

Application for Interconnection of Non-NEM Generation and/or Energy Storage System to GWP's Distribution System

Part 1 - Introduction and Overview

A. Instructions

This Application for Interconnection of Non-NEM Generation and/or Energy Storage System to GWP's Distribution System (Application) shall be used to request the interconnection of your proposed Distributed Generation facility to Glendale Water and Power's (GWP) distribution system. This Application does not apply to the interconnection of Eligible Renewable Generation Facilities under the City of Glendale's Net Energy Metering program or Feed in Tariff programs, each of which has a separate application process. Capitalized terms used in this Application, and not otherwise defined herein, shall have the same meanings as defined in GWP's Electrical Service Requirements and/or in the City of Glendale's Municipal Code. This Application must be completed and sent to GWP along with the additional information indicated below to initiate GWP's review of the proposed interconnection of the Distributed Generation facility. The Distributed Generation facility must at all times comply with applicable rules and regulations including: The City's local permitting requirements; City of Glendale electric Rates, Rules and Regulations (including the Glendale Municipal Code, GWP Rate Resolutions, GWP Regulations, and GWP Electric Service Requirements); applicable federal, state, and local laws and requirements, including but not limited to, where applicable, Federal Energy Regulatory Commission approved rules, tariffs, and regulations; California Energy Commission requirements; air quality requirements; and the terms of an interconnection agreement in a form subject to the approval of the Glendale City Council. No Applicant is necessarily entitled to a signed Interconnection Agreement or other document from GWP or the City of Glendale by filing an Application for Interconnection.

Where Applicant is a tenant or otherwise not the property owner of the location for the Generating Facility (the "Property Owner"), the Property Owner must also sign the Application, and is severally, jointly and/or collectively responsible for the fees, duties and obligations of the Applicant through the Application Process.

After submission of a completed Application, GWP will submit the Application to an Initial Review, to determine, among other matters:

- (a) whether the proposed Generating Facility qualifies for a standard process interconnection;
- (b) whether the proposed Generating Facility requires an Interconnection Study ; or
- (c) if GWP requires further information to evaluate the Application.

Typically, within ten (10) business days of receiving an Application, GWP shall normally acknowledge its receipt and state whether the Application has been completed adequately. If deficiencies are noted, the Applicant shall, in a timely manner, correct the noted deficiencies. GWP reserves the right to reject any Application that does not address identified deficiencies within 30 calendar days for a request for such information from GWP. Once the Application is deemed complete, GWP will attempt to complete the Initial Review within six (6) months of submission; however, this timeline is not guaranteed, and GWP will update the Applicant if this timeline will not be met.

Fees

There will be an Initial Review Fee due at the time of submittal of the Application, which is the then-current adopted fee by the City of Glendale. Should GWP’s Initial Review conclude that an Interconnection Study is needed, GWP will request that Applicant provide fees for those review activities, which will not proceed until payment from Applicant is received.

B. Required Documents

The submission of this Application must be accompanied by each of the documents listed below. Drawing must conform to accepted engineering standards and must be legible.

1. **Single-line drawing** showing the electrical relationship and descriptions of the significant electrical components such as the primary switchgear, secondary switchgear, protective relays, transformers, generators, and circuit breakers. The single line diagram shall include operating voltages, capacities, and protective functions of the Generating Facility, the Customer's loads, and the interconnection with GWP's Distribution System.
2. **Site plans and diagrams** showing the physical relationship of the significant electrical components of the Generating Facility such as generators, transformers, primary switchgear/secondary switchgear, and control panels, the Customer's loads, and the interconnection with GWP's Distribution System.
3. If the use of the new electrical equipment is proposed:
 - a. If **transformers** are used to interconnect the Generating Facility with GWP's Distribution System, please provide transformer nameplate information (voltages, capacity, winding arrangements, connections, impedance, etc.).
 - b. If a **transfer switch** or scheme is used to interconnect the Generating Facility with GWP's Distribution System, please provide component descriptions, capacity ratings, and a technical description of how the transfer scheme is intended to operate.
 - c. If **protective relays** are used to control the interconnection, please provide protection logic, relay types/settings, and coordination curves.

C. Submittal Instructions

Completed application shall be emailed to GWPCCommercial@glendaleca.gov along with the required attachments. In case of questions please call 818-548-3874.

