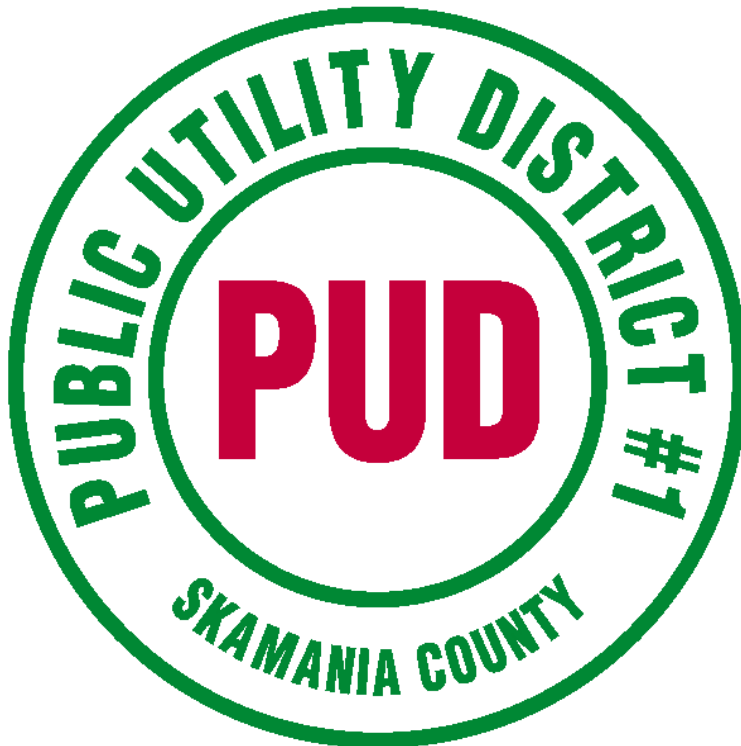


Net Metering Interconnections Standards

FOR

Interconnection of Electric Generators

(GENERATING CAPACITY OF NOT MORE THAN 100 KILOWATTS)



PUBLIC UTILITY DISTRICT #1
OF
SKAMANIA COUNTY

INTERCONNECTION WITH ELECTRIC GENERATORS

Section 1 - Purpose and Scope.

(1) The purpose of this policy is to establish rules and standards for determining the terms and conditions governing the interconnection of net metering systems as defined in the Revised Code of Washington (RCW) in Chapter 80.60.010, and owned by any entity other than the PUD, (Generator), with a maximum generating capacity of less than or equal to 100 kilowatts to the electric system over which the Commission of Public Utility District #1 of Skamania County, Washington, (PUD) has jurisdiction.

(2) These rules are intended to be consistent with the requirements of chapter 80.60 RCW, Net Metering of electricity and to comply with provisions of the Energy Policy Act of 2005, Pub. L. No. 109-58 (2005) that amended section 111 (d) of the Public Utility Regulatory Policy Act (PURPA) relating to Net Metering (subsection 11) and Interconnection (subsection 15).

(3) These standards govern the terms and conditions under which the Applicant's generating facility will interconnect with, and operate in parallel with, the PUD's electric system. These standards do not govern the settlement, purchase, or delivery of any power generated by the Applicant's generating facility.

Section 2 - Application of Rules.

(1) These rules include various requirements applicable to the PUD, the Applicant and the Generator.

(2) These rules modify, if necessary, any existing interconnection rules of the PUD, including but not limited to, rules implementing chapter 80.60 RCW, Net Metering of Electricity.

Section 3 – Definitions.

"Applicant" means any person, corporation, partnership, government agency, or other entity applying to interconnect a generating facility to the PUD's electric system pursuant to this chapter.

"Application" means the written notice provided by the Applicant to the PUD that initiates the interconnection process.

"Certificate of completion" means the form completed by the Applicant or Generator and the electrical inspector having jurisdiction over the installation of the facilities indicating completion of installation and inspection of the interconnection.

"Electric system" means all electrical wires, equipment, and other facilities owned or provided by the PUD that are used to transmit electricity to customers.

"Generating facility" means a source of generated electricity as defined in the Revised Code of Washington (RCW) in Chapter 80.60.010, owned by the Applicant or Generator that is located on the Applicant's side of the point of common coupling, and all facilities ancillary and appurtenant thereto, including interconnection facilities, which the Applicant requests to interconnect to the PUD's electric system.

"Generator" means the entity that owns and/or operates the generating facility interconnected to the PUD's electric system.

"Initial operation" means the first time the generating facility is in parallel operation with the electric system.

"In-service date" means the date on which the generating facility and any related facilities are complete and ready for service, even if the generating facility is not placed in service on or by that date.

"Interconnection" means the physical connection of a generating facility to the electric system so that parallel operation may occur.

