

Weatherford Municipal Utility System

Distributed Generation Procedures & Guidelines Manual for Customers

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**DISTRIBUTED GENERATION PROCEDURES &
GUIDELINES MANUAL
FOR CUSTOMERS**

A. General

Weatherford Municipal Utility System (WMUS) makes available to its Customers the ability to connect Distributed Generation (DG) to the electric system to encourage distributed generation energy development while protecting the electric system and the Customer's equipment.

In order to receive service from WMUS, a Customer must join or become a "Customer" of the WMUS. Throughout this DG Manual, Customers will be referred to as "Customers." For more information about the WMUS membership application process, including any applicable membership fees or deposits, see the WMUS to request new Customer information.

It is the intent of the WMUS to allow Customers to install DG, provided the Customer's DG facility does not adversely affect the WMUS. The Customer must conduct his/her own analysis to determine the economic benefit of DG operation.

A DG facility that is not connected to the WMUS's system in any way is known as "stand-alone" or "isolated" DG. The Customer may operate a DG facility in a stand-alone or isolated fashion as long as such DG facility does not adversely affect the WMUS's system. A DG facility connected in any way to the WMUS's system shall be considered as in "parallel." For purposes of this DG Manual, a DG facility is considered operating in "parallel" anytime it is connected to the WMUS's system in any way, even if the Customer does not intend to export power. All provisions of this DG Manual shall apply to parallel operation of DG facilities as so defined. Customer shall fully comply with the provisions of this DG Manual, as same may be amended from time to time at the sole discretion of the WMUS.

This DG Manual is not a complete description or listing of all laws, ordinances, rules and regulations, nor is this DG Manual intended to be an installation or safety manual. The Customer requesting to interconnect a DG facility to the WMUS's system is responsible for and must follow, in addition to all provisions of this DG Manual, the WMUS's Rules and Regulations and Tariffs for Electric Service, the WMUS's Line Extension Policy, the Policies and Procedures of the WMUS's power supplier where applicable, the Policies and Procedures of the WMUS's transmission service provider where applicable, the current IEEE 1547 Standard Guide for Distributed Generation Interconnection (a copy is on file at the WMUS for inspection along with information so the Customer may obtain his/her own copy), other applicable IEEE standards, applicable ANSI standards, including ANSI C84.1 Range A and any other applicable governmental and regulatory laws, rules, ordinances or requirements. All legal, technical, financial, etc. requirements in the following sections of this DG Manual must be met prior to interconnection of the DG facility to the WMUS's system.

A Customer may serve all loads behind the meter at the location serving the DG facility but will not be allowed to serve multiple meters, multiple consuming facilities or multiple Customers with a single DG facility or under a single DG application without prior written approval by the WMUS.

DG facilities larger than 10 MW are not covered by this DG Manual and will be considered by the WMUS, and/or its Power Supplier, on a case-by-case basis.

1. Qualifying (Facility) “small power production facility”- meaning as assigned this term by 16 USC Section 796(17)(A), the owner or operator of a qualifying small power production facility; which is an eligible solar, wind, waste, or geothermal facility, or a facility which
 - a. produces electric energy sole by use, as a primary energy source, of biomass, waste, renewable resources, geothermal resources, or any combination thereof; and
 - b. has power production capacity which, together with any other facilities located at the same site is not greater than 80 megawatts;
2. “primary energy source” means the fuel or fuels used for the generation of electric energy, except that such term does not include, as determined under rules prescribed by the Commission, in consultation with the Secretary of Energy
 - a. the minimum amounts of fuel required for ignition, startup, testing, flame stabilization, and control uses, and
 - b. the minimum amounts of fuel required to alleviate or prevent
 - i. unanticipated equipment outages, and
 - ii. emergencies directly affecting the public health, safety, or welfare, which would result from electric power outages;
3. “qualifying small power production facility” means a small power production facility that the Commission determines by rule, meets such requirements (including requirements respecting fuel use, fuel efficiency, and reliability) as the Commission may, by rule, prescribe;
4. “qualifying small power producer” means the owner or operator of a qualifying small power production facility;
5. “eligible solar, wind, waste or geothermal facility” means a facility which produces electric energy solely by the use, as a primary energy source, of solar energy, wind energy, waste resources or geothermal resources; but only if
 - a. either of the following is submitted to the Commission:

- i. an application for certification of the facility as a qualifying small power production facility; or
- ii. notice that the facility meets the requirements for qualification; and

Net Metering Producer- self energy producer whose energy production is used to offset all or a portion of the self producer's on-site electrical load. Metering is usually accomplished via using a single bi-directional meter to determine net energy flows. Producers that generate more energy than they consume during a billing period will receive credit for net excess generation at the appropriate avoided cost rate.

Wholesale Producer- a person who is engaged directly or indirectly through one or more affiliates exclusively in the business of owing or operating all or part of a facility for generating electric energy and selling electric energy at wholesale, who does not own a facility for the transmission of electricity , other than an essential interconnecting transmission facility necessary to effect a sale of electric energy at wholesale, and who is in compliance with the registration requirements of the state of this title relating to registration of power marketers.

