG Application Form is included in the LEC DG Interconnection Guidelines Manual – and is also available on the Cooperative's website (Lamar Electric Cooperative Guidelines) and at the Cooperative offices. The application fee must be paid when the application is submitted.
- The **DG application must be reviewed and approved by LEC, prior to installation** of the DG system. LEC must confirm that the proposed system meets the technical requirements and specifications and determine if the proposed DG installation requires an engineering study. In some cases, engineering studies are essential to ensure the safe and proper operation of the DG system. Engineering studies may also result in the denial of a DG application.
- Once the DG system is installed LEC will confirm the installation is consistent with the DG Application and meets all LEC requirements. This **on-site verification must take place prior to interconnecting the DG system** with the LEC distribution system.
- The **Member must execute a DG Agreement with LEC**. This agreement is required prior to interconnecting the DG system with the LEC distribution system. The DG Agreement confirms that the system meets all technical requirements and sets forth the rate at which LEC will purchase any energy that is delivered to LEC (in excess of the DG output that is used by the Member).

Member Provided Information

- The information regarding the characteristics of the DG System are as specified in the Application for Interconnection and Parallel Operation of Distributed Generation with Lamar Electric Cooperative electric system filed by the Member with Lamar Electric Cooperative, including a one-line diagram and other system specifications;
- The DG System and associated other electrical components and devices meet National Electrical Code standards;
- All permits, inspections, approvals, and/or licenses necessary for the installation or operation of the DG System have been obtained. The DG System has been successfully tested to UL 1741 and IEEE 1547 standards or has been satisfactorily tested by an independent laboratory with published results.
- Member shall provide manufacturer's data or other written proof acceptable to Lamar Electric Cooperative to verify the accuracy of the foregoing warranties and representations. If any of foregoing warranties and representations are inaccurate, Lamar Electric Cooperative may, without waiver of or prejudice to any other remedy, immediately disconnect the DG system from Lamar Electric Cooperative electric system and terminate this agreement.

Energy Purchases

- Lamar Electric Cooperative will purchase from Member and Member will sell exclusively to Lamar Electric Cooperative the electrical output from the DG system that is "received" by Lamar Electric Cooperative Distribution System. During the term of this Agreement, Member shall exclusively purchase from Lamar Electric Cooperative its requirements of electric energy above the amounts generated by the DG system.
- Lamar Electric Cooperative shall pay Member for the "kWh Received" (energy received by Lamar Electric Cooperative's Distribution System) at the "Avoided Cost of Generation Rate" (ACGR). The ACGR is

determined by the average per kWh cost of wholesale generation costs for electric energy purchased by LEC from its wholesale electric energy provider(s). LEC reserves the right to amend the ACGR at any time.

Metering

At the point of Member / premise interconnection, Lamar Electric Cooperative will provide a standard data recorder (meter) that can measure the "kWh Delivered" and the "kWh Received" in intervals established by Lamar Electric Cooperative. If special (non-standard) metering is required, Lamar Electric Cooperative will identify this requirement and any cost to the Member prior to approval of the DG Application.

Interconnection Study

Lamar Electric Cooperative will determine whether an interconnection study is necessary, based on relevant engineering factors including the output of the system, the location of the system and other Lamar Electric Cooperative distribution system factors. Interconnection studies, include service study, coordination study, and utility system impact study, as needed, and determined in the sole discretion of Lamar Electric Cooperative. If the interconnection study is deemed necessary, Lamar Electric Cooperative shall perform the study under reasonable terms and conditions agreed upon by both the Member and Lamar Electric Cooperative and at the Member's sole expense.

Any modifications or additions to Lamar Electric Cooperative's Electric system identified through the interconnection study as required for the safe and reliable interconnection of Member's facility shall be solely at the Member's expense. Member shall not acquire any ownership in such modifications or additions to Lamar Electric Cooperative's distribution system.

The interconnection study may conclude the proposed system may not be approved / authorized by Lamar Electric Cooperative. In such cases, Lamar Electric Cooperative will make the study available to the Member and may also offer recommendations for modifications that could result in authorization to proceed with a revised system.

No study fee will be charged if the all of the following apply to the proposed generation:

1) The proposed generation equipment is pre-certified. Generation equipment that are less than 20 kW AC shall be considered pre-certified if a UL 1741 listed inverter that also meets IEEE 1547 specifications is used. For solar PV installations, to be pre-certified system must have UL 1703 listed PV modules, and
2) The proposed generation system does not expect to export more than 15% of total load on the feeder, and
3) The proposed generation system does not contribute more than 25% of the maximum possible short circuit current of the feeder.

DG System - Member Responsibilities

Member shall be solely responsible for the design, installation, operation, maintenance, and repair of the DG System and Member's interconnection facilities. The interconnection of the DG System to Lamar Electric Cooperative electrical system shall comply with the Public Utility Commission of Texas Substantive Rules §25.212 relating to Technical Requirements for Interconnection and Parallel Operation of On-Site Distributed Generation, (16 Texas administrative Code §25.212) or any successor rule addressing distributed generation. Lamar Electric Cooperative shall inspect the DG System and the interconnection equipment. All costs to

interconnect with Lamar Electric Cooperative electric system shall be the responsibility of Member. Lamar Electric Cooperative shall not be required to take or pay for any energy generated by the DG System until the DG System successfully passes Lamar Electric Cooperative's Field Inspection and Member shall have reimbursed Lamar Electric Cooperative for all its interconnection costs. Maintenance of the DG System shall be performed in accordance with the applicable manufacturer's recommended maintenance schedule.