"Interconnection facilities" means the electrical wires, switches and other equipment used to interconnect a generating facility to the electric system.

"Maximum generating capacity" means the maximum amount of energy that the generator is capable of producing on an instantaneous basis.

"Model interconnection agreement" means standardized terms and conditions that govern the interconnection of generating facilities pursuant to these standards. The model interconnection agreement may be modified to accommodate terms and conditions specific to individual interconnections, subject to the conditions set forth in these rules.

"Net metering" means measuring the difference between the electricity supplied by a utility and the electricity generated by a generating facility to the same load over the applicable billing period.

"Network distribution system (grid or spot)" means electrical service from a distribution system consisting of two or more primary circuits from one or more substations or transmission supply points arranged such that they collectively feed secondary circuits serving one (a spot network) or more (a grid network) PUD customers.

"Parallel operation" or **"operate in parallel"** means the synchronous operation of a generating facility while interconnected with a utility's electric system.

"Point of common coupling" or **"PCC"** means the point where the generating facility's local electric power system connects to the PUD's electric system, such as the electric power revenue meter or at the location of the equipment designated to interrupt, separate or disconnect the connection between the generating facility and utility.

"PUD" means Public Utility District #1 of Skamania County, Washington, which owns and operates the electrical distribution system, or the electrical distribution system itself, onto which the Applicant seeks to interconnect a generating facility.

Section 4 Technical Standards for Interconnection.

(1) General interconnection requirements.

(a) Any generating facility desiring to interconnect with the PUD's electric system or modify an existing interconnection must meet all minimum technical specifications applicable, in their most current approved version, as set forth in this chapter.

Table 1. 100 kW or Smaller.

	Single-Phase		Three-Phase	
	*Capacity			
<u>Feature</u>	≤ 50 kW Inverter based	≤ 50 kW Non- inverter based	≤ 100 kW Inverter based	≤ 100 kW Non- inverter based
IEEE 1547 compliant	√	√	√	√
UL 1741 listed	√		√	
Interrupting devices (capable of interrupting maximum available fault current)	√ [8]	√	√ [8]	√
Interconnection disconnect device (manual, lockable, visible, accessible)	[1]	√	√	√
System Protection		√ [3][4][6]		√ [3][4][5][6]
Over-voltage trip	√ [8]	√	√ [8]	√
Under-voltage trip	√ [8]	√	√ [8]	√
Over/Under frequency trip	√ [8]	√	√ [8]	√
Automatic synchronizing check		√		√
Ground over-voltage or over-current trip for PUD system faults.				√ [2]
Power factor		√ [7]		√ [7]

Notes:

√ – Required feature (blank = not required)

* Capacity of single or aggregate generation

[1] – PUD may choose to waive this requirement

[2] – May be required by PUD; selection based on grounding system

[3] – No single point of failure shall lead to loss of protection.

[4] – All protective devices shall fully meet the requirements of ANSI C37.90

[5] – PUD will specify the transformer connection.

[6] – It is the customers’ responsibility to ensure that their system is effectively grounded as defined by IEEE Std. 142 at the point of common coupling .

[7] – Variance may be allowed based upon specific requirements per PUD review. Charges may be incurred for losses.

[8] - UL 1741 listed equipment provides required protection.

(b) Any generating facility desiring to interconnect with the PUD's electric system or modify an existing interconnection must bare all costs necessary for such interconnection, including costs to modify or increase the capacity of PUD's distribution system as needed to accommodate such interconnection.

(c) A generator 100 kW or smaller must comply with all requirements from Table 1 that are applicable to the interconnection of that generating facility.

(d) Any single or aggregated generating facility with a capacity greater than 50 kW shall require a three-phase interconnection.

(e) The specifications and requirements in this section are intended to mitigate possible adverse impacts caused by the generating facility on PUD equipment and personnel and on other customers of the PUD. They are not intended to address protection of the generating facility itself, generating facility personnel, or its internal load. It is the responsibility of the generating facility to comply with the requirements of all appropriate standards, codes, statutes and authorities to protect its own facilities, personnel, and loads, and to obtain all permits required by local, State, or Federal authorities.

(f) The specifications and requirements in this section shall apply generally to the Generator-owned electric generation equipment (or any other facilities or equipment not owned by the PUD) to which this standard and agreement(s) apply throughout the period encompassing the Generator's installation, testing and commissioning, operation, maintenance, decommissioning and removal of said equipment. The PUD may verify compliance at any time, with reasonable notice.

(g) The Generator shall comply with the requirements in (f)(i), (ii) and (iii) of this subsection. However, at its sole discretion, the PUD may approve alternatives that satisfy the intent of, and/or may excuse compliance with, any specific elements of these requirements except local, state and federal building codes.