B. Determine the Category of Distributed Generation Facility

1. Connection Level Category

- a. If connected to the WMUS Distribution System :
The Customer requests and/or the Customer's DG facility require connection to the WMUS's system. All provisions of this DG Manual cover this category.
- b. If connected to the WMUS's Power Supplier's System (12.47 kV Voltages, 10 MW and above):
The Customer requests and/or the Customer's DG facility require connection to the WMUS's Power Supplier's system. This DG Manual does NOT cover this category. The Customer should contact the WMUS's Power Supplier directly as follows: Manager of Communications/Key Accounts, Brazos Electric, 1-888-751-6500.

2. Power Export Category

- a. Parallel – no power export (typical for small distributed generation \leq 20 kW)
The Customer operates a DG facility connected in any way to the WMUS system but with no intention to export power.
- b. Parallel – power generated to be both consumed and exported
The Customer operates a DG facility connected in any way to the WMUS's system designed primarily to serve the Customer's own load but with the intention to export excess power.
- c. Parallel – power generated to be exported only

The Customer operates a DG facility connected in any way to the WMUS's system designed primarily with the intention to export power.

3. Size Category

a. Facilities 20 kW and smaller

Facilities \leq 20 kW of connected generation will be placed in this size category unless the Customer requests connection under the > 20 kW size category.

b. Facilities above 20 kW and below 10 MW

Facilities > 20 kW and below 10 MW of connected generation will be placed in this size category. Facilities \leq 20 kW may be placed in this size category if so requested by the Customer.

c. Facilities above 10 MW of connected generation

Not considered under this DG Manual

C. Customer's Initial Requirements

1. Notification

a. The Customer must meet all the WMUS's membership and service requirements in addition to the requirements in the DG Manual.

b. Anyone owning or operating a DG facility in parallel with the WMUS's system must notify the WMUS of the existence, location and category of the DG facility.

2. Service Request

a. In advance of request for an interconnection, the Customer must contact the WMUS and complete the "WMUS Agreement for Interconnection and Parallel Operation of Distributed Generation."

b. DG facilities under 20 kW in size and of standard manufacture and design (as so determined by the WMUS) may submit the Agreement Short Form. All other facilities must submit the Agreement Long Form.

c. A separate form must be submitted for each facility.

3. Submit a DG Plan

a. As a part of the application, the Customer shall submit a plan detailing the electrical design, interconnection requirements, size, and operational plans for the DG facility (the "DG plan"). Either at the time of submission or at any time during the review process, the WMUS may require additional information or may require the DG plan to be prepared by a Professional Engineer registered in the state of Texas.

- b. In the case of DG facilities (i) to be operated in parallel with the WMUS's system, (ii) with no intention to export power to the WMUS and (iii) that are of standard design and intended entirely as emergency or back-up power supply for the facility, the WMUS may, at its sole discretion, waive the application fee.
- c. Prior to review of the application and DG plan by the WMUS, the Customer shall pay an application fee as indicated below. A separate fee must be submitted for each DG facility.

DG Size (Connected Load)	Application Fee	Additional Engineering Fee
< 20 kW	\$50	None
20 kW to 10 MW	\$250	As Required
> 10 MW	Not covered by this DG Manual	

D. WMUS Power Supplier Review Process

1. Plan Review Process

- a. The WMUS and its Power Supplier, if requested by the WMUS, will review the application and accompanying documents, plans, specifications, and other information provided and will return an interconnection analysis to the Customer within 60 days of receipt of final plans and specifications and additional information, if any, requested by the WMUS.
- b. Technical review will be consistent with guidelines established by the most recent ***IEEE Standard 1547 Guide for Distributed Generation Interconnection***. The Customer may be required by the WMUS to provide proof that their DG Facilities have been tested and certified by applicable IEEE guidelines.
- c. If corrections or changes to the plans, specifications and other information are to be made by the Customer, the 60 day period may be reinitialized when such changes or corrections are provided to the WMUS. In addition, any changes to the site or project requiring new analysis by the WMUS may require additional cost and a new DG plan. The cost will be determined by the WMUS and shall be paid by the Customer.
- d. The Customer acknowledges and agrees that any review or acceptance of such plans, specifications and other information by the WMUS and/or its Power Supplier shall not impose any liability on the WMUS and/or its Power Supplier and does not guarantee the adequacy of the Customer's equipment or DG facility to perform its intended function. The WMUS and its Power Supplier disclaim any expertise or special knowledge relating to the design or

performance of DG installations and does not warrant the efficiency, cost-effectiveness, safety, durability, or reliability of such DG installations. Installation and operation of the DG facility shall at all times be at the Customer's risk and expense.

- e. In the event it is necessary at the time of initial interconnection or at some future time for the WMUS and/or its Power Supplier to modify electric delivery systems in order to serve the Customer's DG facilities and/or purchase or continue to purchase the output of the Customer's DG facilities, or because the quality of the power provided by the Customer's DG adversely affects the WMUS's and/or its Power Supplier's delivery system, the Customer will be responsible to pay the WMUS and/or its Power Supplier in advance for all costs of modifications required for the interconnection of the Customer's DG facilities.