Right to Temporarily Curtail and/or Interrupt

Lamar Electric Cooperative shall not be obligated to accept and shall have the right to require Member to temporarily curtail, interrupt, or reduce, deliveries of energy in order to construct, install, maintain, repair, replace, remove, investigate, inspect, or test any part of the interconnection facilities, equipment, or any part of Lamar Electric Cooperative electric system. Lamar Electric Cooperative may disconnect, without notice, the DG System from the electric distribution system, if, in Lamar Electric Cooperative's opinion, a hazardous condition exists, and such immediate action is necessary to protect persons, or Lamar Electric Cooperative's facilities or other members' facilities from damage or interference caused by Member's DG System or lack of properly operating protective devices.

Cooperative Access

Member hereby grants Lamar Electric Cooperative access on and across its property at any reasonable time to inspect the DG System and the interconnection equipment, to read or test meters and metering equipment, and to operate, maintain and repair Lamar Electric Cooperative's facilities. No inspection by Lamar Electric Cooperative of the DG System or the interconnection facilities shall impose on Lamar Electric Cooperative any liability or responsibility for the operation, safety or maintenance of the DG system or Member's interconnection facilities.

Liability Insurance Requirements

For Facilities 50 kW AC and Smaller: The Member is not required to provide a certificate of insurance coverage to Lamar Electric Cooperative. It is recommended, however, that the Member carry liability insurance coverage 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.

Section 5: Distributed Generation Interconnection Application

APPLICATION AND MEMBER INFORMATION

This application is for the coordination of interconnection of a distributed generation (DG system) between "Member", Lamar Electric Cooperative and the electrician / contractor doing the proposed work. The following needs to be filled out completely and clearly.

Date	
First Name (Member)	
Last Name (Member)	
Account Number	
Premise Type	❑ Residential ❑ Commercial ❑ Industrial ❑ Other
Phone	
Email	
Installation Address (Physical address)	

DG SYSTEM INFORMATION

Note: LEC limits the interconnection of DG systems to a maximum installed capacity of **20KW AC for Residential** installations and **50KW AC for Commercial installations**

Total Nameplate Rating (kW)	
(If Solar DG) Panel Manufacturer	
Inverter Manufacturer	
Do you plan to export power?	**Yes** **No** (please circle one)
Does system have a battery backup?	
IEEE and/or UL Certification(s) (List all or attach documentation)	
Rapid Shutdown of PV Systems on Building (provide documentation)	
Please provide the system engineering and/or manufacturers drawings and specifications	❑ System one-line diagram ❑ Additional system documentation

INFORMATION PREPARED AND SUBMITTED BY

License Number (Master Electrician, Electrical Engineer, or Homestead Owner)	
Company Name	
Phone	
Email	
Project Contact Person	
Signature	
Date	

NOTES TO APPLICANT

1. Application fees must be paid in accordance with Lamar Electric Cooperative requirements.
2. If work has not been completed within a 180-day period – the application will be voided.
3. If additional work is required by Lamar Electric Cooperative – there will be additional charges that will need to be paid.
4. **ALLOW A MINIMUM OF TEN WORKING DAYS FOR PROCESSING**
5. Return to Lamar Electric Cooperative: Lamar Electric Cooperative, 5225 U.S. Hwy 82 E., Blossom, TX 75416 or submit via email at tessi@lamarelectric.coop

LAMAR ELECTRIC COOPERATIVE - APPROVAL

By:	
Title:	
Date:	
Notes:	

Section 6: Distributed Generation Agreement Commercial Installations (≤ 50kW AC)

FOR THE INTERCONNECTION AND PARALLEL OPERATION OF DISTRIBUTED GENERATION WITH LAMAR ELECTRIC COOPERATIVE

THIS AGREEMENT is entered into by and between Lamar Electric Cooperative (Cooperative) and _____ _____Member (Member).

Lamar Electric Cooperative owns and operates an Electric Cooperative engaged in the distribution of electricity serving the service area of Lamar Electric Cooperative, which includes portions of Delta, Fannin, Lamar, and Red River Counties; and Member intends to construct, own, operate, maintain, and connect to Lamar Electric Cooperative electric distribution system, a Distributed Generation system (DG System) for a Commercial Account with a nameplate rating less than or equal to 50kW AC at address:

_____; and the parties hereto wish to contract for the purchase and sale of the electrical output from the DG System, and the terms of its interconnection with Lamar Electric Cooperative electric distribution system. THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereby contract and agree with each other as follows:

Article 1.0 | This Agreement shall be effective as of the date of execution by the latter of the two parties (the Effective Date) and, subject to the other terms of this Agreement, shall continue in effect for a period of one year, and month to month thereafter.

Article 2.0 | The DG System will be installed at Member's premises at the address specified above. Member shall install, operate, and maintain the DG System in full and faithful compliance with all applicable federal, state, and local laws, ordinances, rules and regulations, and generally accepted industry codes and standards, including, but not limited to the National Electrical Safety Code and the National Electrical Code. Member shall promptly notify Cooperative upon receipt of any citation or other official notice of alleged violation of laws, ordinances, rules, and regulations concerning the DG System.

