



## Application for Electrical Interconnection

### Generating Facility – Level 1, 2, or 3 Interconnection Review

(For Generating Facilities with Electric Nameplate Capacities ~~above 25 kW and~~ no Larger than 20 MW)

#### Instructions

An Interconnection Customer who requests a Utah Public Service Commission jurisdictional interconnection must submit this Interconnection Request by hand delivery, mail, or delivery service to the public utility, PacifiCorp, d/b/a Rocky Mountain Power. This application should be completed by Interconnection Customers that are not eligible for net metering and with ~~non inverter based generating~~ facility nameplate capacities ~~above 25 kW and~~ no larger than 20 MW. ~~This application form applies to all generating facilities except that are not inverter based generating facilities with a capacity of 25 kW or less.~~ The Interconnection Customer is to complete all fields of this application form to the extent that such requested information is applicable to the proposed Generating Facility. If questions exist about the applicability of the requested information or assistance is needed, please contact the designated contact person identified below:

Designated Contact Person: Laura Raypush

Address: 825 NE Multnomah, Suite 1600, Portland, OR 97232

Telephone Number: 503-813-7040

Facsimile Number: 503-813-6893

E-Mail Address: laura.raypush@pacificorp.com

#### **Legal Name of the Customer (or, if an individual, individual's name):**

Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Physical Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Facsimile Number: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

#### **Address of Customer Facility Where Proposed Generating Facility will be Interconnected:**

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

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**System Installer/Consulting Engineer:**

Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Physical Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_  
Facsimile Number: \_\_\_\_\_  
E-Mail Address: \_\_\_\_\_

**Electric Service Information for Applicant’s Facility Where Generator Will Be Interconnected :**

Application is for:            \_\_\_\_\_ New Generating Facility  
   \_\_\_\_\_ Capacity addition to existing Generating Facility

If capacity addition to existing Generating Facility, please describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Will the Generating Facility be used for any of the following?

To Supply Power to the Interconnection Customer?  Yes     No  
To Supply Power to Others?  Yes     No

For installations at locations with existing electric service to which the proposed Generating Facility will interconnect, provide:

\_\_\_\_\_  
(Local Electric Service Provider\*)

\_\_\_\_\_  
(Existing Account Number\*)

Type of Service:  Single Phase     Three Phase

Requested Point of Interconnection: \_\_\_\_\_  
\_\_\_\_\_

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Interconnection Customer's Requested In-Service Date: \_\_\_\_\_

Is Facility going to be a Qualified Facility (“QF”)?  Yes  No

If yes, has Applicant completed FERC “Notice of Self Certification”? Yes  No

**Requested Procedure Under Which to Evaluate Interconnection Request<sup>1</sup>:**

Please indicate below which review procedure applies to the interconnection request.

**Level 1 – Certified interconnection equipment with an aggregate electric nameplate capacity of 25 kW or less. The application fee amount is \$50 plus \$1.00 per kW of the Generating Facility’s capacity. There is no application fee for a generating facility qualifying for Level 1 review. Proof provided demonstrating certification with the following standards as applicable; please indicate type of certification below:**

IEEE Standard 1547; and

UL Standard 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems (January 2001).

**Level 2 – Certified interconnection equipment with an aggregate electric nameplate capacity of 2 MW or less. Generation facility does not qualify for a Level 1 review or has been reviewed but not approved under a Level 1 review. The application fee amount is \$50 plus \$1.00 per kW of the Generating Facility’s capacity. Proof provided demonstrating certification with the following standards as applicable; please indicate type of certification below:**

IEEE Standard 1547; and

UL Standard 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems (January 2001).

**Level 3 – Aggregate electric nameplate capacity rating is 20 MW or less and the Generating facility is not certified; does not qualify for a Level 1 or Level 2 review; or has been reviewed but not approved under a Level 1 or Level 2 review. The application fee amount is \$100 plus \$2.00 per kW of the Generating Facility’s capacity.**

<sup>1</sup> **Note:** Descriptions for interconnection review categories do not list all Level 1, 2, and 3 criteria that must be satisfied. For a complete list of criteria, please refer to R746-312, Electrical Interconnection. Level 1 interconnection review of certified inverter-based Generating Facilities having a generation capacity of 25 kW or less requires a separate application form.

