



Your Touchstone Energy® Cooperative

www.pvrea.coop
1-800-432-1012

Application for Operation of Customer-Owned Generation

For Level II and Level III Small Generator Interconnection Process

This application should be completed and returned to the Member Relations Department to begin processing the request. A non-refundable processing fee will be submitted with this application.

INFORMATION: This application is used by Poudre Valley Rural Electric Association, Inc. to determine the required equipment configuration for the Member interface. Every effort should be made to supply as much information as possible.

MEMBER/APPLICANT INFORMATION

Name:
Mailing Address:
City: State: Zip Code:
Phone Number: Representative:
Email Address:

PROJECT DESIGN/ENGINEERING (ARCHITECT) (as applicable)

Name:
Mailing Address:
City: State: Zip Code:
Phone Number: Representative:
Email Address:

ELECTRICAL CONTRACTOR (as applicable)

Name:
Mailing Address:
City: State: Zip Code:
Phone Number: Representative:
Email Address:

TYPE OF GENERATOR

Photovoltaic Wind Microturbine Diesel engine Gas Engine Combustion Turbine
Other

# Application for Operation of Customer-Owned Generation

## ESTIMATED LOAD, GENERATOR RATING AND MODE OF OPERATION INFORMATION

The following information is necessary to help properly design the Cooperative customer interconnection. This information is not intended as a commitment or contract for billing purposes.

Total Site Load \_\_\_\_\_ (kW)

Type of service (choose one): Residential \_\_\_\_\_ Commercial \_\_\_\_\_ Industrial \_\_\_\_\_

Generator Rating \_\_\_\_\_ (kW) Annual Estimated Generation \_\_\_\_\_ (kWh)

Mode of Operation (choose one): Isolated \_\_\_\_\_ Paralleling \_\_\_\_\_ Power Export only \_\_\_\_\_

---

## DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

Give a general description of the proposed installation, including a detailed description of its planned location, the date you plan to operate the generator, the frequency with which you plan to operate it and whether you plan to operate it.

---

## GENERATOR INFORMATION

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(s): \_\_\_\_\_

Phase: Single \_\_\_\_\_ Three \_\_\_\_\_ R.P.M.: \_\_\_\_\_ Frequency (Hz): \_\_\_\_\_

Rated Output (for one unit): \_\_\_\_\_ kW \_\_\_\_\_ kVA

Rated Power Factor (%): \_\_\_\_\_ Rated Voltage: \_\_\_\_\_ Rated Amperes: \_\_\_\_\_

Field Volts: \_\_\_\_\_ Field Amps: \_\_\_\_\_ Motoring power (kW): \_\_\_\_\_

Synchronous Reactance (Xd): \_\_\_\_\_ % on \_\_\_\_\_ KVA base

## Application for Operation of Customer-Owned Generation

---

---

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

$I_2^2t$  or 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

Unit Number: \_\_\_\_\_ Total number of units with listed specifications on site: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_  
Serial Number(s): \_\_\_\_\_ Date of manufacture: \_\_\_\_\_  
H.P. Rated: \_\_\_\_\_ H.P. Max.: \_\_\_\_\_ Inertia Constant: \_\_\_\_\_ lb.-ft.<sup>2</sup>  
Energy Source (hydro, steam, wind, etc.): \_\_\_\_\_

---

### GENERATOR 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): \_\_\_\_\_

# Application for Operation of Customer-Owned Generation

---

---

~~~~~  
*INVERTER DATA*

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_  
Rated Power Factor (%): \_\_\_\_\_ Rated Voltage (Volts): \_\_\_\_\_ Rated Amperes: \_\_\_\_\_  
Inverter Type (ferroresonant, step, pulse-width modulation, etc): \_\_\_\_\_  
Type commutation: \_\_\_forced \_\_\_line  
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*

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 \_\_\_ or DC \_\_\_  
Control Voltage (Tripping): \_\_\_\_\_ (Volts) AC \_\_\_ or DC \_\_\_ Battery \_\_\_ or 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:

- \_\_\_ 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.,
- \_\_\_ Any other applicable drawings or documents necessary for the proper design of the interconnection.

## **Application for Operation of Customer-Owned Generation**

---

---

The member/applicant agrees to provide PVREA with any additional information required to complete the interconnection. The customer shall operate his equipment within the guidelines set forth by PVREA.

---

Member/Applicant

Date

.....  
*PVREA CONTACT FOR APPLICATION SUBMISSION AND FOR MORE INFORMATION*

Co-op contact: \_\_\_\_\_

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

Mailing address: \_\_\_\_\_

Phone: \_\_\_\_\_

e-mail: \_\_\_\_\_