Article 3.0 | Member warrants and represents that:

3.01 | The information regarding the characteristics of the DG System are as specified in the Application for Interconnection and Parallel Operation of Distributed Generation with the Cooperative Electric system filed by the Member with Cooperative;

3.02 | The DG System and associated other electrical components and devices meet National Electrical Code standards;

3.03 | All permits, inspections, approvals, and/or licenses necessary for the installation or operation of the DG System have been obtained. The DG System has been successfully tested to UL 1741 and IEEE 1547 standards or has been satisfactorily tested by an independent laboratory with published results.

3.04 | Member shall provide manufacturer's data or other written proof acceptable to Cooperative to verify the accuracy of the foregoing warranties and representations. If any of foregoing warranties and representations are inaccurate, Cooperative may, without waiver of or prejudice to any other remedy, immediately disconnect the DG system from the Cooperative electric system and terminate this agreement.

Article 4.0 | Cooperative will purchase from Member and Member will sell exclusively to Cooperative the electrical output from the DG system that is "received" by the Cooperative's Distribution System. During the

term of this Agreement, Member shall exclusively purchase from Cooperative its requirements of electric energy above the amounts generated by the DG system.

Article 5.0 | The Cooperative shall pay Member for the "kWh Received" (energy received by the Cooperative's Distribution System) at the "Avoided Cost of Generation Rate" (ACGR). The ACGR is determined by the average per kWh cost of wholesale generation costs for electric energy purchased by Cooperative from its wholesale electric energy provider(s). Cooperative reserves the right to amend the ACGR at any time.

Article 6.0 | At the point of Member / premise interconnection, the Cooperative will provide a standard data recorder (meter) that can measure the "kWh Delivered" and the "kWh Received" in intervals established by the Cooperative. If special (non-standard) metering is required, the Cooperative will identify this requirement and any cost to the Member prior to approval of the DG Application.

Article 7.0 | The Cooperative will determine whether an interconnection study is necessary, based on relevant engineering factors including the output of the system, the location of the system and other Cooperative distribution system factors. Interconnection studies include service study, coordination study, and utility system impact study, as needed, and determined in the sole discretion of Cooperative. If the interconnection study is deemed necessary, the Cooperative shall perform the study under reasonable terms and conditions agreed upon by both the Member and Cooperative o and at the Member's sole expense.

Any modifications or additions to the Cooperative's Electric system identified through the interconnection study as required for the safe and reliable interconnection of Member's facility shall be solely at the Member's expense. Member shall not acquire any ownership in such modifications or additions to Cooperative's distribution system.

The interconnection study may conclude the proposed system may not be approved / authorized by the Cooperative. In such cases, the Cooperative will make the study available to the Member and may also offer recommendations for modifications that could result in authorization to proceed with a revised system.

No study fee will be charged if the proposed generation site is not on a networked secondary and if all of the following apply:

1) The proposed generation equipment is pre-certified. Generation equipment that are less than 20 kW AC shall be considered pre-certified if a UL 1741 listed inverter that also meets IEEE 1547 specifications is used. For solar PV installations, to be pre-certified system must have UL 1703 listed PV modules, and

2) The proposed generation system does not expect to export more than 15% of total load on the feeder, and

3) The proposed generation system does not contribute more than 25% of the maximum possible short circuit current of the feeder.

Article 8.0 | Member shall be solely responsible for the design, installation, operation, maintenance, and repair of the DG System and Member's interconnection facilities. The interconnection of the DG System to the Cooperative electrical system shall comply with the Public Utility Commission of Texas Substantive Rules §25.212 relating to Technical Requirements for Interconnection and Parallel Operation of On-Site Distributed Generation, (16 Texas administrative Code §25.212) or any successor rule addressing distributed generation. Cooperative shall inspect the DG System and the interconnection equipment. All costs to interconnect with the Cooperative electric system shall be the responsibility of Member. The Cooperative shall not be required

to take or pay for any energy generated by the DG System until the DG System successfully passes Cooperative's Field Inspection and Member shall have reimbursed Cooperative for all its interconnection costs. Maintenance of the DG System shall be performed in accordance with the applicable manufacturer's recommended maintenance schedule.

Article 9.0 | Cooperative shall not be obligated to accept and shall have the right to require Member to temporarily curtail, interrupt, or reduce, deliveries of energy in order to construct, install, maintain, repair, replace, remove, investigate, inspect, or test any part of the interconnection facilities, equipment, or any part of the Cooperative electric system. Cooperative may disconnect, without notice, the DG System from the electric distribution system, if, in Cooperative's opinion, a hazardous condition exists, and such immediate action is necessary to protect persons, or Cooperative's facilities or other members' facilities from damage or interference caused by Member's DG System or lack of properly operating protective devices.

Article 10.0 | Member hereby grants Cooperative access on and across its property at any reasonable time to inspect the DG System and the interconnection equipment, to read or test meters and metering equipment, and to operate, maintain and repair Cooperative's facilities. No inspection by Cooperative of the DG System or the interconnection facilities shall impose on Cooperative any liability or responsibility for the operation, safety or maintenance of the DG system or Member's interconnection facilities.