**Generating Facility Information:**

**Application for Electrical Interconnection**  
**Generating Facility – Level 1, 2, or 3 Interconnection Review (cont.)**

Energy Source:  Solar     Wind     Hydro - Hydro Type (e.g. Run-of-River): \_\_\_\_\_  
 Diesel     Natural Gas     Fuel Oil     Biomass  
 Other (state type) \_\_\_\_\_

Prime Mover:  Fuel Cell     Reciprocating Engine     Gas Turbine  
 Steam Turbine     Microturbine     PV  
 Other \_\_\_\_\_

Type of Generator:  Synchronous     Induction     Inverter

Generator Nameplate Rating: \_\_\_\_\_ kW (Typical)    Generator Nameplate kVAr: \_\_\_\_\_

Interconnection Customer or Customer-Site Load: \_\_\_\_\_ kW (if none, so state)

Typical Reactive Load (if known): \_\_\_\_\_

Maximum Physical Export Capability Requested: \_\_\_\_\_ kW

List components of the Generating Facility equipment package that are currently certified (include proof from manufacture of certification in accordance with R746-312-5, Certifications):

Equipment Type or Package	Certifying Entity
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Is the prime mover compatible with the certified protective relay package?  Yes     No

Generator (or solar collector) Manufacturer, Model Name & Number: \_\_\_\_\_  
 \_\_\_\_\_

Version Number: \_\_\_\_\_

Nameplate Output Power Rating in kW: (Summer) \_\_\_\_\_ (Winter) \_\_\_\_\_

Nameplate Output Power Rating in kVA: (Summer) \_\_\_\_\_ (Winter) \_\_\_\_\_

Rated Power Factor: Leading: \_\_\_\_\_ Lagging: \_\_\_\_\_

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Total Number of Generators in generation facility to be interconnected pursuant to this Interconnection Request:  
#: \_\_\_\_\_ Elevation: \_\_\_\_\_  Single phase  Three phase

Inverter Manufacturer, Model Name & Number (if used): \_\_\_\_\_  
\_\_\_\_\_

List of adjustable set points for the protective equipment or software: \_\_\_\_\_  
\_\_\_\_\_

Note: A completed Power Systems Load Flow data sheet must be supplied with the Interconnection Request.

**Proposed Generating Facility Characteristic Data (for inverter-based machines):**

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Type:  Forced Commutated  Line Commutated

Electric Nameplate Capacity Rated Output: \_\_\_\_\_ Amps \_\_\_\_\_ Volts \_\_\_\_\_ kW

Efficiency: \_\_\_\_\_% Power Factor: \_\_\_\_\_%

Max design fault contribution current: \_\_\_\_\_  Instantaneous  RMS

Harmonics characteristics: \_\_\_\_\_

Start-up requirements: \_\_\_\_\_

**Proposed Generating Facility Characteristic Data (for rotating machines):**

RPM Frequency: \_\_\_\_\_

(\*) Neutral Grounding Resistor (if applicable): \_\_\_\_\_

**Synchronous Generators:**

Submit copies of the Saturation Curve and the Vee Curve.

Salient  Non-Salient

Torque: \_\_\_\_\_ lb-ft Rated RPM: \_\_\_\_\_

Field Amperes: \_\_\_\_\_ at rated generator voltage and current and \_\_\_\_\_% PF over-excited

Type of Exciter: \_\_\_\_\_

Output Power of Exciter: \_\_\_\_\_

Type of Voltage Regulator: \_\_\_\_\_

Locked Rotor Current: \_\_\_\_\_ Amps

Synchronous Speed: \_\_\_\_\_ RPM

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Min. Operating Freq./Time: \_\_\_\_\_

Generator Connection:  Delta  Wye  Wye Grounded

Direct Axis Synchronous Reactance,  $X_d$ : \_\_\_\_\_ P.U.

Direct Axis Transient Reactance,  $X'_d$ : \_\_\_\_\_ P.U.

Direct Axis Subtransient Reactance,  $X''_d$ : \_\_\_\_\_ P.U.

Negative Sequence Reactance,  $X_2$ : \_\_\_\_\_ P.U.

Zero Sequence Reactance,  $X_0$ : \_\_\_\_\_ P.U.

KVA Base: \_\_\_\_\_

Field Volts: \_\_\_\_\_

Field Amperes: \_\_\_\_\_

**Induction Generators:**

Manufacturer: \_\_\_\_\_

Model No.: \_\_\_\_\_ Version No.: \_\_\_\_\_

Locked Rotor Current: \_\_\_\_\_ Amps

Phases:  Single  Three-Phase

Motoring Power (kW): \_\_\_\_\_

$I_2^2t$  or K (Heating Time Constant): \_\_\_\_\_

Rotor Resistance,  $R_r$ : \_\_\_\_\_

Stator Resistance,  $R_s$ : \_\_\_\_\_

Stator Reactance,  $X_s$ : \_\_\_\_\_

Rotor Reactance,  $X_r$ : \_\_\_\_\_

Magnetizing Reactance,  $X_m$ : \_\_\_\_\_

Short Circuit Reactance,  $X_d''$ : \_\_\_\_\_

Exciting Current: \_\_\_\_\_

Frame Size: \_\_\_\_\_ Design Letter: \_\_\_\_ Temp. Rise: \_\_\_\_\_ °C.

