

General Generating Facility Application

I. Introduction and Overview

A. Applicability:

If not otherwise covered by a small system generating facility (GF) rebate application, this application is required to request the interconnection of a GF to the Hyrum City electrical distribution system for parallel operation. Except as noted, this Application may be used for any GF to be operated in parallel with the distribution system by or serve the customer's electric service requirements that would otherwise be served by the City, including distributed generation or cogeneration.

- Customers wanting to install a backup, emergency or standby generator for isolated (break before make) operation during emergency or utility outage conditions should use Emergency/Backup Generator Application. Standby generation that requires momentary paralleling of the generator to the distribution system must use this application.

This application may not be used to apply for interconnecting a generating facility used to participate in transactions where all or a portion of the electrical output of the GF is scheduled with any other entity other than the City. Such transactions are subject to the jurisdiction of Federal Energy Regulatory Commission (FERC).

An Interconnection Agreement is required between the Hyrum City and the party responsible for the GF. Depending on the size of the GF and the operating terms and conditions, additional agreements may also be required with other entities. This agreement may be critical to determining the commercial viability of a project. Contact Hyrum City Energy Services department for more information about the terms and conditions required for an interconnection agreement.

B. Guidelines and Steps for Interconnection:

All completed GF applications submitted to the City must be accompanied by the supporting documentation listed in selection C of this application. An application fee and /or service fee may be charged depending upon the size and complexity of the proposed installation (please contact the City for fee details). Upon receipt of the Application, the City will contact the Customer to initiate the GF plan review. This document is only an application. In addition to submitting the application, the customer must also enter into an Interconnection Agreement with the City before pursuing design approval. The terms and conditions of the Interconnection Agreement vary and may affect the commercial viability of the project. The party responsible for the GF should review the interconnection agreement with the City before pursuing design approval.

Upon design approval, the City will prepare an Interconnection Agreement for execution by the City and the party that will be responsible for the GF. The City will require the inspection and testing of the GF and any related interconnection equipment prior to issuing a Permit to Operate (PTO). Unauthorized parallel GF interconnections will be required to disconnect from the city's electric distribution system. Refusal to disconnect may result in discontinuance of electric service.

Please note, other approvals may need to be acquired and/or other agreements may need to be obtained with regulatory agencies, such as the EPA or local and state governmental building and planning commissions prior to

operating a generating facility. The City's authorization to operate the GF does not satisfy the need for an applicant to obtain such other approvals which includes Hyrum City building permits.

C. Required Documents:

Two (2) copies of this Application and each of the following documents shall be submitted with a GF application. Drawings must conform to accepted engineering standards and must be legible. 11"x17" drawings are preferred.

1. **A Single-line and Three-line drawing** showing the electrical relationship and descriptions of the significant electrical components such as the primary switchgear, secondary switchboard, protective relays, transformers, generator, circuit breakers, with operating voltages, capacities, and protective functions of the Generating Facility, the customers loads, and the interconnection with the City's distribution system which is typically the City's transformer.
2. **Site plans and diagrams** showing the physical layout of the Generating Facility and the location of associated structures and infrastructure such as buildings, streets, driveways, water ways, fences, the customers generating equipment and the City's associated distribution system equipment.
3. **Equipment data sheets** issued by the manufacturer for all major components to be installed such as switchgear, secondary switchboard, protective relays, transformers, generators, circuit breakers, inverters, disconnect switches, transfer switches, battery banks, turbines, motors, with operating voltages, capacities and protective functions.
4. **Customer-owned transformers**, if used, to interconnect the Generating Facility with the City's distribution system, please provide transformer nameplate information (voltages, capacity, winding arrangements, connections, impedance et cetera).
5. **Transfer switches** or schemes used to interconnect the Generating Facility with the City's distribution system, please provide component descriptions, capacity ratings, and a technical description of how the transfer scheme is intended to operate.
6. **Protective relays or elements** used to control and protect the interconnection. Please provide protection diagrams and control schematics showing relay wiring and connections, proposed relay settings, and a description of how the protection scheme is intended to function.
7. **Certified test reports** issued by the manufacturer that demonstrate the generator meets applicable standards may be required for certain applications. Contact the City to determine if test reports are needed.
8. **Class III or larger generating facilities**, generators 50KW or larger or facilities with an aggregate generation greater than 50KW, require all electrical drawings to be stamped by a registered electrical engineer. In addition, a fault study and protective coordination analysis shall be submitted with the drawings by the registered engineer.