Article 11.0 | MEMBER SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS LAMAR ELECTRIC COOPERATIVE, ITS ELECTED AND NON-ELECTED OFFICIALS, OFFICERS, AGENTS AND EMPLOYEES FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, CLAIMS, DAMAGES, ACTIONS, SUITS OR DEMANDS FOR DAMAGES (INCLUDING COSTS AND ATTORNEY'S FEES, BOTH AT TRIAL AND ON APPEAL) ARISING OUT OF, RESULTING FROM, OR IN ANY MANNER CONNECTED WITH THE BREACH OF ANY WARRANTY OR REPRESENTATION MADE BY MEMBER IN THIS AGREEMENT, OR IN ANY MANNER CONNECTED WITH THE DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE OR REPAIR OF ANY PART OF MEMBER'S DG SYSTEM OR INTERCONNECTION FACILITIES, INCLUDING, WITHOUT LIMITATION LIABILITIES, LOSSES, CLAIMS, DAMAGES, ACTIONS, SUITS OR DEMANDS FOR DAMAGES FOR OR ON ACCOUNT OF PERSONAL INJURY TO, OR DEATH OF, ANY PERSON, OR DAMAGE TO, OR DESTRUCTION OR LOSS OF, PROPERTY BELONGING TO MEMBER, LAMAR ELECTRIC COOPERATIVE OR ANY THIRD PERSON.

Article 12.0 | For Facilities 50 kW and Smaller: The Member is not required to provide a certificate of insurance coverage to Lamar Electric Cooperative. It is recommended, however, that the Member carry liability insurance coverage 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.

Article 13.0 | After the initial term of 12 months, this agreement shall continue in force thereafter unless terminated by either party giving at least thirty (30) days written notice to the other.

Article 14.0 | 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 Cooperative:
Lamar Electric Cooperative

If to Member:

_____

_____

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

Article 15.0 | A material failure of either party to fully, faithfully, and timely perform its obligations under this Agreement shall be a breach of this Agreement. In the event of a breach which is not cured within thirty (30) days after receipt of written notice to the party in default, the party not in default may terminate this Agreement. **If** Member is in breach of this Agreement, and such breach continues for thirty (30) days after written notice from Cooperative, Cooperative may disconnect the DG System or otherwise suspend taking energy from Member. All rights granted under this section are in addition to all other rights or remedies available at law or under this Agreement or the applicable Cooperative Utilities Rules and Regulations.

Article 16.0 | This Agreement shall inure to the benefit of and by binding upon the heirs, successors, or assigns of each of the parties hereto. Member may not assign this Agreement without the prior written consent of Cooperative. Any assignment without such consent shall be null and void.

Article 17.0 | This Agreement constitutes the entire agreement and understanding between the parties hereto and can be amended only by agreement between the parties in writing. In the event any provision of this Agreement, or any part or portion thereof, shall be held to be invalid, void or otherwise unenforceable, the obligations of the parties shall be deemed to be reduced only as much as may be required to remove the impediment.

Article 18.0 | The failure of either party to insist in anyone or more instances upon strict performance of any provisions of this Agreement, or to take advantage of any of its rights hereunder, shall not be construed as a waiver of any such provision or the relinquishment of any such right or any other right hereunder.

Article 19.0 | This Agreement and all disputes arising hereunder shall be governed by the laws of the State of Texas. The venue for all such disputes shall be proper and lie exclusively in Lamar County, Texas.

IN WITNESS WHEREOF, the parties hereto have caused their names to appear below, signed by authorized representatives.

Lamar Electric Cooperative

By (Signature): _____

Name (Print): _____

Title: _____

Date: _____

Member

By (Signature): _____

Name (Print): _____

Date: _____

Section 7: Distributed Generation Agreement Residential Installations (≤ 20kW AC)

FOR THE INTERCONNECTION AND PARALLEL OPERATION OF DISTRIBUTED GENERATION WITH LAMAR ELECTRIC COOPERATIVE

THIS AGREEMENT is entered into by and between Lamar Electric Cooperative (Cooperative) and _____ _____Member (Member).

Lamar Electric Cooperative owns and operates an Electric Cooperative engaged in the distribution of electricity serving the service area of Lamar Electric Cooperative, which includes portions of Delta, Fannin, Lamar, and Red River Counties; and Member intends to construct, own, operate, maintain, and connect to Lamar Electric Cooperative electric distribution system, a Distributed Generation system (DG System) for a Residential Account with a nameplate rating less than or equal to 20kW AC at address:

_____; and the parties hereto wish to contract for the purchase and sale of the electrical output from the DG System, and the terms of its interconnection with Lamar Electric Cooperative electric distribution system. THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereby contract and agree with each other as follows:

Article 1.0 | This Agreement shall be effective as of the date of execution by the latter of the two parties (the Effective Date) and, subject to the other terms of this Agreement, shall continue in effect for a period of one year, and month to month thereafter.

Article 2.0 | The DG System will be installed at Member's premises at the address specified above. Member shall install, operate, and maintain the DG System in full and faithful compliance with all applicable federal, state, and local laws, ordinances, rules and regulations, and generally accepted industry codes and standards, including, but not limited to the National Electrical Safety Code and the National Electrical Code. Member shall promptly notify Cooperative upon receipt of any citation or other official notice of alleged violation of laws, ordinances, rules, and regulations concerning the DG System.