E. Sales to and Purchases from a Distributed Generation Facility

1. For all DG where the Customer desires to export power
 - a. All DG facilities shall be billed under one of the WMUS's existing rate tariffs.
 - b. All sales of electric power and energy by the WMUS to a Customer shall be consistent with the applicable retail rate schedule established by the WMUS as if there were no DG installation at the Customer's premises, including any charges in the WMUS's DG tariff rider.
 - c. The Customer shall pay all rates and charges so listed in the applicable tariff sections.
 - d. The Customer shall be subject to any market charges related to the Customer's DG facility, including but not limited to scheduling, dispatching and energy imbalance.
2. For DG \leq 20 kW where the Customer desires to export power:
 - a. For power produced in excess of on-site requirements, the Customer will be compensated by netting the Customer's kWh generation against the Customer's kWh consumption, referred to as "net metering." The WMUS shall bill the Customer for the excess energy supplied by the WMUS over and above the energy supplied by the Customer during each billing period according to the WMUS's applicable retail rate schedule.
 - b. When the energy supplied by the Customer exceeds the energy supplied by the WMUS during a billing period, the monthly charge and/or minimum bill of the retail rate schedule shall be billed by the WMUS in addition to the monthly metering charge, and the excess energy shall be accounted for per the interconnection agreement.

- c. The Customer shall sign an approved Interconnection Agreement, as detailed in this DG Manual, for interconnection service with the WMUS.
- d. In addition to all other charges, the WMUS may bill the Customer for any additional facilities charges as determined by the WMUS and appended to the Interconnection Agreement.

3. For DG > 20 kW and < 10 MW where the Customer desires to export power:

- a. No net metering shall be used. The type of metering to be used shall be specified at the sole discretion of the WMUS. The metering shall provide data so the WMUS can determine each billing period the energy supplied to the Customer by the WMUS and the energy supplied to the WMUS by the Customer.
- b. At the sole discretion of the WMUS, an approved load profile meter may be required which can be remotely read by the WMUS through an approved communications link. Otherwise, the meter shall be read monthly by WMUS personnel and the Customer shall be billed for the additional cost of reading the meter.
- c. The WMUS shall bill the Customer for the full energy used by the Customer during each billing period according to the WMUS's applicable retail rate schedule.
- d. In addition to all other charges, the WMUS may add an additional monthly customer charge for Customers with DG facilities to recover any additional billing, meter reading and/or customer service costs.
- e. The WMUS shall pay the Customer on a monthly basis for the energy supplied by the Customer to the WMUS. The rate paid by the WMUS to the Customer shall be the WMUS's avoided cost, as detailed in the DG Interconnection Agreement.
- f. The Customer shall sign an approved Interconnection Agreement for Interconnection of Distributed Generation with the WMUS.
- g. In addition to all other charges, the WMUS may bill the Customer for any additional facilities charges as determined by the WMUS and appended to the Interconnection Agreement.

4. Purchases from the Customer

- a. The WMUS shall not be required to make any purchases that will cause the WMUS to no longer be in compliance with any applicable contracts or all-power contract requirements with its Power Supplier(s).
- b. Any purchase of energy from the Customer shall be made at the WMUS's avoided cost.

- i. Avoided cost will be calculated by dividing the prior year's total power purchase cost (excluding demand costs, transmission costs, ERCOT and related fees, and distribution costs) by the prior year's total kWh's purchased.

F. **Customer's Responsibility Prior to Operation**

1. **Line Extension and Modifications to WMUS Facilities**

- a. As a part of the interconnection analysis performed by the WMUS, the Customer will be provided with an estimate of any line extension or other cost to be incurred in providing electric delivery service to the Customer's DG facility.
- b. Notwithstanding the WMUS's line extension policy, the Customer shall pay in advance the full cost of the construction of any transmission, substation, distribution, transformation, metering, protective, or other facilities or equipment which, at the sole discretion of the WMUS and/or its Power Supplier, is required to serve the Customer's DG facility.
- c. In the event it is necessary at the time of initial interconnection or at some future time for the WMUS and/or its Power Supplier to modify electric delivery systems in order to serve the Customer's DG facilities and/or purchase or continue to purchase the Customer's output, or because the quality of the power provided by the Customer's DG adversely affects the WMUS and/or its Power Supplier's delivery system, the Customer will reimburse the WMUS and/or its Power Supplier for all costs of modifications required for the interconnection of the Customer's DG facilities.
- d. In the event the WMUS at any time in the future changes primary voltage of facilities serving the DG facility such that metering equipment, transformers and/or any other Customer-owned equipment must be changed to continue receiving service at the new primary voltage level, the full cost of the change will be borne by the Customer.
- e. In all cases, the Customer shall pay the full cost of the installation of a visible load break disconnect switch by, and to the sole specification of, the WMUS. The switch will be readily accessible to WMUS personnel and of a type that can be secured in an open position by a WMUS lock.

2. **Applicable Regulations**

The DG facility shall be installed and operated by the Customer subject to and in accordance with the terms and conditions set forth in the WMUS's rules, regulations, bylaws, rates and tariffs, as amended from time to time, and, if applicable, approved by the WMUS's Board of Directors, which are incorporated herein by reference, and in compliance with all applicable federal, state and local laws, regulations, zoning codes, building codes, safety rules, environmental restrictions, ordinances and

regulations, including without limitation, the most recent ***IEEE Standard 1547 Guide for Distributed Generation Interconnection***, applicable ANSI standards, including ANSI C84.1 Range A, Electric Reliability Council of Texas (ERCOT) Independent System Operator (ISO) directives and ERCOT guidelines, and in accordance with industry standard prudent engineering practices.