Reactive Power Required In Vars (No Load): \_\_\_\_\_

Reactive Power Required In Vars (Full Load): \_\_\_\_\_

Total Rotating Inertia, H: \_\_\_\_\_ Per Unit on kVA Base

**Excitation and Governor System Data for Synchronous Generators Only:**

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Provide appropriate IEEE model block diagram of excitation system, governor system and power system stabilizer (PSS). A PSS may be determined to be required by applicable studies. A copy of the manufacturer's block diagram may not be substituted.

**Interconnection Facilities Information:**

Will a transformer be used between the generator and the point of common coupling?  Yes  No

Will the transformer be provided by the Interconnection Customer?  Yes  No

**Interconnection Customer Transformer Data (please provide information for all transformers, attach separate sheet if necessary):**

Is the transformer:  single phase  three phase                      Size: \_\_\_\_\_ kVA

Transformer Impedance: \_\_\_\_\_ % on \_\_\_\_\_ kVA Base

Transformer Primary: \_\_\_\_\_ Volts  Delta  Wye  Wye Grounded

Transformer Secondary: \_\_\_\_\_ Volts  Delta  Wye  Wye Grounded

Transformer Tertiary: \_\_\_\_\_ Volts  Delta  Wye  Wye Grounded

**Transformer Fuse Data (if applicable, for Interconnection Customer-Owned Fuse):**

(Attach copy of fuse manufacturer's Minimum Melt and Total Clearing Time-Current Curves)

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Size: \_\_\_\_\_ Speed: \_\_\_\_\_

**Interconnecting Circuit Breaker (if applicable):**

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_

Load Rating (Amps): \_\_\_\_\_ Interrupting Rating (Amps): \_\_\_\_\_ Trip Speed (Cycles): \_\_\_\_\_

**Interconnection Protective Relays (if applicable):**

**If Microprocessor-Controlled:**

List of Functions and Adjustable Setpoints for the protective equipment or software:

Setpoint Function	Minimum	Maximum
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

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4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

**If Discrete Components:**

(Enclose Copy of any Proposed Time-Overcurrent Coordination Curves)

- Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/Catalog No.: \_\_\_\_\_ Proposed Setting: \_\_\_\_\_
- Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/Catalog No.: \_\_\_\_\_ Proposed Setting: \_\_\_\_\_
- Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/Catalog No.: \_\_\_\_\_ Proposed Setting: \_\_\_\_\_
- Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/Catalog No.: \_\_\_\_\_ Proposed Setting: \_\_\_\_\_
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- Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/Catalog No.: \_\_\_\_\_ Proposed Setting: \_\_\_\_\_

**Current Transformer Data (If Applicable):**

(Enclose Copy of Manufacturer's Excitation and Ratio Correction Curves)

- Manufacturer: \_\_\_\_\_
- Type: \_\_\_\_\_ Accuracy Class: \_\_\_\_\_ Proposed Ratio Connection: \_\_\_\_\_
- Manufacturer: \_\_\_\_\_
- Type: \_\_\_\_\_ Accuracy Class: \_\_\_\_\_ Proposed Ratio Connection: \_\_\_\_\_

**Potential Transformer Data (If Applicable):**

- Manufacturer: \_\_\_\_\_
- Type: \_\_\_\_\_ Accuracy Class: \_\_\_\_\_ Proposed Ratio Connection: \_\_\_\_\_
- Manufacturer: \_\_\_\_\_
- Type: \_\_\_\_\_ Accuracy Class: \_\_\_\_\_ Proposed Ratio Connection: \_\_\_\_\_

**Other Facility Information:**

Enclose copy of site electrical one-line diagram showing the configuration of total proposed Generating Facility equipment, current and potential circuits, and protection and control schemes. Please include system impedance and distance for all segments of the generating facility.



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One Line Diagram attached:  Yes  No

Enclose copy of any site documentation that indicates the precise physical location of the proposed Generating Facility (e.g., USGS topographic map, distance from public utility facility number, other diagram or documentation).

Plot Plan attached:  Yes  No

Enclose copy of any documents that provide proof of site control.

Site Control attached:  Yes  No

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**Applicant Signature:**

I hereby certify that all of the information provided in this application request form is correct.

Applicant Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

An application fee may be required before the application can be processed. Please verify that the appropriate fee is included with the application:

Application fee included:  Yes  No  N/A (for Level 1 review)

Amount \$ \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_