Article 3.0 | Member warrants and represents that:

3.01 | The information regarding the characteristics of the DG System are as specified in the Application for Interconnection and Parallel Operation of Distributed Generation with the Cooperative Electric system filed by the Member with Cooperative;

3.02 | The DG System and associated other electrical components and devices meet National Electrical Code standards;

3.03 | All permits, inspections, approvals, and/or licenses necessary for the installation or operation of the DG System have been obtained. The DG System has been successfully tested to UL 1741 and IEEE 1547 standards or has been satisfactorily tested by an independent laboratory with published results.

3.04 | Member shall provide manufacturer's data or other written proof acceptable to Cooperative to verify the accuracy of the foregoing warranties and representations. If any of foregoing warranties and representations are inaccurate, Cooperative may, without waiver of or prejudice to any other remedy, immediately disconnect the DG system from the Cooperative electric system and terminate this agreement.

Article 4.0 | Cooperative will purchase from Member and Member will sell exclusively to Cooperative the electrical output from the DG system that is "received" by the Cooperative's Distribution System. During the

term of this Agreement, Member shall exclusively purchase from Cooperative its requirements of electric energy above the amounts generated by the DG system.

Article 5.0 | The Cooperative shall pay Member for the "kWh Received" (energy received by the Cooperative's Distribution System) at the "Avoided Cost of Generation Rate" (ACGR). The ACGR is determined by the average per kWh cost of wholesale generation costs for electric energy purchased by Cooperative from its wholesale electric energy provider(s). Cooperative reserves the right to amend the ACGR at any time.

Article 6.0 | At the point of Member / premise interconnection, the Cooperative will provide a standard data recorder (meter) that can measure the "kWh Delivered" and the "kWh Received" in intervals established by the Cooperative. If special (non-standard) metering is required, the Cooperative will identify this requirement and any cost to the Member prior to approval of the DG Application.

Article 7.0 | The Cooperative will determine whether an interconnection study is necessary, based on relevant engineering factors including the output of the system, the location of the system and other Cooperative distribution system factors. Interconnection studies include service study, coordination study, and utility system impact study, as needed, and determined in the sole discretion of Cooperative. If the interconnection study is deemed necessary, the Cooperative shall perform the study under reasonable terms and conditions agreed upon by both the Member and Cooperative o and at the Member's sole expense.

Any modifications or additions to the Cooperative's Electric system identified through the interconnection study as required for the safe and reliable interconnection of Member's facility shall be solely at the Member's expense. Member shall not acquire any ownership in such modifications or additions to Cooperative's distribution system.

The interconnection study may conclude the proposed system may not be approved / authorized by the Cooperative. In such cases, the Cooperative will make the study available to the Member and may also offer recommendations for modifications that could result in authorization to proceed with a revised system.

No study fee will be charged if the proposed generation site is not on a networked secondary and if all of the following apply:

1) The proposed generation equipment is pre-certified. Generation equipment that are less than 20 kW AC shall be considered pre-certified if a UL 1741 listed inverter that also meets IEEE 1547 specifications is used. For solar PV installations, to be pre-certified system must have UL 1703 listed PV modules, and

2) The proposed generation system does not expect to export more than 15% of total load on the feeder, and

3) The proposed generation system does not contribute more than 25% of the maximum possible short circuit current of the feeder.

Article 8.0 | Member shall be solely responsible for the design, installation, operation, maintenance, and repair of the DG System and Member's interconnection facilities. The interconnection of the DG System to the Cooperative electrical system shall comply with the Public Utility Commission of Texas Substantive Rules §25.212 relating to Technical Requirements for Interconnection and Parallel Operation of On-Site Distributed Generation, (16 Texas administrative Code §25.212) or any successor rule addressing distributed generation. Cooperative shall inspect the DG System and the interconnection equipment. All costs to interconnect with the Cooperative electric system shall be the responsibility of Member. The Cooperative shall not be required

to take or pay for any energy generated by the DG System until the DG System successfully passes Cooperative's Field Inspection and Member shall have reimbursed Cooperative for all its interconnection costs. Maintenance of the DG System shall be performed in accordance with the applicable manufacturer's recommended maintenance schedule.

Article 9.0 | Cooperative shall not be obligated to accept and shall have the right to require Member to temporarily curtail, interrupt, or reduce, deliveries of energy in order to construct, install, maintain, repair, replace, remove, investigate, inspect, or test any part of the interconnection facilities, equipment, or any part of the Cooperative electric system. Cooperative may disconnect, without notice, the DG System from the electric distribution system, if, in Cooperative's opinion, a hazardous condition exists, and such immediate action is necessary to protect persons, or Cooperative's facilities or other members' facilities from damage or interference caused by Member's DG System or lack of properly operating protective devices.

Article 10.0 | Member hereby grants Cooperative access on and across its property at any reasonable time to inspect the DG System and the interconnection equipment, to read or test meters and metering equipment, and to operate, maintain and repair Cooperative's facilities. No inspection by Cooperative of the DG System or the interconnection facilities shall impose on Cooperative any liability or responsibility for the operation, safety or maintenance of the DG system or Member's interconnection facilities.