3. **Liability Insurance**

- a. Facilities 20 kW and smaller
 - i. Prior to interconnection, the Customer must provide (at Customer's expense) proof of liability insurance coverage of no less than \$1,000,000 per occurrence in a form acceptable to the WMUS.
 - ii. The amount of the insurance coverage required to be provided by the Customer may be increased at the sole discretion of the WMUS if it considers the nature of the project to warrant such increase.
 - iii. The insurance policy will not be changed or canceled during its term without thirty days written notice to the WMUS.
 - iv. The Customer shall provide proof of such insurance to the WMUS upon request.
- b. Facilities larger than 20 kW
 - i. Prior to interconnection, the Customer must provide (at Customer's expense) a certificate of insurance showing satisfactory liability insurance including contractual liability insurance covering indemnity agreements which insures the Customer 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 Customer's generating equipment.
 - ii. The amount of such insurance coverage required to be provided by the Customer shall be specified by WMUS but shall not be less than \$1,000,000 per occurrence. The amount of such coverage and the type of insurance coverage required shall be acceptable to the WMUS and may be amended from time to time by the WMUS at the sole discretion of the WMUS.
 - iii. The certificate shall provide that the insurance policy will not be changed or canceled during its term without thirty days written notice to the WMUS. 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.
 - iv. The Customer shall provide proof of such insurance to the WMUS at least annually.

4. Contracts

a. Interconnection Contract

The Customer will sign and deliver an Agreement for Interconnection to the WMUS substantially in the form as shown in the ***WMUS Agreement for Interconnection and Parallel Operation of Distributed Generation*** included in this DG Manual.

5. Initial Interconnection

- a. Upon satisfactory completion of the review process and execution of required agreements as outlined in this DG Manual, the WMUS will begin installation of the interconnection of DG facilities. The interconnection will be completed as soon as practical after completion of the review process and execution of the necessary agreements/contracts. After completion of interconnection requirements and prior to initiation of service, the WMUS will conduct a final inspection of the facilities and interconnection to the WMUS's system. Upon final inspection satisfactory to the WMUS, the WMUS will initiate service to the Customer.
- b. The WMUS's review process and final inspection is intended as a means to help safeguard the WMUS's facilities and personnel. The Customer acknowledges and agrees that any review or acceptance of such plans, specifications and other information by the WMUS and/or its Power Supplier shall not impose any liability on the WMUS and/or its Power Supplier and does not guarantee the adequacy of the Customer's equipment or DG facility to perform its intended function. The WMUS and its Power Supplier disclaims any expertise or special knowledge relating to the design or performance of DG installations and does not warrant the efficiency, cost-effectiveness, safety, durability, or reliability of such DG installations.

G. Refusal to Interconnect Service or Disconnection of Interconnection Service

The WMUS may, at its sole discretion, prevent the interconnection or disconnect the interconnection of DG facilities due to reasons such as safety concerns, reliability issues, power quality issues, breach of interconnection contract or any other issue which the WMUS considers to be a reasonable basis for such action. Any disconnection may be without prior notice.

H. Operation of Parallel Facility

The purpose of this section is to outline the WMUS's operational requirements (the fulfillment of which is the responsibility of the Customer) for DG facilities operated in parallel with the WMUS's system and is not intended to be a complete listing of all operational, regulatory, safety and other requirements.

1. Ownership of facilities

- a. The Customer shall own and be solely responsible for all expense, installation, maintenance and operation of all facilities, including all power generating facilities, at and beyond the point of delivery as defined in the WMUS's tariffs.
- b. At its sole discretion, the WMUS may locate WMUS owned metering equipment and/or transformers past the point of delivery.

2. Self-Protection of DG Facilities

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

3. Quality of service

- a. The Customer's DG facility will generate power at the nominal voltage of the WMUS's system at the Customer's delivery point as defined by ANSI C84.1 Range A.
- b. Customer's DG installation will generate power at a frequency within the tolerances as defined by IEEE 1547.
- c. Any Customer's DG facility of greater than 20 kW in size shall produce power at a minimum power factor of at least 97% or shall use power factor correction capacitors to ensure at least a 97% power factor.
- d. Customer's DG facility shall be in accordance with the power quality limits specified in IEEE 519.
- e. The overall quality of the power provided by the Customer's DG facility including, but not limited to, the effects of harmonic distortion, voltage regulation, voltage flicker, switching surges and power factor, will be such that the WMUS system is not adversely affected in any manner.

f. In the event that adverse effects are caused in whole or in part by the Customer's DG facility, the Customer will correct the cause of such effects within 30 days of the initial adverse effect and, if applicable, reimburse the WMUS for required correction. However, the disconnection of the facilities by the WMUS is permitted if, in the sole judgment of the WMUS, adverse affects may warrant immediate disconnection from the WMUS's system per Section VII.4.

4. Safety disconnect

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

operate their DG facilities at any time unless visibly disconnected from the WMUS system. At its sole discretion, the WMUS may require Customer to install at his/her own expense an interlocking switch for the purpose of insuring the Customer's facilities do not operate in parallel with the WMUS's facilities.

- i. Should the WMUS lose power serving the Customer's DG facilities for any reason, Customers with DG facilities shall not operate their DG facilities unless visibly disconnected from the WMUS system.