(i) **Code and standards.** Applicant shall conform to all applicable codes and standards for safe and reliable operation. Among these are the National Electric Code (NEC), National Electric Safety Code (NESC), the Institute of Electrical and Electronics Engineers (IEEE), American National Standards Institute (ANSI), and Underwriters Laboratories (UL) standards, and local, state and federal building codes. The Generator shall be responsible to obtain all applicable permit(s) for the equipment installations on its property.

(ii) **Safety.** All safety and operating procedures for joint use equipment shall be in compliance with the Occupational Safety and Health Administration (OSHA) Standard at 29 CFR 1910.269, the NEC, Washington Administrative Code (WAC) rules, the Washington Division of Occupational Safety and Health (DOSH) Standard, and equipment manufacturer's safety and operating manuals.

(iii) **Power quality.** Installations will be in compliance with all applicable standards including IEEE Standard 519-1992 Harmonic Limits.

(h) **Momentary Paralleling of Standby Generators.** Protective relays to isolate the customer owned generation for faults in the PUD's distribution system are not required if the paralleling operation is automatic and is designed to take place in less than one hundred milliseconds. Parallel operation of the customer owned generation with the PUD distribution system shall be prevented when the PUD line is dead or out of phase with the customer owned generation. The Applicant must submit the control scheme for automatic paralleling for review and acceptance by the PUD before the generating facility will be allowed to interconnect.

(2) Specific interconnection requirements.

(a) Applicant shall furnish and install on Applicant's side of the meter, a UL-approved safety disconnect switch which shall be capable of fully disconnecting the Applicant's generating facility from PUD's electric system. The disconnect switch shall be located outdoors adjacent to PUD meters and shall be of the visible break type in a metal enclosure which can be secured by a PUD padlock. The disconnect switch shall be accessible to PUD personnel at all times.

(b) The requirement in (a) of this subsection may be waived by the PUD if:

(i) Applicant provides interconnection equipment that Applicant can demonstrate, to the satisfaction of PUD, performs physical disconnection of the generating equipment supply internally; and

(ii) Applicant agrees that its service may be disconnected entirely if generating equipment must be physically disconnected for any reason.

(c) The PUD shall have the right to disconnect the generating facility at the disconnect switch under the following circumstances: When necessary to maintain safe electrical operating conditions; if the generating facility does not meet required standards, including obstructions to clear access to the disconnect switch; or if the generating facility at any time adversely affects or endangers any person, the property of any person, the PUD's operation of its electric system or the quality of PUD's service to other customers.

(d) Nominal voltage and phase configuration of Applicant's generating facility must be compatible to the PUD system at the point of common coupling.

(3) Specifications applicable to all inverter-based interconnections.

Any inverter-based generating facility desiring to interconnect with the PUD's electric system or modify an existing interconnection must meet the technical specifications, as set forth below. The version of the technical specifications approved by the Commission is specified in Section 10. A more recent approved version may supersede specifications on the list below.

(a) IEEE Standard 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems, for systems 10 MVA or less.

(b) UL Standard 1741, Inverters, Converters, and Controllers for Use in Independent Power Systems. Equipment must be UL listed.

(c) IEEE Standard 929, IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems.

(4) Requirements applicable to all non-inverter-based interconnections.

Non-inverter-based interconnection requests may require more detailed PUD review, testing, and approval, at Applicant cost, of the equipment proposed to be installed to ensure compliance with applicable technical specifications, in their most current approved version, including:

(a) IEEE Standard 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems, for systems 10 MVA or less.

(b) ANSI Standard C37.90, IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus.

(c) Applicants proposing such interconnection may also be required to submit a power factor mitigation plan and/or other studies or plans as appropriate for PUD review and approval.

Section 5 Application for Interconnection

(1) When an Applicant requests interconnection from the PUD, the Applicant shall be responsible for conforming to the rules and regulations that are in effect and on file with the PUD. The PUD will designate a point of contact and publish a telephone number or web site address for this specific purpose. The Applicant seeking to interconnect a generating facility under these rules must fill out and submit a signed application form to the PUD. Information must be accurate, complete, and approved by the PUD prior to installing the generating facility.

(2) **Application fees.** The nonrefundable interconnection application fee is set by the PUD according to facility size and shall be no greater than:

(a) 0 – 25 kW -- \$200

(b) 26 – 100 kW -- \$200 + \$10 /kW over 25 kW (maximum of \$950)

(3) **Non-Discrimination.** All generation interconnection applications pursuant to this standard will be processed by the PUD in a non-discriminatory manner.

(4) **Application evaluation.** All generation interconnection requests pursuant to this standard will be reviewed by the PUD for compliance with the rules of this standard. If the PUD in its sole discretion finds that the application does not comply with this standard, the PUD may reject the application. If the PUD rejects the application, it shall provide the Applicant with written notification stating its reasons for rejecting the application. IT IS FURTHER PROVIDED THAT, the PUD's acceptance of the application in no way changes or modifies the provisions set forth in this Agreement and the Applicant's responsibility to comply with all appropriate standards, codes, statutes and authorities to protect its own facilities, equipment, personnel, and loads.