Article 11.0 | MEMBER SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS LAMAR ELECTRIC COOPERATIVE, ITS ELECTED AND NON-ELECTED OFFICIALS, OFFICERS, AGENTS AND EMPLOYEES FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, CLAIMS, DAMAGES, ACTIONS, SUITS OR DEMANDS FOR DAMAGES (INCLUDING COSTS AND ATTORNEY'S FEES, BOTH AT TRIAL AND ON APPEAL) ARISING OUT OF, RESULTING FROM, OR IN ANY MANNER CONNECTED WITH THE BREACH OF ANY WARRANTY OR REPRESENTATION MADE BY MEMBER IN THIS AGREEMENT, OR IN ANY MANNER CONNECTED WITH THE DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE OR REPAIR OF ANY PART OF MEMBER'S DG SYSTEM OR INTERCONNECTION FACILITIES, INCLUDING, WITHOUT LIMITATION LIABILITIES, LOSSES, CLAIMS, DAMAGES, ACTIONS, SUITS OR DEMANDS FOR DAMAGES FOR OR ON ACCOUNT OF PERSONAL INJURY TO, OR DEATH OF, ANY PERSON, OR DAMAGE TO, OR DESTRUCTION OR LOSS OF, PROPERTY BELONGING TO MEMBER, LAMAR ELECTRIC COOPERATIVE OR ANY THIRD PERSON.

Article 12.0 | For Facilities 50 kW and Smaller: The Member is not required to provide a certificate of insurance coverage to Lamar Electric Cooperative. It is recommended, however, that the Member carry liability insurance coverage 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.

Article 13.0 | After the initial term of 12 months, this agreement shall continue in force thereafter unless terminated by either party giving at least thirty (30) days written notice to the other.

Article 14.0 | 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 Cooperative:
Lamar Electric Cooperative

If to Member:

_____

_____

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

Article 15.0 | A material failure of either party to fully, faithfully, and timely perform its obligations under this Agreement shall be a breach of this Agreement. In the event of a breach which is not cured within thirty (30) days after receipt of written notice to the party in default, the party not in default may terminate this Agreement. **If** Member is in breach of this Agreement, and such breach continues for thirty (30) days after written notice from Cooperative, Cooperative may disconnect the DG System or otherwise suspend taking energy from Member. All rights granted under this section are in addition to all other rights or remedies available at law or under this Agreement or the applicable Cooperative Utilities Rules and Regulations.

Article 16.0 | This Agreement shall inure to the benefit of and by binding upon the heirs, successors, or assigns of each of the parties hereto. Member may not assign this Agreement without the prior written consent of Cooperative. Any assignment without such consent shall be null and void.

Article 17.0 | This Agreement constitutes the entire agreement and understanding between the parties hereto and can be amended only by agreement between the parties in writing. In the event any provision of this Agreement, or any part or portion thereof, shall be held to be invalid, void or otherwise unenforceable, the obligations of the parties shall be deemed to be reduced only as much as may be required to remove the impediment.

Article 18.0 | The failure of either party to insist in anyone or more instances upon strict performance of any provisions of this Agreement, or to take advantage of any of its rights hereunder, shall not be construed as a waiver of any such provision or the relinquishment of any such right or any other right hereunder.

Article 19.0 | This Agreement and all disputes arising hereunder shall be governed by the laws of the State of Texas. The venue for all such disputes shall be proper and lie exclusively in Lamar County, Texas.

IN WITNESS WHEREOF, the parties hereto have caused their names to appear below, signed by authorized representatives.