Part 2 - Identify the Generating Facility's Location and Responsible Parties

A. Customer Facility Information - Where will the Distributed Generation facility be installed?

GWP Account Name	<input type="text"/>
Electric Account number	<input type="text"/>
Meter number	<input type="text"/>
Service Address	<input type="text"/>
City	<input type="text"/>

State

Zip

B. Contact Information - Who should be contacted for additional information regarding this Application, if necessary?

Property Owner

Contact Person and Title

Company Name

Phone

Email

Mailing Address

City

State

Zip

Tenant, if Customer is not the Property Owner

Contact Person and Title

Company Name

Phone

Email

Mailing Address

City

State

Zip

Agent on behalf of Property Owner and/or Tenant (such as Developer or authorized 3rd party)

Note: By filling in these fields for Agent, Property Owner and/or Tenant is authorizing GWP to contact Agent with updates regarding the progress of this Application, and to request responses to GWP information requests. Such authorization may be revoked at any time by Property Owner and/or Tenant. Property Owner and/or Tenant remain responsible for all obligations of Applicant throughout the Application Process.

Contact Person and Title	
Company Name	
Phone	
Email	
Mailing Address	
City	
State	
Zip	
C. Operating Date - What date is the proposed Distributed Generation Facility expected to begin operation?	

Part 3 - Describe the Generating Facility and Host Customer's Electrical Facilities

A. Indicate how this proposed Distributed Generation facility will interface with GWP's distribution system. (Choose one)

- 1. Parallel Operations:** The Distributed Generation facility will interconnect and operate "in parallel" with GWP's distribution system for more than one (1) second.
If this option is selected, please supply all of the requested information for the Distributed Generation facility. Be sure to provide adequate information including diagrams and written descriptions regarding the protective relays that will be used to detect faults or abnormal conditions on GWP's distribution system.

- 2. Momentary Parallel Operation:** The Distributed Generation facility will interconnect and operate on a "momentary parallel" basis with GWP's distribution system for a duration of one (1) second or less through switches or circuit breakers specifically designed and engineered for such operation.
If this option is selected, only questions A, D, and E of this Part 2 and questions A, B, E, F, I, L, M, N, and S of Part 3 need to be answered. However, be sure to provide adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protection device and controls that will trip the Distributed Generation facility should the transfer switch or scheme not complete the transfer in one second or less.

- 3. Isolated operation:** The Distributed Generation facility will be "isolated" and prevented from becoming interconnected with GWP's distribution system through a transfer switch or operating scheme specifically designed and engineered for such operation.
If this option is selected, only questions A, D, and E of this Part 2 and questions A, B, F, and S of Part 3 need to be answered. However, be sure to provide adequate information including diagrams and written descriptions regarding the isolating switching device or scheme that will be used to prevent the Distributed Generation facility from operating in parallel with GWP's distribution system.

B. If option 1 or 2 is selected for Question A above, please indicate the type of interconnection arrangement that is being requested with this Application. If option 3 is selected, please skip to Question E. Please refer to GWP's Electric Service Requirements for additional information.

- 1. Distributed Generation facility Interconnection that provides for parallel or momentary parallel operation of the Distributed Generation facility, but does not provide for exporting power to GWP's distribution system.
- 2. Distributed Generation facility Interconnection that provides for parallel operation of the Distributed Generation facility, and the occasional, inadvertent export of power to GWP's distribution system.
- 3. Generating Facility Interconnection that provides for parallel operation of the Generating Facility, and for the export of power to GWP's Distribution System.

If option 2 or 3 to Question B are selected, please provide an estimate of the peak kW and the monthly kWh the Distributed Generation facility is expected to deliver to GWP's distribution system. If GWP determines that the amount of power and/or energy to be exported is/are significant in relation to the capacity available on its distribution system, additional information may be required; a study may also be required in accordance with GWP Electric Service Requirements. GWP reserves the right to disallow and/or curtail exports to its distribution system. No Applicant or other party is permitted to export energy to the GWP system without approval of GWP, which GWP may decline in its sole discretion. Further, other than as may be specifically set forth in any law, rule or regulation, no Customer or counterparty to an executed Interconnection Agreement is guaranteed any expectation of a power purchase agreement ("PPA") or other arrangement with GWP. The process for an Application, an Interconnection Agreement and a PPA are separate and distinct.