Section 6 Interconnection Agreements and Costs.

(1) Once an application is accepted by the PUD as complete, the PUD shall determine if any additional engineering, safety, reliability or other studies are required.

(2) If the PUD determines that additional studies are required, the PUD will provide to the Applicant or Generator a Study Agreement. The Study Agreement shall include a description of the studies and a good faith estimate of the cost to perform the studies. The project review will proceed after the Applicant or Generator returns the completed Study Agreement along with any deposit required by the PUD against the estimated costs.

(3) Upon completion of the studies, the PUD shall provide the Applicant or Generator with the results of the studies, including any additional interim agreements, such as construction agreements, that may be necessary and a cost estimate to complete the interconnection. If the studies determine that the interconnection is denied pursuant to RCW 80.60, the PUD shall provide notice of denial to the Applicant and the reasons for the denial.

(4) The PUD shall provide an Interconnection Agreement to the Applicant to be completed and executed by the Applicant. Along with the completed Interconnection Agreement, the Applicant shall also make a deposit required by the PUD against the estimated costs to complete the interconnection.

(5) Failure to return completed agreements and required deposits may result in termination of application process by the PUD. Terms and conditions for termination of the Interconnection Agreement shall be contained within such agreement.

Section 7 General Terms and Conditions of Interconnection

The general terms and conditions listed in this section shall apply to all generating facilities interconnecting to the PUD under this standard.

(1) Any electrical generating facility must comply with these rules to be eligible to interconnect and operate in parallel with the PUD's electric system. These standards shall apply to all interconnecting generating facilities that are intended to operate in parallel with the PUD's electric system irrespective of whether the Applicant intends to generate energy to serve all or a part of the Applicant's load; or to sell the output to the PUD or any third party purchaser.

(2) In order to ensure system safety and reliability of interconnected operations, all interconnected generating facilities shall be constructed and operated by Generator in accordance with these standards and all other applicable federal, state, and local laws and regulations.

(3) Prior to initial operation, all Generators must submit a completed certificate of completion to the PUD, execute an appropriate Interconnection Agreement and any other agreement(s) required for the disposition of the generating facility's electric power output. The Interconnection Agreement between the PUD and Generator outlines the interconnection standards, cost allocation and billing agreements, and on-going maintenance and operation requirements.

(4) Applicant or Generator shall promptly furnish the PUD with copies of such plans, specifications, records, and other information relating to the generating facility or the ownership, operation, use, or maintenance of the generating facility, as may be reasonably requested by the PUD from time to time.

(5) For the purposes of public and working personnel safety, any non-approved generation interconnections discovered will be immediately disconnected from the PUD system.

(6) To ensure reliable service to all PUD customers and to minimize possible problems for other customers, the PUD will review the need for a dedicated-to-single-customer distribution transformer. If the PUD requires a dedicated distribution transformer, the Applicant or Generator shall pay for all costs of the new transformer and related facilities.

(7) The PUD shall install, own and maintain a kilowatt-hour meter, or meters as the installation may determine, capable of registering the bi-directional flow of electricity at the point of common coupling at a level of accuracy that meets all applicable standards, regulations and statutes. The meter(s) may measure such parameters as time of delivery, power factor, voltage and such other parameters as the PUD shall specify. The Applicant shall provide space for metering equipment. It will be the Applicant's responsibility to provide the current transformer enclosure (if required), meter socket(s) and junction box after the Applicant has submitted drawings and equipment specifications for PUD approval. The PUD may approve other generating sources for net metering but is not required to do so.

(8) Common labeling furnished or approved by the PUD and in accordance with NEC requirements must be posted on meter base, disconnects, and transformers informing working personnel that generation is operating at or is located on the premises.

(9) No additional insurance will be necessary for a net metered facility that is a net metering system under chapter 80.60 RCW. A qualifying facility under RCW 80.60 is one that is 100 kW or less; and that uses water, wind, solar energy, or biogas from animal waste as a fuel, fuel cells, or that produces electricity and used and useful thermal energy from a common fuel source.

(10) Prior to any future modification or expansion of the generating facility, the Generator will obtain PUD review and approval. The PUD reserves the right to require the Generator, at the Generator's expense, to provide corrections or additions to existing electrical

devices in the event of modification of government or industry regulations and standards.

(11) For the overall safety and protection of the PUD system, chapter 80.60 RCW currently limits interconnection of generation for net metering to 0.25% of the PUD's peak demand during 1996. Additionally, interconnection of generating facilities to individual distribution feeders will be limited to 10% of the feeder's peak capacity. However, the PUD may, in its sole discretion, allow additional generation interconnection beyond these stated limits, or, if indicated by engineering, safety or reliability studies, restrict or prohibit new or expanded interconnected generation capacity on any feeder, circuit or network.

(12) It is the responsibility of the Generator to protect its facilities, loads and equipment and comply with the requirements of all appropriate standards, codes, statutes and authorities.

(13) Charges by the PUD to the Applicant or Generator in addition to the application fee, if any, will be compensatory and applied as appropriate. Such costs may include, but are not limited to, transformers, production meters, and PUD testing, qualification, and approval of non-UL 1741 listed equipment. The Generator shall be responsible for any costs associated with any future upgrade or modification to its interconnected system required by modifications in the PUD's electric system.

(14) This section does not govern the settlement, purchase or delivery of any power generated by Applicant's generating facility. The purchase or delivery of power, including net metering of electricity pursuant to chapter 80.60 RCW, and other services that the Applicant may require will be covered by separate agreement or pursuant to the terms, conditions and rates as may be from time to time approved by the commission. Any such agreement shall be complete prior to initial operation and filed with the commission.

(15) Generator may disconnect the generating facility at any time; provided that the Generator provides reasonable advance notice to the PUD.

(16) Generator shall notify the PUD in writing prior to the sale or transfer of the generating facility, the interconnection facilities or the premises upon which the facilities are located. The Applicant or Generator shall not assign its rights or obligations under any agreement entered into pursuant to these rules without the prior written consent of PUD, which consent shall not be unreasonably withheld.

Section 8 - Certificate of Completion.

All generating facilities must obtain an electrical permit and pass electrical inspection before they can be connected or operated in parallel with the PUD's electric system. Generator shall provide to PUD written certification that the generating facility has been installed and inspected in compliance with the local building and/or electrical codes.

Section 9 - Filings

(1) The PUD shall maintain on file for inspection at its place of business, the charges, terms and conditions for interconnections pursuant to this chapter. Such filing shall include model forms of the following documents and contracts:

- (a) Application.
- (b) Model interconnection agreement.
- (c) Certificate of completion.

Section 10 - Adoption by Reference.

In this chapter, the PUD adopts by reference all or portions of regulations and standards identified below. They are available for inspection at the PUD's office or as otherwise indicated. The publications, effective date, references within this chapter, and availability of the resources are as follows:

(1) The National Electric Code is published by the National Fire Protection Association (NFPA).

(a) The PUD adopts the version published in 2005.

(b) The National Electric Code is a copyrighted document. Copies are available from the NFPA at 1 Batterymarch Park, Quincy, Massachusetts, 02169 or at internet address <http://www.nfpa.org>.

(2) National Electrical Safety Code (NESC).

(a) The PUD adopts the version published in 2002.

(b) Copies of the National Electrical Safety Code are available from the Institute of Electrical and Electronics Engineers at <http://standards.ieee.org/nesc>.

(3) Institute of Electrical and Electronics Engineers (IEEE) Standard 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems.

(a) The PUD adopts the most recent version adopted by IEEE.

(b) Copies of IEEE Standard 1547 are available from the Institute of Electrical and Electronics Engineers at <http://www.ieee.org/web/standards/home>.

(4) Institute of Electrical and Electronics Engineers (IEEE) Standard 929, Recommended Practice for Utility Interface of Photovoltaic (PV) Systems.

(a) The PUD adopts the version published in 2000.

(b) Copies of IEEE Standard 929 are available from the Institute of Electrical and Electronics Engineers at <http://www.ieee.org/web/standards/home>.

(5) American National Standards Institute (ANSI) Standard C37.90, IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus.

(a) The PUD adopts the version published in 2005.

(b) Copies of IEEE Standard C37.90 are available from the Institute of Electrical and Electronics Engineers at <http://www.ieee.org/web/standards/home>.

(6) Institute of Electrical and Electronics Engineers (IEEE) Standard 519, Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems.

(a) The PUD adopts the version published in 1992.

(b) Copies of IEEE Standard 519 are available from the Institute of Electrical and Electronics Engineers at <http://www.ieee.org/web/standards/home>.

(7) Underwriters Laboratories (UL), including UL Standard 1741, Inverters, Converters, and Controllers for Use in Independent Power Systems.

(a) The PUD adopts the version published in 2005.

(b) UL Standard 1741 is available from Underwriters Laboratory at <http://www.ul.com>.

(8) Occupational Safety and Health Administration (OSHA) Standard at 29 CFR 1910.269.

(a) The PUD adopts the version published in 1994.

(b) Copies of Title 29 Code of Federal Regulations are available from the U.S. Government Online Bookstore, <http://bookstore.gpo.gov/>, and from various third-party vendors.

(9) Washington Division of Occupational Safety and Health (DOSHS) Standard, chapter 296-155 WAC.

(a) The PUD adopts the version in effect on March 1, 2006.

(b) The DOSH Standard is available from the Washington Department of Labor and Industries at P.O. Box 44000, Olympia, WA 98504-4000, or at internet address <http://www.lni.wa.gov>.

APPENDIX A

Application for Interconnecting a Generating Facility

This Application is considered complete when it provides all applicable and correct information required below. Additional information to evaluate the Application may be required.

Processing Fee

A non-refundable processing fee of _____ must accompany this Application.

Interconnection Customer

Name: _____

Contact Person: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Contact (if different from Interconnection Customer)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Owner of the facility (include % ownership by any electric utility): _____

Generating Facility Information

Location (if different from above): _____

Electric Service Company: _____

Account Number: _____

Inverter Manufacturer: _____ Model _____

Nameplate Rating: _____ (kW) _____ (kVA) _____ (AC Volts)

Single Phase _____ Three Phase _____

System Design Capacity: _____ (kW) _____ (kVA)

Prime Mover: Photovoltaic ___ Reciprocating Engine ___ Fuel Cell ___ Turbine ___ Other ___

Energy Source: Solar ___ Wind ___ Hydro ___ Diesel ___ Natural Gas ___ Fuel Oil ___

Other (describe) _____

Is the equipment UL1741 Listed? Yes ___ No ___

If Yes, attach manufacturer's specification sheet showing UL1741 listing

Estimated Installation Date: _____ Estimated In-Service Date: _____

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

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

Interconnection Customer Signature

I hereby certify that, to the best of my knowledge, the information provided in this Application is true. I agree to abide by the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 100 kW and return the Certificate of Completion when the Small Generating Facility has been installed.

Signed: _____

Title: _____ Date: _____

Contingent Approval to Interconnect the Generating Facility

(For PUD use only)

Interconnection of the Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Generating Facility No Larger than 100 kW and return of the Certificate of Completion.

PUD Manager's Signature: _____

Title: _____ Date: _____

Application ID number: _____

PUD waives inspection/witness test? Yes ___ No ___

APPENDIX B

Generating Facility Certificate of Completion

Is the Generating Facility owner-installed? Yes _____ No _____

Interconnection Customer:

Contact Person: _____

Address: _____

Location of the Generating Facility (if different from above):

City: _____ State: _____ Zip Code: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Electrician: _____

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

License number: _____

Date Approval to Install Facility granted by the PUD: _____

Application ID number: _____

Inspection:

The Generating Facility has been installed and inspected in compliance with the local building/ electrical code of _____

Signed (Local electrical wiring inspector, or attach signed electrical inspection):

Print Name: _____

Date: _____

Appendix C

Net Energy Metering Interconnection Agreement

Customer Owned Fuel Cell, Solar, Wind, Biogas, Combined Heat and Power or Hydropower Electric Generating Facilities of 100 Kilowatts or Less

This Net Energy Metering Interconnection Agreement is executed in duplicate this _____ day of _____, 200__ between _____ (hereinafter referred to as "Customer"), and Public Utility District #1 of Skamania County, (hereinafter referred to as "PUD") . Both parties, who may be herein further referred to collectively as "Parties" and individually as "Party", agree as follows:

1. CUSTOMER ELECTRIC GENERATING FACILITY

1. Customer has elected, in accordance with RCW 80.60 et seq., to operate either a net energy metered fuel cell facility that produces electricity and used and useful thermal energy from a common fuel source, or a facility that uses water, wind, solar energy, or biogas from animal waste as a fuel as set forth in chapter 80.60 RCW with a generating capacity of not more than one hundred (100) kilowatts, in parallel with the PUD's transmission and distribution facilities. The customer's electric generating facility (generating facility) is intended to offset either part or all of the Customer's electrical requirements.
2. PUD will not provide wheeling for Customer as generation from the net metering electrical generating facility will only be applied to consumption at the location of said electrical generating facility.
3. Customer's Application for Interconnecting a Generating Facility, including the location of the electrical generating installation facility and details on the electrical generating unit(s) is hereby incorporated into this agreement as Attachment A.
4. The installation is identified by the PUD with the following designators: Transformer No. (feeder and phase) _____ , Customer Utility Account No. _____ .
5. A separate agreement shall be entered into for each Customer's electrical service location(s).
6. The electrical generating system facility used by the Customer shall be located on the Customer's premises. It shall include all equipment necessary to meet applicable safety, power quality, and Interconnection requirements established by the National Electrical Code (Articles 690 and 705), National Electrical Safety Code, the Institute of Electrical and Electronics Engineers, Underwriters Laboratories, and the PUD's Net Metering Interconnection Standards, as set forth in Attachment B, which is attached hereto.

7. The PUD shall have the sole authority to determine which Interconnection requirements set forth herein are applicable to Customer's proposed generating facility.

2. PAYMENT FOR NET ENERGY

1. The PUD shall measure the net electricity produced or consumed by the Customer during each billing period, in accordance with normal metering practices.
2. If the electricity supplied by the PUD exceeds the electricity generated by the Customer during the billing period, or any portion thereof, then the Customer shall be billed for the net electricity supplied by the PUD together with the appropriate customer charge paid by other customers of the PUD in the same rate class.
3. If the electricity generated by the Customer during the billing period, or any portion thereof, exceeds the electricity supplied by the PUD, then the Customer shall be:
 - a. billed for the appropriate customer service charge as other customers of the PUD in the same rate class; and
 - b. credited for the net excess kilowatt-hours generated during the billing period, with this kilowatt-hour credit appearing on Customer's bill for the following billing period.
4. On April 30 of each calendar year, any remaining unused kilowatt-hour credit accumulated by the Customer during the previous year shall be granted to the PUD, without any compensation to the Customer.
5. Customer shall pay any amount owing for electric service provided by the PUD in accordance with applicable rates and policies. Nothing in this Section 2 shall limit utility's rights under applicable Rate Schedules, City Ordinances, Customer Service Policies, and General Provisions.

3. INTERRUPTION OR REDUCTION OF DELIVERIES

1. The PUD may require Customer to interrupt or reduce deliveries as follows:
 - a. when necessary in order to construct, install, maintain, repair, replace, remove, investigate, or inspect any of its equipment or part of its system; or
 - b. if it determines that curtailment, interruption, or reduction is necessary because of emergencies, force or compliance with prudent electrical practices.
2. Whenever possible, the PUD shall give Customer reasonable notice of the possibility that interruption or reduction of deliveries may be required.
3. Notwithstanding any other provision of this Agreement, if at any time the PUD determines that either:

- a. the generating facility may endanger utility personnel, or
- b. the continued operation of Customer's generating facility may endanger the integrity of the PUD's electric system,

then the PUD shall have the right to temporarily or permanently disconnect Customer's generating facility from the PUD's electric system. Customer's generating facility shall remain disconnected until such time as the PUD is satisfied that the condition(s) referenced in (a) of (b) of this section 3.3 have been corrected, and the Customer shall not be entitled to any damages what so ever claimed as a result of the disconnection.

4. INTERCONNECTION

1. Customer shall deliver the excess energy to the PUD at the PUD's meter.
2. Customer shall pay for designing, installing, inspecting, operating, and maintaining the electric generating facility in accordance with all applicable laws and regulations and shall comply with the PUD's Interconnection Standards set forth in Attachment B, which is attached hereto.
3. Customer shall pay the PUD's costs for accommodating such electric generating facility, including transformers, line extensions, capacity increases, protective devices, and metering.
4. Customer shall not commence parallel operation of the generating facility until written approval of the Interconnection facilities has been given by the PUD. Such approval shall not be unreasonably withheld. The PUD shall have the right to have representatives present at the initial testing of Customer's protective apparatus. Customer shall notify the PUD when testing is to take place.

5. MAINTENANCE AND PERMITS

Customer shall:

1. maintain the electric generating facility and Interconnection facilities in a safe and prudent manner and in conformance with all applicable laws and regulations including, but not limited to, the PUD's Interconnection Standards, and
2. obtain any governmental authorizations and permits required for the construction and operation of the electric generating facility and Interconnection facilities, including electrical permit(s).
3. reimburse and hold harmless the PUD for any and all losses, damages, claims, penalties, or liability it incurs as a result of Customer's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of Customer's generating facility or failure to maintain Customer's generating facility as required in (a) of this Section 5.

6. ACCESS TO PREMISES

The PUD may enter Customer's premises or property to:

1. inspect, with prior notice, at all reasonable hours, Customer's generating facility's protective devices;
2. read meter; and
3. disconnect at the PUD's meter or transformer, without notice, the generating facilities if, in the PUD's opinion, a hazardous condition exists and such immediate action is necessary to protect persons, or the PUD's facilities, or property of others from damage or interference caused by Customer's electric generating facilities, or lack of properly operating protective devices or inability to inspect the same.

The PUD inspection or other action shall not constitute approval by the PUD. The customer remains solely responsible for the safe and adequate operation of its facilities.

7. INDEMNITY AND LIABILITY

1. The Customer assumes the risk of all damages, loss, cost and expense and agrees to indemnify the PUD, its successors and assigns, and its respective directors, officers, employees and agents, from and against any and all claims, losses, costs, liabilities, damages and expenses including, but not limited to, reasonable attorney fees, resulting from or in Interconnection with performance of the agreement or which may occur or be sustained by Skamania PUD on account of any claim or action brought against the PUD for any reason including but not limited to loss to the electrical system of the Customer caused by or arising out of an electrical disturbance.
2. Such indemnity, protection, and hold harmless includes any demand, claim, suit or judgment for damages, death or bodily injury to all persons, including officers, employees or agents, and subcontractors of either Party hereto including payment made under or in Interconnection with any Worker's Compensation Law or under any plan for employees' disability and death benefits or property loss which may be caused or contributed to by the Interconnection, maintenance, operation, use, presence, or removal of Customer's equipment. The only exception will be liability occasioned by the sole negligence or willful misconduct of the PUD or its employees acting within the scope of their employment and liability occasioned by a partial negligence of the PUD or its employees acting within the scope of their employment to the extent that such partial liability is fixed by a court of competent jurisdiction.
3. The provisions of the Section 7 shall not be construed to relieve any insurer of its obligations to pay any insurance claims in accordance with the provisions of any insurance policy.
4. The PUD shall have no liability, ownership interest, control or responsibility for the Customer's Electric Generating Facility or its Interconnection with the PUD's electric system, regardless of what the PUD knows or should know about the Customer's Electric Generating Facility or its Interconnection.
5. Customer recognizes they are waiving immunity under Washington Industrial Insurance law, Title 51 RCW, and further agrees that this indemnification clause has been mutually negotiated. This indemnification shall extend to and include attorney's

fees and the costs of establishing the right of indemnification hereunder in favor of the PUD.

8. INDEPENDENT CONTRACTORS

The Parties hereto are independent contractors and shall not be deemed to be partners, joint ventures, employees, franchisees or franchisers, servants or agents of each other for any purpose whatsoever under or in connection with this Agreement.

9. GOVERNING LAW

This Agreement shall be interpreted, governed, and constructed under the laws of the State of Washington as if executed and to be performed wholly within the State of Washington. Venue of any action arising hereunder or related to this agreement shall lie in Skamania County, Washington.

10. FUTURE MODIFICATION OR EXPANSION

Any future modification or expansion of the Customer owned generating facility will require an engineering, safety and reliability review and approval by the PUD. The PUD reserves the right to deny the modification or expansion or to require the Customer, at Customer's expense, to provide modifications or additions to existing electrical devices including, but not limited to protection device and meters, in the event of changes to government or industry regulation and/or standards.

11. AMENDMENTS, MODIFICATIONS OR WAIVER

Any amendments or modifications to this Agreement shall be in writing and agreed to by both Parties. The failure of any Party at any time or times to require performance of any provision hereof shall in no manner affect the right at a later time to enforce the same. No waiver by any Party of the breach of any term or covenant contained in this Agreement, whether by conduct or otherwise, shall be deemed to be construed as a further or continuing waiver of any such breach or waiver of the breach of any other term or covenant unless such waiver is in writing.

12. ASSIGNMENT

The Customer shall not assign its rights under this Agreement without the express written consent of the PUD. The PUD may impose reasonable conditions on any such assignment to ensure that all of Customer's obligations under this Agreement are met and that none of Customer's obligations under this Agreement are transferred to the PUD as a result of default, bankruptcy, or any other cause.

13. APPENDICES

The Agreement includes the following appendices attached and incorporated by reference:

Attachment A: Application for Interconnecting a Generating Facility.

Attachment B: Skamania PUD Net Metering Interconnection Standards for Customer Electric Generating Facilities of 100 Kilowatts or Less.

14. NOTICES

All written notices shall be directed as follows:

Skamania PUD	Customer:

PUD Manager	Name _____

P. O. Box 500	Address _____

Carson, WA 98610	City, State & Zip _____

Customer notices to PUD, pursuant to this Section 15, shall refer to the Service Address set forth in Appendix A, Application for Net Metered Electrical Generation.

15. TERM OF AGREEMENT

This Agreement shall be in effect when signed by the Customer and PUD and shall remain in effect thereafter month to month unless terminated by either Party on thirty (30) days' prior written notice in accordance with Section 13.

16. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives.

This Agreement is effective as of the last date set forth below.

CUSTOMER:	Skamania PUD:
Signature	Signature
Print name	Print name
Title	Title
Date	Date

APPENDIX D

Customer Checklist for Utility Interconnection

- Submit an application to the PUD
 - ✓ Interconnection inverter must be UL 1541 Listed
 - ✓ Electrical schematic drawing must be included
 - ✓ Include provisions for a lockable visible disconnect if required by the PUD or local jurisdiction.

- Send to: _____

- Receive written design approval from the PUD

- Get an electrical permit from Washington State L&I @ _____. Follow the National Electric Code (NEC) as required.

- Complete the installation.

- Get inspections from a state electrical inspector and the PUD.

- If net metered, PUD approves, or installs new, bi-directional meter.

- Submit Certificate of Completion to PUD

- Start generating power

Questions?

Call _____.