Lamar Electric Cooperative

By (Signature): _____

Name (Print): _____

Title: _____

Date: _____

Member

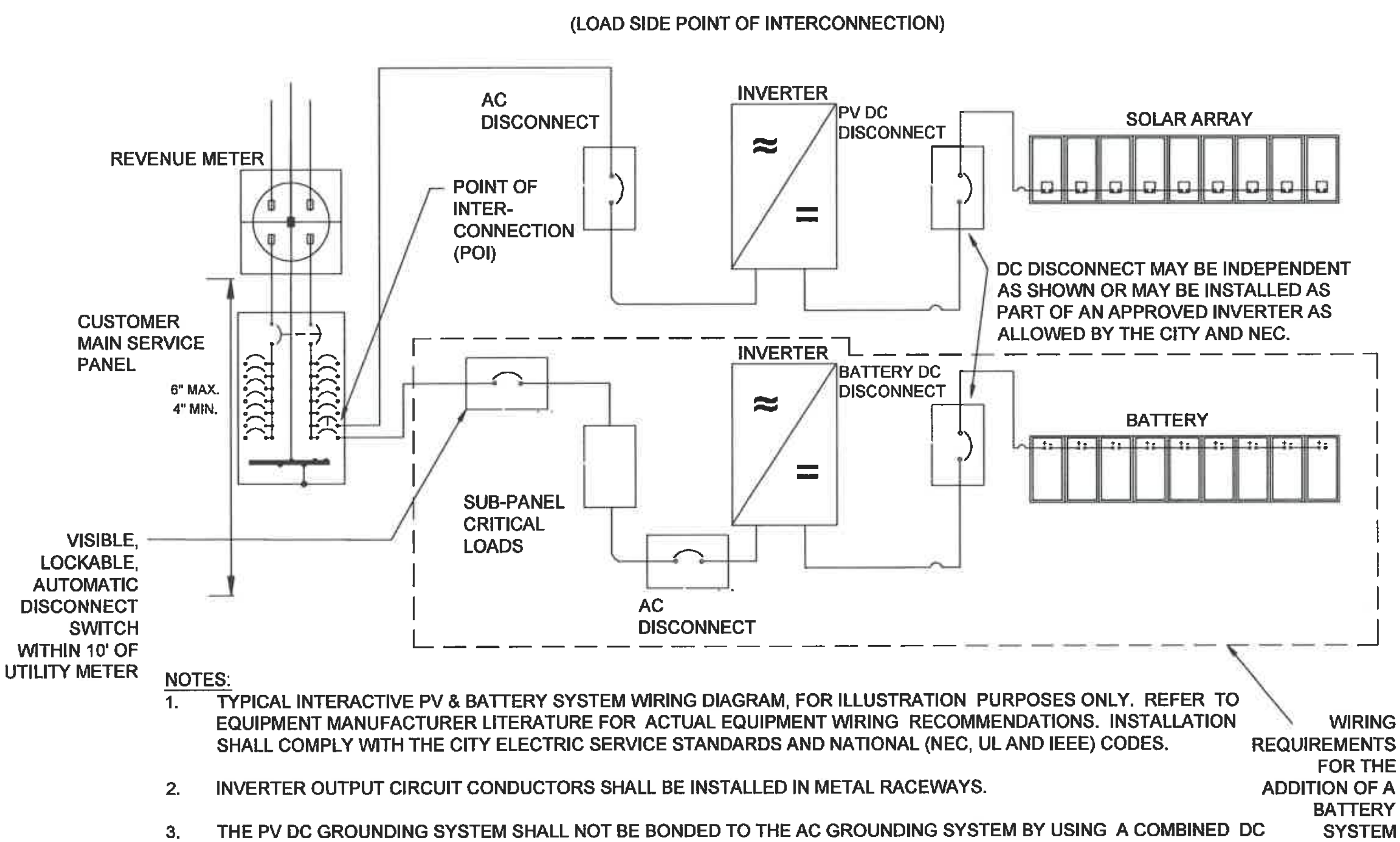
By (Signature): _____

Name (Print): _____

Date: _____

Section 8: Distributed Generation Interconnection Diagrams

FIGURE 1
TYPICAL PHOTOVOLTAIC (PV) & BATTERY BACKUP
SINGLE METER ELEVATION (WITH BATTERY)
SYSTEMS 120/240-VOLT SINGLE-PHASE ONE-LINE DIAGRAM



NOTES:

1. TYPICAL INTERACTIVE PV & BATTERY SYSTEM WIRING DIAGRAM, FOR ILLUSTRATION PURPOSES ONLY. REFER TO EQUIPMENT MANUFACTURER LITERATURE FOR ACTUAL EQUIPMENT WIRING RECOMMENDATIONS. INSTALLATION SHALL COMPLY WITH THE CITY ELECTRIC SERVICE STANDARDS AND NATIONAL (NEC, UL AND IEEE) CODES.

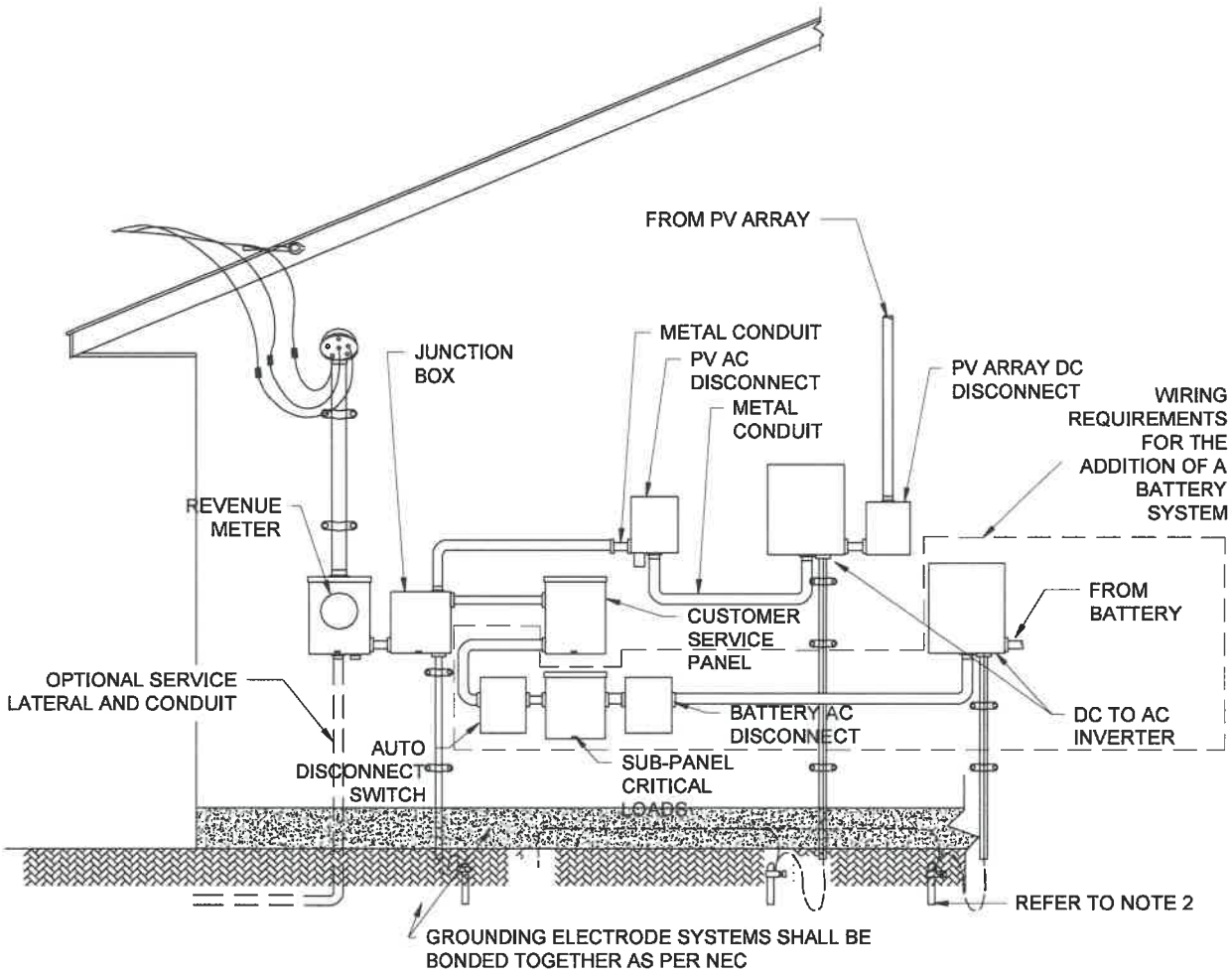
2. INVERTER OUTPUT CIRCUIT CONDUCTORS SHALL BE INSTALLED IN METAL RACEWAYS.