kW

kWh

C. If option 1 or 2 was selected for Question B above, please indicate the option below that will be used to prevent energy from being exported to GWP's Distribution System. *(Choose one)*

- 1. A reverse-power protection device will be installed at the Point of Common Coupling (PCC) to measure any outflow of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded.
- 2. An under-power protection device will be installed at the PCC to measure the inflow of power and trip or reduce the output of the Generating Facility if limits are not maintained.
- 3. The Generating Facility's interface equipment will be certified as Non-Islanding and the incidental export of power will be limited by the design of the interconnection. If this option is to be used, the continuous ampere rating of the service entrance equipment (Main Panel size) that is used by the host Customer facility must be stated in the space provided below.
- 4. The nameplate rating of the Generating Facility will not exceed 50% of the host Customer facility's minimum electric load. If the Generating Facility will never export power to GWP's Distribution System, a simpler protection scheme, subject to GWP approval, may be used to control the interface between the Generating Facility and GWP's Distribution System.

If option 3 to Question C is selected, please provide the continuous current rating of the host Customer facility's service entrance equipment (service panel size):

Amps

D. What is the maximum 3-phase fault current that will be contributed by the Generating Facility to a 3-phase fault at the Point of Common Coupling (PCC)? (If the Generating Facility is single phase in design, please provide the contribution for a line-to-line fault).

Amps

Please indicate the short circuit interrupting rating of the host Customer facility's service entrance ("main") panel:

Amps

Instructions and Notes

Refer to GWP's Electrical Service Requirements and the City of Glendale Municipal Code for additional information. To determine the Question D value, any transformers and/or significant lengths of interconnecting conductors used between each of the Generators (if there are more than one) that make up the Generating Facility and the PCC must be taken into account. The details, impedance, and arrangement of such transformers and cable runs should be shown on the single-line diagram that is provided. Consult an electrical engineer or the equipment supplier if assistance is needed in answering these questions.

E. Please indicate how the proposed Distributed Generation facility will be operated. (Please choose all options that may apply)

- 1. Combined Heat and Power or Cogeneration - Where the operation of the Distributed Generation facility will produce thermal energy for a process other than generating electricity.
- 2. Primary Power Source - Where the Distributed Generation facility will be used as a primary source of electric power and the power supplied by GWP to the Customer's loads will be required for supplemental or backup power purposes.
- 3. Emergency / Backup - Where the Distributed Generation facility will normally be operated only when GWP's electric service is not available.
- 4. Microgrid. Where the Customer intends to implement a "microgrid" as that term is defined in California Public Utilities Code Sec. 8370 (b).

F. Any dispute regarding the Application Process shall be governed by the Dispute Resolution process set forth in GWP's Electric Service Requirements INT-REQ. Neither GWP, the City of Glendale nor any of their officers, agents, employees, representatives, and volunteers shall be liable for any dispute, delay, damages of any kind or otherwise that occurs in the Application Process.

Part 4 - Describe each of the Generators (see instructions)

In case of more than one unique type of generator or inverter, please provide a separate Part 3 for each.

A. How many generators or inverters with the same characteristics are being installed?

B. If storage is being proposed, please enter: kW kWh
rated output rated capacity

C. Generator (or inverter) Manufacturer (Name)

D. Generator (or inverter) Manufacturer (Name/Number)

E. Generator (or inverter) Software version (Number)

F. Is the Generator Certified by a Nationally Recognized Testing Laboratory (NRTL)? Yes No

G. Generator Design Synchronous Induction Inverter

H. Gross Nameplate Rating (kVa)

I. Gross Nameplate Rating (kW)

J. Net Nameplate Rating (kW)

K. Operating Voltage (Volts or kV)

L. Power Factor Rating %

M. PF Adjustment Range Min % Max %

N. Wiring Configuration Single-Phase Three-Phase

O. 3-Phase Winding Configuration 3 Wire Delta 3 Wire Wye 4 Wire Wye

P. Neutral Grounding System Used Ungrounded Solidly Grounded Ground Reactance

Q. For Synchronous Generators Only: Synchronous Reactance Transient Reactance Sub transient Reactance
 $X_d\%$ $X'd\%$ $X''d\%$

R. For Induction Generators Only: Locked Rotor Current (Amps)

or
 Stator Resistance % Stator Leakage Reactance % Rotor Resistance % Rotor Leakage Reactance %