5. Access

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

6. Liability for Injury and Damages

- a. The Customer assumes full responsibility for electric energy furnished by the Customer and shall indemnify the WMUS and/or its Power Supplier against and hold the WMUS and/or its Power Supplier harmless from all claims for both injuries to persons, including death, and damages to property resulting therefrom.
- b. The WMUS and/or its Power Supplier shall not be liable for either direct or consequential damages resulting from failures, interruptions, or voltage and waveform fluctuations occasioned by causes reasonably beyond the control of the WMUS and/or its Power Supplier including, but not limited to, acts of God or public enemy, acts of terrorism, 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. ALL PROVISIONS NOTWITHSTANDING, IN NO EVENT SHALL THE WMUS BE LIABLE TO THE CUSTOMER FOR ANY INTEREST, LOSS OF ANTICIPATED REVENUE, EARNINGS, PROFITS, OR INCREASED EXPENSE OF OPERATIONS, LOSS BY REASON OF SHUTDOWN OR NON-OPERATION OF CUSTOMER'S PREMISES OR FACILITIES, OR FOR ANY INDIRECT, INCIDENTAL, OR CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES ARISING OUT OF OR RELATED, IN WHOLE OR PART, TO THIS AGREEMENT. THE WMUS SHALL NOT BE LIABLE IN ANY EVENT FOR CONSEQUENTIAL DAMAGES.

- c. The Customer is solely responsible for insuring that the Customer's facility complies with all applicable regulations including, but not limited to, laws, regulations, ordinances, WMUS and WMUS Power Supplier tariffs, policies and directives, and ERCOT rules, policies and directives.

7. Metering/Monitoring

- a. The WMUS shall specify, install and own all metering equipment.
- b. Facilities ≤ 20 KW
The facility will be net metered by one of the following methods, at the sole discretion of the WMUS.
 - i. Installing a single meter which runs forward and backward or
 - ii. Installing two meters, each measuring the flow of energy in a single direction and netting the energy consumption between the two meters to determine the net monthly flow of energy
 - iii. Installing an electronic meter with forward and reverse registers and netting the energy consumption between the two registers to determine the net monthly flow of energy
- c. Facilities > 20 KW
 - i. Power transfer at the point of interconnection will be measured by metering equipment as installed and specified at the sole discretion of the WMUS.
 - ii. There shall be no net metering.
- d. The meter shall be read at a time or times of month determined at the WMUS's sole discretion for acquiring metering data. The Customer shall provide the WMUS an approved communications link at the Customer's cost for this purpose if so requested by the WMUS. The type of communications link and metering equipment measuring purchase of power by the WMUS shall be installed and specified at the sole discretion of the WMUS.
- e. The WMUS may, at its sole discretion, require the Customer to pay the WMUS in advance for metering and monitoring equipment and installation expense.
- f. Meter testing shall follow the WMUS's standard policy on metering, testing and accuracy.
- g. At its sole discretion, the WMUS may meter the facility at primary or secondary level.

8. Notice of Change in Installation

- a. The Customer will notify the WMUS in writing thirty (30) days in advance of making any change affecting the characteristics, performance, or protection of the DG facility.
- b. If any modification undertaken by the Customer will create or has created conditions which may be unsafe or adversely affect the WMUS system, the Customer shall immediately correct such conditions or be subject to immediate disconnection from the WMUS system.
- c. Any change in the operating characteristics of the DG facility including, but not limited to, size of generator, total facility capacity, nature of facility, fuel source, site change, hours of operation, or type used, may, at the sole discretion of the WMUS, require a new application process, including, but not limited to, application form, application fee, DG plan and DG plan review by the WMUS.

9. Testing and Record Keeping

- a. The Customer will test all aspects of the protection systems up to and including tripping of the generator and interconnection point at start-up and thereafter as required. Testing will verify all protective set points and relay/breaker trip timing and shall include procedures to functionally test all protective elements of the system. The WMUS may witness the testing.
- b. The Customer will maintain records of all maintenance activities, which the WMUS may review at reasonable times.
- c. For systems greater than 500 kW, a log of generator operations shall be kept. At a minimum, the log shall include the date, generator time on, generator time off, and megawatt and megavar output. The WMUS may review such logs at reasonable times.

10. Disconnection of Service

The WMUS 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 issue, which the WMUS considers to be a reasonable basis for such action.

11. Compliance With Laws, Rules and Tariffs

The DG installation owned and installed by the Customer shall be installed and operated by Customer subject to and in accordance with the terms and conditions set forth in the WMUS's rules, regulations, bylaws, rates and tariffs, as amended from time to time, and, if applicable, approved by the WMUS's Board of Directors, which are incorporated herein by reference, and in compliance with all applicable federal, state and local laws, regulations, zoning codes, building codes, safety rules, environmental restrictions, ordinances and regulations, including without limitation,

Electric Reliability Council of Texas (ERCOT) Independent System Operator (ISO) directives and ERCOT guidelines, and in accordance with industry standard prudent engineering practices.

AGREEMENT FOR INTERCONNECTION AND PARALLEL OPERATION OF DISTRIBUTED GENERATION: NET METERING PRODUCER

THIS AGREEMENT made this _____ day of _____, 20____, by and between _____ (hereinafter referred to as the "Producer") and Weatherford Municipal Utility System (hereinafter referred to as the "WMUS") is as follows:

1. **Purpose.** Producer owns or intends to own and/or operate a qualifying Power Generating Installation as defined in Section A of this document and desires to interconnect and operate such installation in parallel with the WMUS's electric Distribution System. This Agreement defines the relationship between the WMUS and the Producer, including the terms affecting the purchase and sale of electricity as well as reasonable conditions for interconnection and parallel operation.
2. **Producer's Certification.** The Producer certifies that he/she is using resources in a Power Generating Installation with an aggregate design capacity of 20 kilowatts or less. Producer certifies that he/she is a Net Metering Producer as defined in Section A of this document.
3. **Producer's Generating Installation.** The Power Generating Installation to which this agreement applies is described as:

Make _____

Model _____

Serial #_____

Fuel or Energy Source _____

Nameplate Output Rating _____ kW

Operating Voltage _____ volts

Connection _____ phase

Located at _____

Emergency Contact:

Name _____

Address _____

Phone _____

4. **Terms.** The WMUS agrees to use reasonable diligence to provide simultaneous Electric Service. Interconnection, parallel operation, and sales and purchases of electricity shall be governed by the WMUS's Tariff, including any and all amendments that may hereafter be approved or ordered by any regulator authority. **SAID TARIFF INCLUDING ALL SERVICE RULES, REGULATIONS AND RATES IS A PART OF THIS AGREEMENT TO THE SAME EXTENT AS IF FULLY SET OUT HEREIN AND IS ON FILE AND AVAILABLE AT THE WMUS'S OFFICE IN WEATHERFORD, TEXAS.**
5. **Interconnection.** Prior to interconnection, the Producer shall have (a) fulfilled all requisites for the provision of Electric Service contained in the WMUS's Tariff; (b) provided an interconnection plan and other information; (c) complied with the conditions for any Facilities extension; (d) provided satisfactory liability insurance; (e) signed and delivered this Agreement; (f) completed construction; (g) complied with laws; (h) given notice of intent to energize; and (i) eliminated any conditions preventing interconnection. The Producer warrants to the WMUS that the Producer's power generating installation is constructed, shall be maintained in a safe and reliable condition and shall comply with the latest applicable codes.
6. **Parallel Operation.** The Producer is responsible for installation, safe operation, protection, and maintenance of all equipment and wiring at and beyond the point where the Producer's conductors contact the WMUS's conductors. The electrical power generated shall be compatible with the WMUS's standard Distribution System at the Point of Delivery and of such quality that the WMUS's system is not adversely affected. The Producer shall install and pay for a visible break disconnect switch. The WMUS shall have access to the disconnect switch and the meter at all times.

The WMUS's liability is limited in accordance with its Tariff, and the Producer agrees to indemnify and hold the WMUS harmless for all claims except as specified in the Tariff.

7. **Purchases of Electricity from Producer.** The WMUS will pay a Net Metering Producer for all the metered kWh output from the Net Metering Producer above and beyond that used by the Net Metering Producer once a year. The WMUS will pay all Net Metering Producers in January for the previous calendar year. The price paid by the WMUS shall be WMUS avoided cost of wholesale power generation from its power supplier over the previous twelve (12) months.

The WMUS may, at certain times and as operating conditions warrant, reasonably refuse to accept part or all of the output of the Producer's facility. Such refusal shall be based on system emergency constraints, special operating requirements, changes in wholesale generation contractual requirements, and adverse effects of the Producer's facility on the WMUS's system or violation by the Producer of the terms of this Agreement. The WMUS shall not be required to make any purchases that will cause the WMUS to no longer be in compliance with any applicable contracts or all-power contract requirements with the WMUS's power supplier(s).

8. **Sales of Electric Service to Producer.** The Producer agrees to pay for Electric Service in accordance with the Rate Schedule applicable to the _____ class. If any Tariff or rate is changed by the WMUS, or by order or consent of any Regulator Authority having jurisdiction thereof, whether or not at the request of the WMUS, such changed Tariff, rate or redefined class of service shall be applicable to service provided hereunder from and after the date of such change. The WMUS shall render monthly a statement to the Producer for electric service, and Producer shall pay the statement in accordance with the applicable provisions of the Tariff.
9. **Term.** The acceptance of this instrument by the WMUS shall constitute an agreement between the Producer and the WMUS which shall continue in force for an initial term of _____ years (minimum of five (5) years) from the date service is made available by the WMUS to the Producer. After the initial term, this Agreement may be terminated by either party giving at least thirty (30) day's written notice to the other party.
10. **Breach.** The failure or refusal to perform any obligation contained in this Agreement shall constitute a breach of this Agreement. The parties shall have such remedies for breach as may be provided for at law or in equity. Notwithstanding any other provision of this Agreement, the WMUS may discontinue service if the Producer has breached any portion of this Agreement by failure to make timely payment or otherwise.
11. **Entire Agreement.** This Agreement constitutes the entire Agreement between the parties and supersedes all prior agreements between the Producer and the WMUS for the service herein described. The WMUS, its agents and employees have made no representations, promises, or made any inducements, written or verbal, which are not contained herein. The Producer agrees that it is not relying on any statements not herein contained.
12. **Assignment.** This Agreement shall not be assigned by the Producer except in accordance with the articles, bylaws, and Rules and regulations of the WMUS. This Agreement shall inure to the benefit of the WMUS's assigns.
13. **Interconnection Cost.** Producer agrees to pay for extension of the WMUS's Facilities and other interconnection costs as follows:

\$ _____ in advance of any work by the WMUS;
Or
\$ _____ per month as an increased monthly minimum over and above the applicable minimum stated in the WMUS's Tariff.
14. **Receipt of Tariff.** Producer acknowledges receipt of the WMUS's currently-effective Tariff.

