PUGET SOUND ENERGY

Attachment “C” Application - Tier 2 and Tier 3

SCHEDULE 152
APPLICATION FOR INTERCONNECTING A GENERATING FACILITY
TIER 2 OR TIER 3

This Application is considered complete when it provides all applicable and correct information required below. Additional information to evaluate the Application may be required. Certain terms in this Application are defined in Schedules 80 and 152.

Application Fee
A non-refundable fee must accompany this Application.
For Generating Facilities of 0 kW to 25 kW, the fee is $100.00
For Generating Facilities of greater than 25 kW to 500 kW that do not qualify for the Interconnection process outlined in Schedule 150, the fee $500.00
For Generating Facilities of greater than 500 kW to 20 MW, the fee is $1000.00
For Generating Facilities of greater than 2 MW or up to 20 MW the fee is $1000.00. psei.

Puget Sound Energy (“PSE” or “Company”):

[Note: The blanks below must be filled in prior to sending this form to an Interconnection Customer.]

Designated Contact Person:
Address:
Telephone Number:
Fax:
E-Mail Address:

Preamble and Instructions
An Interconnection Customer who requests Interconnection must submit this Application by hand delivery, mail, e-mail, or fax to the Company.

Interconnection Customer Information
Legal Name of the Interconnection Customer (or, if an individual, individual’s name)
Name:
Contact Person:
Mailing Address:
City: State: Zip:

[Note: The blanks below must be filled in prior to sending this form to an Interconnection Customer.]
Facility Location (if different from above): 

Telephone (Day): ______________ Telephone (Evening): ______________

Fax: ______________________ E-Mail Address: ______________________

Alternative Contact Information (if different from the Interconnection Customer)

Contact Name: ____________________________

Title: ____________________________

Address: ____________________________

Telephone (Day): ______________ Telephone (Evening): ______________

Fax: ______________________ E-Mail Address: ______________________

Application is for:  

_____ New Generating Facility  

_____ Capacity addition to Existing Generating Facility

If capacity addition to existing facility, please describe: ____________________________

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

Net Metering? Yes ___ No ___

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:

(Existing PSE Account Number*)

Requested Point of Interconnection: ____________________________

Interconnection Customer’s Requested In-Service Date: ____________________________
Energy Source: ___ Solar ___ Wind ___ Hydro ___ Hydro Type (e.g. Run-of-River): __________
___ Diesel ___ Natural Gas ___ Fuel Oil ___ Other (state type) ________________

Prime Mover: ___ Fuel Cell ___ Recip Engine ___ Gas Turb ___ Steam Turb ___ Microturbine ___ PV ___
Other

Synchronous Generators

Generator Nameplate Rating: __________ kW (Typical)   Generator Nameplate kVA: __________
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:

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Certifying Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

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

Generator:
Manufacturer, Model name, & Number: __________

Version Number: __________

Nameplate Output Power Rating in kW: (Summer) __________ (Winter) __________
Nameplate Output Power Rating in kVA: (Summer) __________ (Winter) __________

Individual Generator Power Factor:
Rated Power Factor: Leading: __________   Lagging: __________

Direct Axis Synchronous Reactance, Xd: __________ P.U.
Direct Axis Transient Reactance, X'd: __________ P.U.
Direct Axis Subtransient Reactance, X"d: __________ P.U.
Negative Sequence Reactance, X2: __________ P.U.
Zero Sequence Reactance, X0: __________ P.U.
KVA Base: __________
Field Volts: __________
Field Amperes: __________
Attachment “C” Application - Tier 2 and Tier 3

Induction Generators

Generator Nameplate Rating: _______ kW (Typical)   Generator Nameplate kVA:_______

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:

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Certifying Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>____________________</td>
</tr>
<tr>
<td>2</td>
<td>____________________</td>
</tr>
<tr>
<td>3</td>
<td>____________________</td>
</tr>
<tr>
<td>4</td>
<td>____________________</td>
</tr>
<tr>
<td>5</td>
<td>____________________</td>
</tr>
</tbody>
</table>

Is the prime mover compatible with the certified protective relay package? ___Yes   ___No

Generator
Manufacturer, Model name, & Number: ______________________
Version Number: ______________________

Nameplate Output Power Rating in kW: (Summer) ___   (Winter) ___ or
Nameplate Output Power Rating in kVA: (Summer) ___   (Winter ) ___

Individual Generator Power Factor
Rated Power Factor: Leading: ______   Lagging: ______