3. THE PV DC GROUNDING SYSTEM SHALL NOT BE BONDED TO THE AC GROUNDING SYSTEM BY USING A COMBINED DC GROUNDING ELECTRODE CONDUCTOR AND AC EQUIPMENT GROUNDING CONDUCTOR. CONTRACTOR MAY CHOOSE TO USE THE OPTION SHOWN ABOVE OR MAY INSTALL A GROUNDING ELECTRODE CONDUCTOR FROM THE INVERTER DIRECTLY TO THE SERVICE GROUNDING ELECTRODE SYSTEM.

4. WHERE THE POINT OF INTERCONNECTION IS TO BE MADE AHEAD OF THE SERVICE EQUIPMENT, IT SHALL BE MADE AFTER LAMAR ELECTRIC COOPERATIVE REVENUE METER. SUCH INSTALLATION MUST BE PRE-APPROVED BY LAMAR ELECTRIC COOPERATIVE.

Lamar Electric Cooperative	ELECTRICAL DISTRIBUTION CONSTRUCTION SPECIFICATIONS SENERGY — TEXAS REGISTRATION NUMBER F-1594	TYPICAL PHOTOVOLTAIC & BATTERY SYSTEM	APPROVED / BY UNIT NUMBER FIGURE 1

FIGURE 2
TYPICAL 120/240-VOLT, SINGLE- PHASE PV & BATTERY SYSTEM
(LINE-SIDE POINT OF INTERCONNECTION)



NOTES:

1. INVERTER OUTPUT CIRCUIT CONDUCTORS SHALL BE INSTALLED IN METAL RACEWAYS FROM INVERTER TO POINT OF INTERCONNECTION.

2. GROUNDING ELECTRODE SYSTEM INSTALLED AS PER NEC TO INCLUDE 5/8-INCH X 8-FOOT GROUND ROD AS REQUIRED BY LEC AT ALL CUSTOMER SERVICE LOCATIONS.

3. THE PV DC GROUNDING SYSTEM SHALL NOT BE BONDED TO THE AC GROUNDING SYSTEM BY USING A COMBINED DC GROUNDING ELECTRODE CONDUCTOR AND AN AC EQUIPMENT GROUNDING CONDUCTOR. CONTRACTOR MAY CHOOSE TO USE THE OPTION SHOWN ABOVE OR MAY INSTALL A GROUNDING ELECTRODE CONDUCTOR DIRECTLY FROM THE INVERTER GROUNDING ELECTRODE TERMINAL TO THE MAIN SERVICE GROUNDING ELECTRODE SYSTEM.

4. THE PV AC SERVICE DISCONNECT SHALL BE LOCATED IMMEDIATELY ADJACENT TO THE REVENUE METER.

5. LABELING AND IDENTIFICATION OF ALL PV RELATED EQUIPMENT SHALL BE DONE IN ACCORDANCE WITH THE NEC.

6. THE POINT OF INTERCONNECTION SHALL BE MADE AFTER THE REVENUE METER IN A JUNCTION BOX SUITABLE FOR THE CONDITIONS AND PROVIDED WITH LOCKING PROVISIONS. SUCH INSTALLATIONS MUST BE PRE-APPROVED BY LEC.

Lamar Electric Cooperative	ELECTRICAL DISTRIBUTION CONSTRUCTION SPECIFICATIONS	TYPICAL PHOTOVOLTAIC & BATTERY SYSTEM	APPROVED	BY
	SENERGY POWERED BY ENGINEERED SOLUTIONS — TEXAS REGISTRATION NUMBER F-1594			
			UNIT NUMBER	FIGURE 2