WEATHERFORD MUNICIPAL UTILITY SYSTEM

PRODUCER

By: _____

By: _____

AGREEMENT FOR INTERCONNECTION AND PARALLEL OPERATION OF DISTRIBUTED GENERATION: WHOLESALE PRODUCER

THIS AGREEMENT made this _____ day of _____, 20____, by and between _____ (hereinafter referred to as the "Producer") and Weatherford Municipal Utility System (hereinafter referred to as the "WMUS") is as follows:

1. **Purpose.** Producer owns or intends to own and/or operate a qualifying Power Generating Installation as defined in Section A of this document and desires to interconnect and operate such installation in parallel with the WMUS's electric Distribution System. This Agreement defines the relationship between the WMUS and the Producer, including the terms affecting the purchase and sale of electricity as well as reasonable conditions for interconnection and parallel operation.
2. **Producer's Certification.** The Producer certifies that Producer is a Wholesale Producer as defined in Section A of this document. Producer also certifies that Producer has registered with the Public Utility Commission of Texas in accordance with 16 Texas Administrative Code § 25.109 as may be amended.
3. **Producer's Generating Installation.** The Power Generating Installation to which this agreement applies is described as:

Make _____

Model _____

Serial #_____

Fuel or Energy Source _____

Nameplate Output Rating _____ kW

Operating Voltage _____ volts

Connection _____ phase

Located at _____

Emergency Contact:

Name _____

Address _____

Phone _____

4. **Terms.** The WMUS agrees to use reasonable diligence to provide simultaneous Electric Service. Interconnection, parallel operation, and sales and purchases of electricity shall be governed by the WMUS's Tariff, including any and all amendments that may hereafter be approved or ordered by any regulator authority. **SAID TARIFF INCLUDING ALL SERVICE RULES, REGULATIONS AND RATES IS A PART OF THIS AGREEMENT TO THE SAME EXTENT AS IF FULLY SET OUT HEREIN AND IS ON FILE AND AVAILABLE AT THE WMUS'S OFFICE IN WEATHERFORD, TEXAS.**
5. **Interconnection.** Prior to interconnection, the Producer shall have (a) fulfilled all requisites for the provision of Electric Service contained in the WMUS's Tariff; (b) provided an interconnection plan and other information; (c) complied with the conditions for any Facilities extension; (d) provided satisfactory liability insurance; (e) signed and delivered this Agreement; (f) completed construction; (g) complied with laws; (h) given notice of intent to energize; and (i) eliminated any conditions preventing interconnection. The Producer warrants to the WMUS that the Producer's power generating installation is constructed, shall be maintained in a safe and reliable condition and shall comply with the latest applicable codes.
6. **Parallel Operation.** The Producer is responsible for installation, safe operation, protection, and maintenance of all equipment and wiring at and beyond the point where the Producer's conductors contact the WMUS's conductors. The electrical power generated shall be compatible with the WMUS's standard Distribution System at the Point of Delivery and of such quality that the WMUS's system is not adversely affected. The Producer shall install and pay for a visible break disconnect switch. The WMUS shall have access to the disconnect switch and the meter at all times.

The WMUS's liability is limited in accordance with its Tariff, and the Producer agrees to indemnify and hold the WMUS harmless for all claims except as specified in the Tariff.

7. **Purchases of Electricity from Producer.** The WMUS will pay a Wholesale Producer for all the metered kWh output generated by the Wholesale Producer above and beyond that energy used by the Wholesale Producer once a year. The rate paid by the WMUS to the Wholesale Producer [that owns a Qualifying Facility] shall be the WMUS's avoided cost of wholesale power generation from its power supplier over the previous 12 months.

The WMUS may, at certain times and as operating conditions warrant, reasonably refuse to accept part or all of the output of the Producer's facility. Such refusal shall be based on system emergency constraints, special operating requirements, changes in wholesale generation contractual requirements, and adverse effects of the Producer's facility on the WMUS's system or violation by the Producer of the terms of this Agreement. The WMUS shall not be required to make any purchases that will cause the WMUS to no longer be in compliance with any applicable contracts or all-power contract requirements with the WMUS's power supplier(s).

8. **Sales of Electric Service to Producer.** The Producer agrees to pay for Electric Service in accordance with the Rate Schedule applicable to the _____ class. If any Tariff or rate is changed by the WMUS, or by order or consent of any Regulator Authority having jurisdiction thereof, whether or not at the request of the WMUS, such changed Tariff, rate or redefined class of service shall be applicable to service provided hereunder from and after the date of such change. The WMUS shall render monthly a statement to the Producer for electric service, and Producer shall pay the statement in accordance with the applicable provisions of the Tariff.
9. **Term.** The acceptance of this instrument by the WMUS shall constitute an agreement between the Producer and the WMUS which shall continue in force for an initial term of _____ years (minimum of five (5) years) from the date service is made available by the WMUS to the Producer. After the initial term, this Agreement may be terminated by either party giving at least thirty (30) day's written notice to the other party.
10. **Breach.** The failure or refusal to perform any obligation contained in this Agreement shall constitute a breach of this Agreement. The parties shall have such remedies for breach as may be provided for at law or in equity. Notwithstanding any other provision of this Agreement, the WMUS may discontinue service if the Producer has breached any portion of this Agreement by failure to make timely payment or otherwise.
11. **Entire Agreement.** This Agreement constitutes the entire Agreement between the parties and supersedes all prior agreements between the Producer and the WMUS for the service herein described. The WMUS, its agents and employees have made no representations, promises, or made any inducements, written or verbal, which are not contained herein. The Producer agrees that it is not relying on any statements not herein contained.
12. **Assignment.** This Agreement shall not be assigned by the Producer except in accordance with the articles, bylaws, and Rules and regulations of the WMUS. This Agreement shall inure to the benefit of the WMUS's assigns.
13. **Interconnection Cost.** Producer agrees to pay for extension of the WMUS's Facilities and other interconnection costs as follows:

\$_____ in advance of any work by the WMUS;

Or

\$_____ per month as an increased monthly minimum over and above the applicable minimum stated in the WMUS's Tariff.
14. **Receipt of Tariff.** Producer acknowledges receipt of the WMUS's currently-effective Tariff.