D. Completed Application and Assistance:

Completed applications should be submitted, along with the required attachments to:

Hyrum City

Attention: Electric Department

60 West Main

Hyrum, Utah 84319

Phone: (435) 245-6033; e-mail: mdraper@hyrumcity.org

E. Customer GF Information – Where will the Generating Facility be located/installed?

- Name on the Hyrum City account: _____
- Street Address: _____
- Zip: _____

For City use only:

- Electric Account number _____
- Meter Number _____

F. Customer Contact Information – Who should be contacted for additional information, if necessary?

- Customer Contact Person: _____
- Company Name: _____
- Phone: _____ FAX: _____
- Email: _____
- Mailing Address: _____
- City: _____
- State: _____ Zip: _____

Customer Contractor/Engineer Contact Person (optional)

- Company Name: _____
- Phone: _____ Fax: _____
- Email: _____
- Mailing Address: _____
- City: _____
- State: _____ Zip: _____

G. Proposed GF Start-Up Date: _____

II. Generating Facility Information

A. Indicate how this Generating Facility will interface with the City's distribution system. (Choose one)

- **1. Parallel Operation:** The Generating Facility will interconnect and operate in parallel with the City's distribution system continuously.
- **2. Momentary Parallel Operation:** The generating Facility will interconnect and operate on a "momentary parallel" basis with the City'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 the answer is **option 1-parallel operation**, please supply all of the information requested for the Generating Facility. Be sure to supply adequate information including diagrams and written descriptions regarding the protective relays that will be used to detect faults or abnormal operating conditions on the City's distribution system.

If the answer is **option 2-momentary parallel operation**, please supply 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 as well as the back up or protective controls that will ensure the Generating Facility will trip.

B. Provide the maximum 3-phase fault current that will be contributed by the proposed GF 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.) Consult an electrical engineer or the equipment supplier if assistance is needed in answering this question and please describe the assumptions used in calculating the maximum fault current contribution value.

- Maximum fault current: _____ Amps
- Service panel short circuit rating: _____ Amps
- Existing transformer size for the facility: _____ KVA

C. Please indicate how this Generating Facility will be operated. (Select all options that may apply)

- **1. Supplemental/Demand Management** -- Where the Generating Facility will be operated primarily to reduce electrical demands most of the Customer facility when generation is available or to reduce electrical peak periods.
- **2. Primary Power Source** -- Where the Generating Facility will be used as the primary source of electric power and that supplied by the City to the Customer's loads will be required for supplemental, standby or backup power purposes only.
- **3. Standby/Emergency/Backup** -- Where the Generating Facility will normally be operated only when the City's electric service is not available.
- **4. Other** -- Where the Generating Facility is to be used for other purposes such as a test facility for commercial processes.

Generator Data

- D. Enter the Generator information requested in the tables provided. If multiple generators are to be connected, provide data for each unit.

Generator Item		Description/Data
1	Manufacturer (Name)	
2	Model (Name/Number)	
3	Software Version (Number)	
4	Gross Nameplate Rating - KVA	
5	Gross Nameplate Rating - KW	
6	Net Nameplate Rating - KW	
7	Operating Voltage - V	
8	Maximum Short Circuit Current - A	
9	Power Factor Rating - %	
10	Power Factor Adjustment (min) - %	
11	Power Factor Adjustment (max) - %	

- E. Has the Generator/Inverter been manufactured and tested to UL, ANSI or IEEE standards?

- Yes
- No

- F. Generator Design

- Synchronous
- Induction
- Inverter

- G. Wiring Configuration

- Single-Phase
- Three-Phase

- H. 3-Phase Winding Configuration

- 3 Wire Delta
- 3 Wire Wye
- 4 Wire Wye

- I. Neutral Grounding System Used

- Un-Grounded
- Solidly Grounded
- Ground Resistor _____ Ohms

- J. For Synchronous Generators Only:

Generator Item		Mfgr. Data
1	% Synchronous Reactance (X_d)	
2	% Transient Reactance (X'_d)	
3	% Subtransient Reactance (X''_d)	

- K. For Induction Generators Only:

Generator Item		Mfgr. Data
1	Locked Rotor Current (Amps)	
2	Stator Resistance (%)	
3	Stator Leakage Reactance (%)	
4	Rotor Resistance (%)	
5	Rotor Leakage Reactance (%)	

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

Generator Item		Mfgr. Data
1	In-Rush Current (Amps)	
2	Main Panel Continuous Current Rating (Amps)	

M. Prime Mover Type

- Internal Combustion Engine
- Microturbine
- Combustion Turbine
- Turbine
- Fuel Cell
- Photovoltaic
- Other

N. Fuel Type

- Natural Gas
- Propane
- Diesel
- Steam
- Hydro/Water
- Wind
- Photoactive/Sun light
- Thermal
- Coal
- Other

The applicant hereby certifies that the above information, along with the attached plans and project descriptions, are correct. The applicant agrees to comply with the provisions of the Hyrum City Electrical Service Rules and Regulations, Interconnection Standards for Generating Facilities, Building Code, all other applicable sections of City Code, and all other laws and ordinances affecting the construction, installation and operation of the proposed generating facility.

Signature of Applicant: _____ Date: _____

Administrative Use Only

Date Complete Application Submitted: _____

Application Reviewed By: _____ Application Approved or Denied: _____

Notes: _____