Motoring Power (kW): _______
I^2t or K (Heating Time Constant): ____________
Rotor Resistance, Rr: ____________
Stator Resistance, Rs: ____________
Stator Reactance, Xs: ____________
Rotor Reactance, Xr: ____________
Magnetizing Reactance, Xm: ____________
Short Circuit Reactance,Xd": ____________
Exciting Current: ____________
Temperature Rise: ____________
Frame Size: ____________
Design Letter: ____________
Reactive Power Required in Vars (No Load): ____________
Reactive Power Required in Vars (Full Load): ____________
Total Rotating Inertia, H: ____________ Per Unit on kVA Base
Attachment “C” Application - Tier 2 and Tier 3

Inverter Based Generation

Source Nameplate Rating: _______ DC KW (Typical)  
Inverter Nameplate Rating _______ AC KW

Interconnection Customer or Customer-Site Load: _________ kW (if none, so state)
Will site load be a separate service _________

Reactive Capability: _________

Maximum Physical Export Capability Requested: _________ kW

List components of the Generating Facility equipment package that are currently certified:

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Certifying Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Is the inverter controller UL1741 listed? ___Yes ___No

Generator (or solar collector)
Manufacturer, Model name, & Number: ________________________________
Version Number: ______________
Inverter Model number: ________________________________

Output Power Rating in kW: (Summer) ___ (Winter) ___

List of adjustable set points for the protective equipment, including software adjustable points: _____

Contact the Company to discuss this item prior to filling out the Application.

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

Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current: ________________  Instantaneous ___ or RMS? ___

Harmonics Characteristics: ________________________________

Start-up requirements: ________________________________

Generating Facility Characteristic Data (for rotating machines)
Note: Please contact the Company prior to submitting the Application to determine if the specified information below is required.

RPM Frequency: __________
(*) Neutral Grounding Resistor (If Applicable): __________

Synchronous Generators:

Direct Axis Synchronous Reactance, Xd: __________ P.U.
Direct Axis Transient Reactance, X'd: __________ P.U.
Direct Axis Subtransient Reactance, X''d: __________ P.U.
Negative Sequence Reactance, Xd: __________ P.U.
Zero Sequence Reactance, Xo: __________ P.U.
KVA Base: __________
Field Volts: __________
Field Amperes: __________

Induction Generators

Motoring Power (kW): __________
l2t or K (Heating Time Constant): __________
Rotor Resistance, Rr: __________
Stator Resistance, Rs: __________
Stator Reactance, Xs: __________
Rotor Reactance, Xr: __________
Magnetizing Reactance, Xm: __________
Short Circuit Reactance, Xd": __________
Exciting Current: __________
Temperature Rise: __________
Frame Size: __________
Design Letter: __________
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

Provide an appropriate IEEE model block diagram of excitation system, governor system, and power system stabilizer (PSS) in accordance with the regional reliability council criteria. Studies may determine that a PSS is required. 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 (PCC)?
__Yes __No
Attachment “C” Application - Tier 2 and Tier 3

Will the transformer be provided by the Interconnection Customer? ___Yes ___No

Transformer Data (If Applicable, for Interconnection Customer-Owned Transformer):

Is the transformer: ___single phase ___three phase? Size: ___________kVA
Transformer Impedance: _____% on _______kVA Base

If Three Phase:
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 a copy of the 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 set points for the protective equipment, including software adjustable points:

<table>
<thead>
<tr>
<th>Setpoint Function</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Discrete Components:
Attachment “C” Application - Tier 2 and Tier 3

(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: _______
Manufacturer: _______ Type: _______ Style/Catalog No.: _______ Proposed Setting: _______

Current Transformer Data (if applicable):

(Enclose a copy of the 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: ___

General Information

Enclose a copy of the site electrical one-line diagram showing the configuration of all Generating Facility equipment, current and potential circuits, and protection and control schemes. This one-line diagram must be signed and stamped by a Washington State licensed electrical Professional Engineer if the Generating Facility is larger than 50 kW. Is one-line diagram enclosed? ___Yes ___No

Enclose a copy of any site documentation that indicates the precise physical location of the proposed Generating Facility (e.g., USGS topographic map or other diagram or documentation).

Enclose a copy of any site documentation that describes and details the operation of the protection and control schemes. Is available documentation enclosed? ___Yes ___No

Enclose copies of schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable). Are schematic drawings enclosed? ___Yes ___No
Notification of Potential Voltage Irregularities:
The Company’s Electric System voltage may be routinely at the upper limits of the range described in WAC 480-100-373, and this may limit the ability of a Generating Facility to export power to the PSE Electric System. For example, for a nominal 240-volt service the voltage could range up to 252 volts.

Applicant Signature

I hereby certify that, to the best of my knowledge, all the information provided in this Application is true and correct.

For Interconnection Customer: ________________________________ Date: ______________