WEATHERFORD MUNICIPAL UTILITY SYSTEM

PRODUCER

By: _____

By: _____

FLOW CHART

APPLICATION FOR OPERATION OF CUSTOMER-OWNED GENERATION

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

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

PART 1

OWNER/APPLICANT INFORMATION

Applicant Name: _____

Mailing Address: _____

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

Phone Number: _____ Representative: _____

TYPE OF GENERATOR (as applicable)

A. Small Distributed Generation \leq 20 kW

Photovoltaic _____ Wind _____

B. Combustion Distributed Generation (Wholesale Producer)

Microturbine _____

Diesel Engine _____ Gas Engine _____ Turbine Other _____

PROJECT DESIGN/ENGINEERING (as applicable)

Company: _____

Mailing Address: _____

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

Phone Number: _____ Representative: _____

ELECTRICAL CONTRACTOR (as applicable)

Company: _____

Mailing Address: _____

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

Phone Number: _____ Representative: _____

ESTIMATED LOAD INFORMATION

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

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

Mode of Operation (check all that apply)

Isolated _____ Paralleling _____ Power Export _____

DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

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

PART 2

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

SYNCHRONOUS GENERATOR DATA

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

Manufacturer: _____

Type: _____ Date of manufacture: _____

Serial Number (each): _____

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

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

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

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

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

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

Subtransient Reactance (X'd): _____ % on _____ kVA base

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

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

Neutral Grounding Resistor (if applicable): _____

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

Additional Information: _____

INDUCTION GENERATOR DATA

Rotor Resistance (Rr): _____ ohms Stator Resistance (Rs): _____ ohms

Rotor Reactance (Xr): _____ ohms Stator Reactance (Xs): _____ ohms

Magnetizing Reactance (Xm): _____ ohms Short Circuit Reactance (Xd''): _____ ohms

Design letter: _____ Frame Size: _____

Exciting Current: _____ Temp Rise (deg C°): _____

Reactive Power Required: _____ Vars (no load), Vars _____ (full load)

Additional Information: _____

PRIME MOVER (Complete all applicable items)

Unit Number: _____ Type: _____

Manufacturer: _____

Serial Number: _____ Date of manufacturer: _____

H.P. Rates: _____ H.P. Max.: _____ Inertia Constant: _____ lb.-ft²

Energy Source (hydro, steam, wind, etc.) _____

GENERATOR TRANSFORMER (Complete all applicable items)

TRANSFORMER (between generator and utility system)

Generator unit number: _____ Date of manufacturer: _____

Manufacturer: _____

Serial Number: _____

High Voltage: _____ kV, Connection: delta wye, Neutral solidly grounded? _____

Low Voltage: _____ kV, Connection: delta wye, Neutral solidly grounded? _____

Transformer Impedance (Z): _____ % on _____ kVA base

Transformer Resistance (R): _____ % on _____ kVA base

Transformer Reactance (X): _____ % on _____ kVA base

Neutral Grounding Resistor (if applicable): _____

INVERTER DATA (if applicable) (typical for small distributed generation)

Manufacturer: _____ Model: _____

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

Inverter Type (ferroresonant, step, pulse-width modulation, etc.) _____

Type commutation: forced line (typical for utility interactive; meets IEEE 1547)

Harmonic Distortion: Maximum Single Harmonic (%) _____

Maximum Total Harmonic (%) _____

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

POWER CIRCUIT BREAKER (if applicable)

Manufacturer: _____ Model: _____

Rated Voltage (kilovolts): _____ Rated ampacity (Amperes) _____

Interrupting rating (Amperes): _____ BIL Rating _____

Interrupting medium / insulating medium (ex. Vacuum, gas, oil) _____ / _____

Control Voltage (Closing): _____ (Volts) AC DC

Control Voltage (Tripping): _____ (Volts) AC DC Battery Charged Capacitor

Close energy: Spring Motor Hydraulic Pneumatic Other: _____

Trip energy: Spring Motor Hydraulic Pneumatic Other: _____

Bushing Current Transformers: _____ (Max. ratio) Relay Accuracy Class: _____

Multi Ratio? No Yes: (available taps) _____

ADDITIONAL INFORMATION

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

SIGN OFF AREA

The applicant agrees to provide the WMUS with any additional information requested by the WMUS to assist in the review of this Application required to complete the interconnection. The applicant shall operate his equipment within the guidelines set forth by the WMUS.

Applicant

Date**WEATHERFORD MUNICIPAL UTILITY SYSTEM SERVICES CONTACT FOR APPLICATION SUBMISSION AND FOR MORE INFORMATION:**

WMUS contact: Utility Engineering
Address: City of Weatherford
 P.O. Box 255
 Weatherford, Texas 76086

Phone: 817-598-4258
Fax: 817-598-4010
Web site: <http://weatherfordtx.gov>