

SNOHOMISH COUNTY PUBLIC UTILITY DISTRICT NO. 1

Final Application for Operation of Customer-Owned Generation

FORM 6-2

Who should file this application: *Customers defined by the Preliminary Interconnection Study performed by the District as having generation capable of operating in parallel with the District system. This application should be completed as soon as possible and returned to a District Representative in order to begin processing the request.*

Information: *This application is used by the District to perform a Final Interconnection Study to determine the required equipment configuration for the District/customer interface. Every effort should be made to supply as much information as possible.*

Additional Requirements: *In addition to the items listed on this form, please attach a detailed one-line diagram of the proposed facility, all applicable elementary diagrams of 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.*

Equipment Testing: *Prior to final approval of the customer's generation, protective and control system testing is required. District representatives and Owner representatives must be present to witness and verify the testing for proper operation.*

Owner/Applicant Information

Company _____

Mailing Address _____

City _____ County _____ State _____ Zip _____

Phone _____ Representative _____

Project Design/Engineering (Architect) (as applicable)

Company _____

Mailing Address _____

City _____ County _____ State _____ Zip _____

Phone _____ Representative _____

Electrical Contractor (as applicable)

Company _____

Mailing Address _____

City _____ County _____ State _____ Zip _____

Phone _____ Representative _____

Estimated Load Information

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

Minimum anticipated load (generation not operating) _____ kW _____ kVA

Maximum anticipated load (generation not operating) _____ kW _____ kVA

**Please complete all applicable items.
Copy this page as required for additional generators.**

Synchronous Generator Data

Unit No.(s) _____ Total number of units with listed specifications on site _____
 Manufacturer _____ Mfg. Date _____
 Serial No. (each) _____
 Phases: Single _____ Three _____ RPM _____ Frequency (Hz) _____
 Rated Output (for one unit) _____ kW _____ kVA
 Rated Power Factor _____ % Rated Voltage (Volts) _____ Rated Amperes _____
 Field Volts _____ Field Amps _____ Motoring Power (kW) _____
 Synchronous Reactance (Xd) _____ % 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) _____

 I²t 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 Resistance (Xm) _____ ohms Short Circuit Resistance (Xd'') _____ ohms
 Design Letter _____ Frame Size _____
 Exciting Current _____ Temp Rise (° C) _____
 Reactive Power Required _____ Vars (no load) _____ Vars (full load) _____
 Additional information _____

Prime Mover (please complete all applicable items)

Unit No. _____ Type _____
 Manufacturer _____ Serial No. _____
 Mfg. Date _____ HP Rated _____ HP Max _____ Inertia Constant _____ lb-ft²
 Energy Source (hydro, steam, wind, etc.) _____

Generator Transformer (please complete all applicable items)

Transformer (between generator and utility system)
Generator Unit No. _____
Manufacturer _____ Mfg. Date _____
Serial No. _____
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)

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: Please 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 (kV) _____ Rated Amperes _____
Interrupting Rating (Amperes) _____ BIL Rating _____ kV
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: _____ Yes _____ No (Available taps) _____

Miscellaneous (Please use this area and any additional sheets for applicable notes and comments)

Signature _____

The customer agrees to provide Snohomish County Public Utility District with additional information required to complete the interconnection. The customer shall operate his equipment within the guidelines set forth by the *Interconnection Requirements for Customer-Owned Generating Facility Connected to District Distribution/High Voltage System*.

Applicant Signature _____ Date _____

Information below to be completed by Snohomish County Public Utility District

PUD Customer Service Representative completes the following:

Executive Account Rep _____ Phone _____

Project Name _____

Street Address _____

City _____ County _____ Phone _____

District service point location _____
(Attach map if available)

Equipment Testing

Testing performed and witnessed for proper operation on ____/____/____ by:

Owner _____ Owner Rep _____ Contractor _____

Executive Account Rep _____ System Protection Rep _____

Project Designer / Engineer _____ Construction Rep _____

Miscellaneous Comments/Notes

Copy of Application and Attachments to:

- ____ Power & Business Services AGM
- ____ Transmission & Distribution Engineering Services Manager
- ____ System Planning & Protection Manager
- ____ Distribution Construction Services Manager

*** Original of this document to be retained in customer's file in Customer Service Department ***