S. Short Circuit Current Produced by Generator Amps

T. For Generators that are Started as a "Motor" Only

1. In-Rush Current (Amps)

2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating (Amps)

U. Prime Mover Type

- Internal Combustion Engine - Natural Gas/Propane Fueled
- Internal Combustion Engine - Diesel Fueled
- Internal Combustion Engine - Other Fueled
- Micro turbine (< 250 kW) - Natural Gas/Propane Fueled
- Micro turbine - Other Fueled
- Combustion Turbine (> 250 kW) - Natural Gas/Propane Fueled
- Combustion Turbine - Other Fuel
- Steam Turbine
- Solar-thermal engine
- Fuel Cell - Natural Gas/Propane Fueled
- Fuel Cell - Other Fuel (specify): _____
- Hydroelectric Turbine
- Wind Turbine
- Other (please describe)

Instructions for Part 4 - Describing the Generators

A	Please indicate the number of each "type" of generator or inverter being installed	Please provide the following information for each Generator "type." Be sure all Generators classified as one "type" are identical in all respects.
B	Generator/Inverter Manufacturer	Enter the brand name of the Generator.
C	Generator/Inverter Model	Enter the model name or number assigned by the manufacturer of the Generator.
D	Generator/Inverter Software Version	If this Generator's control and/or protective functions are dependent on a "software" program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
E	Is the Generator Certified by a Nationally Recognized Testing Laboratory (NRTL)?	Answer "Yes" only if the Generator manufacturer can provide, or has provided, certification data.
F	Generator Design	Please indicate the design of each Generator. Designate "Inverter" anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power-production/storage device used.
G	Gross Nameplate Rating (kVa)	This is the capacity value normally supplied by the manufacturer and stamped on the Generator's "nameplate." This value is not required where the manufacturer provides only a "kW" rating. However, where both kVA and kW values are available, please indicate both.

H	Gross Nameplate Rating (kW)	This is the capacity value normally supplied by the manufacturer and stamped on the Generator's "nameplate." This value is not required where the manufacturer provides only a "kVA" rating. However, where both kVA and kW values are available, please indicate both.
I	Net Nameplate Rating (kW)	This capacity value is determined by subtracting the "Auxiliary" or "Station Service" loads used to operate the Generator or Generating Facility. Applicants are not required to supply this value, but if it is not supplied, applicable Standby Charges may be based on the higher "gross" value.
J	Operating Voltage	This value should be the voltage rating designated by the manufacturer and used in this installation. Please indicate phase-to-phase voltages for 3-phase installations.
K	Power Factor Rating	This value should be the nominal power factor rating designated by the manufacturer for the Generator.
L	Power Factor Adjustment Range	Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.
M	Wiring Configuration	Please indicate whether the Generator is a single-phase or three-phase device.
N	3-Phase Winding Configuration	For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.
O	Natural Grounding	Wye connected generation units are often grounded - either through a resistor or directly, depending upon the nature of the electrical system to which the generator is connected. If the grounding method used at this facility is not listed, please attach additional descriptive information.
P	For Synchronous Generators Only:	If the Generator is a "synchronous" design, please provide the synchronous reactance, transient reactance, and sub transient reactance values supplied by the manufacturer. This information is necessary to determine the short circuit contribution of the Generator and as data to be input in load flow and short circuit-computer models of GWP's Distribution System. If the Generator's Gross Nameplate Capacity is 1 MW or greater, GWP may request additional data to better model the nature and behavior of the Generator with relation to GWP's Distribution System.
Q	For Induction Generators Only:	If the Generator is an "induction" design, please provide the "locked rotor current" value supplied by the manufacturer. If this value is not available, the stator resistance, stator leakage reactance, rotor resistance, and rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current.
R	Short Circuit Current Produced by Generator	Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current.
S	For Generators that are Started as a "Motor" Only: 1. In-Rush Current 2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating	This information is needed only for Generators that are started by "motoring" the generator. If this question was answered in Part 3, Question C of this Application, does not need to be answered here.
T	Prime Mover Type	Please indicate the type and fuel used as the "primary mover" or source of energy for the Generator.

Part 4 - Signatures

Applicant's Signature

Title

Date

Property Owner Signature (if applicable)

Title

Date

TO BE COMPLETED BY GWP ENGINEERING

Reviewed by:

Approved by: