

ATTACHMENT A

CUSTOMER GENERATION INTERCONNECTION STANDARDS AND TERMS OF SERVICE

NET METERING

100 KW or Less



Revised: January 24, 2017

INTERCONNECTION OF ELECTRIC GENERATING FACILITIES

For Net Metered Generating Facilities 100 KW or Less

Chapter 1 - Purpose and Scope

- 1) The purpose of this document is to establish rules for determining the terms, conditions, technical requirements, processes and charges governing the interconnection of electric generating facilities with a nameplate rating of no greater than 100 kW to the electric distribution system over which Clark Public Utilities (Utility) has jurisdiction.
- 2) These rules govern the terms and conditions under which the applicant's generating facility will interconnect with, and operate in parallel with, the Utility's electric system. These rules apply only to the physical interconnection of a generating facility to the Utility's electrical system. They do not govern, or grant the right to sell or purchase, or deliver any power generated by the applicant's generating facility.
- 3) The specifications and requirements in these rules are intended to mitigate possible adverse impacts caused by a generating facility on Utility equipment and personnel and on other customers of the Utility. They are not intended to address protection of the Interconnection Customer's generating facility, facility personnel, or internal load. It is the responsibility of the Interconnection Customer to comply with the requirements of all appropriate standards, codes, statutes and authorities to protect its own facilities, personnel, and loads.

Chapter 2 - Application of Rules

- 1) These rules include various requirements applicable to the Utility, the applicant, the Interconnection Customer and the Generating Facility.
- 2) These rules modify, if necessary, any existing interconnection rules of the Utility, including but not limited to, rules implementing chapter 80.60 RCW, Net Metering of Electricity.
- 3) These rules do not apply to interconnection of standby or backup generators that are not intended to operate in parallel with the Utility's system. Such interconnections will be negotiated on a case-by-case basis with the Utility and such generators will only be interconnected on terms and conditions prescribed by the Utility.

Chapter 3 - Definitions

"Applicant" means any person, corporation, partnership, government agency, or other entity applying to interconnect a generating facility to the Utility's electric system pursuant to this chapter. Upon final approval, interconnection and operation of a facility, the applicant becomes the Interconnection Customer, unless otherwise approved by the Utility.

"Application" means the written notice, on a form prescribed by the Utility, provided by the applicant to the Utility that initiates the interconnection process.

"Automatic sectionalizing device" means equipment which operates to change the topology of the electrical system (usually in response to abnormal conditions) without operator intervention. Generally this does not include fused cutouts on lateral taps serving a few customers.

"Business day" means Monday through Friday excluding official federal and Washington state holidays.

"Certificate of completion" means the form prescribed by the Utility and completed by the applicant or Interconnection Customer. The certificate of completion will include certification by 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 Utility that are used to distribute electricity to customers.

"Generating facility" means the source of electricity and all ancillary and interconnection facilities, located on the applicant's or Interconnection Customer's side of the point of common coupling which an applicant requests to interconnect, or an Interconnection Customer interconnects to the Utility's electric system.

"Initial operation" means the first time the generating facility is in parallel operation with the Utility's 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 Agreement" means an agreement between the Utility and the interconnection customer which outlines the interconnection requirements, costs and billing agreements, and on-going inspection, maintenance and operational requirements. An executed interconnection agreement is required before the generating facility may generate electricity into and operate in parallel with the Utility's electric system. Contents of an interconnection agreement may vary based upon the tier under which the generating facility applies and is qualified for interconnection. In the case where the Interconnection Agreement does not constitute an agreement with the Utility to purchase or deliver output from the Generating Facility, the Interconnection Customer is responsible for separately making all necessary agreements for the purchase, sale, or transport of electricity from the Utility.

"Interconnection Customer" means the person, corporation, partnership, government agency, or other entity that has executed an Interconnection Agreement with the Utility and: 1. that owns a generating facility interconnected to the Utility's electric system; 2. for net-metered facilities, is a customer-generator as defined in RCW 80.60.010(2); or 3. that is otherwise allowed by law. The interconnection customer is responsible for the generating facility, and may assign to another party responsibility for compliance with the requirements of this rule only with the express written permission of the Utility.

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

"Net metering" has the same meaning as RCW 80.60.010(9)

"Nameplate rating" means the manufacturer's output rating of the generating facility.

For a system which uses an inverter to change DC energy supplied to an AC quantity, the nameplate rating will be the DC rating of the storage system or energy conversion apparatus (e.g. photovoltaic panels).

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

"Utility" means Clark Public Utilities, which owns and operates the electrical distribution system, or the electrical distribution system itself, onto which the applicant seeks to interconnect a generating facility, and with which an Interconnection Customer has an Interconnection Agreement.

Chapter 4 - Application for Interconnection

- 1) A standard application form for net metered installations, 100 kW and below, can be found on the Utility's web site (www.ClarkPublicUtilities.com).
- 2) When an applicant requests interconnection from the Utility, the applicant will be responsible for conforming to the rules and regulations that are in effect. The applicant seeking to interconnect a generating facility under these rules must fill out and submit a signed application form to the Utility. Information must be accurate, complete, and approved by the Utility; however approval of the application as complete does not constitute approval to interconnect.
- 3) If a project is to be installed in a phased manner, the applicant may choose to submit application for approval of the final project size, or may choose to submit applications at each stage of the project. Each application will be evaluated based on the nameplate rating stated on the application.
- 4) **Application processing charge.** The nonrefundable interconnection application processing charge is set by the Utility according to facility size and will be:
 - i. Tier 1: 1 – 25 kW -- \$100
 - ii. Tier 2: 26 – 100 kW -- \$500
- 5) **Non-Discrimination.** All generating facility interconnection applications pursuant to this chapter will be processed by the Utility in a non-discriminatory manner, consistent with other service requests and in a manner that does not delay other service requests.
- 6) **Application evaluation.** All generating facility interconnection requests pursuant to this chapter will be reviewed by the Utility for compliance with the rules of this chapter. If the Utility in its sole discretion finds that the application does not comply with this chapter, the Utility may reject the application. If the Utility rejects the application, it will provide the applicant with written or electronic mail notification stating its reasons for rejecting the application.

Chapter 5 – Project Tiers, Related Procedures and Technical Requirements

Because most Utility distribution systems were not originally designed with the intent of interconnecting generating facilities, the impacts of such an interconnection, if not carefully managed, can be detrimental to the safe and reliable operation of the system. Unless specifically permitted by the Utility, generating facilities are not allowed to operate in an “islanded” condition (generating energy that flows onto the Utility system) with other Utility customers when the portion of the Utility system serving the generating facility is de-energized.

In order to facilitate the interconnection process for both the applicant and the Utility, these rules classify interconnections based on shared characteristics. Because smaller facilities with appropriate interconnection technologies are expected to have a much lower impact on the Utility’s system, expedited processes and standardized interconnection requirements are applied to these interconnections. Larger generating facilities using different generating and interconnection technologies can have more significant impacts on the Utility’s system, which may require a more in-depth review and necessitate additional technical requirements.

Tiers 1, and 2, listed below contain initial applicability tests that will determine which tier process an applicant and Utility will utilize, along with process descriptions, technical requirements and completion criteria for each Tier. Additionally, all facilities must meet the appropriate requirements of Chapter 6, General Terms, Conditions, and Technical Specifications, and the rules and standards adopted by reference in Chapter 8.

Note that the interconnection requirements listed are for protection of the Utility system. The applicant and Interconnection Customer are responsible for providing protection for their own equipment; typically, these are two very different sets of functions.

Tier 1: 1-25 kW

Tier 1 - Applicability

Interconnection of a generating facility will utilize Tier 1 processes and technical requirements if the proposed generating facility meets all of the following:

1. Uses inverter-based interconnection equipment which is certified to meet the requirements of UL1741 and IEEE 1547;
2. Is single phase and has a nameplate rating of 25 kW or less;
3. Is connected through a single phase transformer on a radial distribution circuit;
4. Is proposed for interconnection at secondary voltages (600 Volt class);
5. Does not require construction of new or upgrade of existing Utility facilities, other than meter changes;
6. If proposed to be interconnected on single-phase shared secondary, the aggregate generating capacity on the shared secondary, including the proposed generating facility, will not exceed the lesser of the service wire capability or the nameplate of the transformer;

7. If proposed to be interconnected on a center tap neutral of a 240 volt service, its addition will not create an imbalance between the two sides of the 240 volt service of more than 5 kVA;
8. The aggregated nameplate rating of all interconnected generating facilities, including that of the proposed generating facility, on any line section does not exceed 15 % of the line section annual peak load as most recently measured or calculated for that line section, or 15% of the circuit annual peak load as most recently measured or calculated for the circuit. A line section is that portion of the Utility's electric system connected to the generating facility and bounded by automatic sectionalizing devices or the end of the distribution line.

Tier 1 - Application Process

The following application timelines are intended to be consistent with, and not cause delays in, other service request applications of the Utility.

1. Once a fully completed application has been received by the Utility, the Utility will make its best effort to approve, approve with conditions, or deny the application with written justification within 20 business days.
2. The Interconnection Customer must interconnect and operate the Generating Facility within one year from the date of approval of the application, or the application expires, unless the Utility, at its sole discretion, grants an extension in writing.

Tier 1 - Technical Requirements

The purpose of the protection required for Tier 1 generating facilities is to prevent islanding and to ensure that inverter output is disconnected when the Utility source of electricity is de-energized. Inverters certified by an independent nationally recognized testing laboratory to meet the requirements of UL1741 and IEEE 1547 must use undervoltage, overvoltage, and over/under frequency elements to detect loss of Utility power and initiate shutdown.

1. An interrupting device must be provided which is capable of safely interrupting the maximum available fault current (typically the maximum fault current is that supplied by the Utility).
2. The generating facility must operate within the voltage and power factor ranges specified by the Utility.
3. **Disconnect switch.** An AC disconnect switch is not required when the generating facility meets the following conditions:
 - Has a capacity of 25 kW or less;
 - Is an inverter-based UL 1741 certified system; and
 - Is interconnected through a self-contained socket-based meter of 320 amps or less.
 - An AC disconnect switch is not required by WA Labor & Industries.
- a. To maintain Utility operating and personnel safety in the absence of an external disconnect switch, the Interconnection Customer will agree that the Utility has the

right to disconnect electric service through other means if the generating facility must be physically disconnected for any reason, without liability to the Utility. These other actions to disconnect the generating facility (due to an emergency or maintenance on the Utility's system) will result in loss of electrical service to the customer's facility or residence for the duration of time that work is actively in progress.

- b. In the absence of an external disconnect switch, the Interconnection Customer is required to operate and maintain the inverter in accordance with the manufacturer's guidelines and retain documentation of commissioning. Testing may also be required by the Utility, at the Interconnection Customer's expense, to insure the inverters continued operating and protection capability. Should the inverter fail the performance test, the Utility may disconnect the generating facility without notice, and may require the Interconnection Customer to repair or replace the inverter, at the Interconnection Customer's expense.

Tier 1 - Completion Process

The interconnection process is complete, the generating facility can begin operation, and the applicant becomes the Interconnection Customer if and only if:

1. The applicant and the Utility execute an Interconnection Agreement;
2. The certificate of completion showing inspection of the system by the electrical inspector having jurisdiction over the installation has been provided to the Utility;
3. The witness test, if required by the Utility, is successfully completed; and
4. All requirements and conditions of the Interconnection Agreement have been satisfied and approved by the Utility and permission is granted by the Utility to proceed with commercial operation.

Tier 2: 26-100 kW

Tier 2 - Applicability

Interconnection of a generating facility will utilize Tier 2 processes and technical requirements if the proposed generating facility meets the following:

1. It does not qualify for Tier 1 interconnection applicability requirements;
2. Has a nameplate rating of 100 kW or less;
3. Is proposed for interconnection to either a radial distribution circuit, or to a spot network distribution circuit limited to serving one customer;
4. Is proposed for interconnection to an electric system distribution facility operated at or below 38 kV class;
5. If an inverter is utilized, the inverter must be certified by an independent, nationally recognized testing laboratory to meet the requirements of UL1741;

6. Is not a synchronous generator;
7. If it is proposed to be interconnected on a shared secondary, the aggregate generating capacity on the shared secondary, including the proposed generating facility, will not exceed the lesser of the service wire capability or the nameplate of the transformer;
8. Is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition will not create an imbalance between the two sides of the 240 volt service of more than 5 kW;
9. The aggregated nameplate rating of all interconnected generating facilities, including that of the proposed generating facility, on any line section does not exceed 15 % of the line section annual peak load as most recently measured or calculated for that line section, or 15% of the circuit annual peak load as most recently measured or calculated for the circuit. A line section is that portion of the Utility's electric system connected to the generating facility and bounded by automatic sectionalizing devices or the end of the distribution line;
10. Any upgrades required to the Utility's system must fall within subsection 1 of the Tier 2 Technical Requirements Section;
11. The aggregated nameplate rating of existing and proposed generating facilities must not contribute more than 10% to the distribution circuit's maximum fault current at the point on the primary voltage distribution line nearest the point of interconnection;
12. The generating facility's point of interconnection must not be on a circuit where the available short circuit current, with or without the proposed generating facility, exceeds 87.5% of the interrupting capability of the Utility's protective devices and equipment (including substation breakers, fuse cutouts, and line reclosers).

Tier 2 - Application Process

The following application timelines are intended to be consistent with, and not cause delays in, other service request applications of the Utility:

1. Once a fully completed application has been received by the Utility, the Utility will make its best effort to approve, approve with conditions, or deny the application with written justification within 20 business days.
2. The Interconnection Customer must interconnect and operate the Generating Facility within one year from the date of approval of the application, or the application expires, unless the Utility, at its sole discretion, grants an extension in writing.

Tier 2 - Technical Requirements

In all cases, the interconnection facilities must isolate the generating facility from the Utility's electric system when power is disconnected from its electrical system source, including but not limited to, before any reclosing (automatic or manual) takes place. The Interconnection Customer will prevent its generating facility equipment from automatically re-energizing the electric system. For inverter-based systems, this requirement is satisfied by compliance with UL 1741 requirements. For non-inverter based systems a separate protection package will be required to meet IEEE 1547 requirements.

1. If the generating facility fails to meet the characteristics for Tier 2 applicability, but the Utility determines that the generating facility could be interconnected safely if minor modifications to the transmission or distribution system were made (for example, changing meters, fuses, or relay settings), then the Utility may offer the applicant a good-faith, non-binding estimate of the costs of such proposed minor modifications. Modifications are not considered minor under this subsection if the total cost of the modifications exceeds \$10,000. If the applicant authorizes the Utility to proceed with the minor modifications and agrees to pay the entire cost of the modifications, then the Utility may approve the application using Tier 2 processes and technical requirements.
2. For proposed generating facilities 50 kW and greater, three-phase connection is required.
3. No construction of facilities by the Utility on its own system will be required to accommodate the Tier 2 generating facility except as allowed in subsection 1 of this section.
4. For three-phase induction generator interconnections, the Utility may, in its sole discretion, specify that ground fault protection must be provided. Use of ground overvoltage or ground overcurrent elements may be specified, depending on whether the Utility uses three-wire or effectively grounded four-wire systems.
5. The Interconnection Customer is required to operate and maintain the inverter in accordance with the manufacturer's guidelines, annually test the performance of the inverter, and retain documentation demonstrating compliance. Interconnection Customer further agrees that in the absence of such documentation, and at the Interconnection Customer's expense, to allow the Utility, at the Utility's sole discretion, to test, or cause to be tested, the inverter to ensure its continued operating and protection capability. Should the inverter fail the performance test, the Utility may disconnect the generating facility without notice, and may require either replacing the inverter or installation of a visible lockable AC disconnect switch accessible to Utility personnel, or both, and charge the Interconnection Customer for any reconnection and other Utility costs.
6. **Visible-break lockable disconnect:**
 - a. The generating facility must include a UL listed AC disconnect switch, accessible to Utility personnel at any time of the day, that provides a visible break, is lockable in the open position, and is located between the production meter and the generating facility. Contact the Utility for other configurations. The disconnect switch shall be physically located next to the production meter.

- b. The Utility will have the right to disconnect the generating facility at the disconnect switch to meet Utility operating safety requirements.
- c. At the Utility's sole discretion, an Interconnection Customer installing and operating an inverter-based system may not be required to install a disconnect switch.
- d. To maintain Utility operating and personnel safety in the absence of an external disconnect switch, the Interconnection Customer will agree that the Utility has the right to disconnect electric service through other means if the generating facility must be physically disconnected for any reason, without liability to the Utility. These other actions to disconnect the generating facility (due to an emergency or maintenance on the Utility's system) will result in loss of electrical service to the customer's facility or residence for the duration of time that work is actively in progress.
- e. In the absence of an external disconnect switch, the Interconnection Customer is required to operate and maintain the inverter in accordance with the manufacturer's guidelines and retain documentation of commissioning. In the absence of such documentation, and at the Interconnection Customer's expense, allow the Utility, to test, or cause to be tested, the inverter to ensure its continued operating and protection capability. Should the inverter fail the performance test, the Utility may disconnect the generating facility without notice, and may require the Interconnection Customer to repair or replace the inverter, at the Interconnection Customer's expense.

Tier 2 - Completion Process

The interconnection process is complete, the generating facility can begin operation, and the applicant becomes an Interconnection Customer, if, and only if:

1. The applicant and the Utility execute an Interconnection Agreement;
2. The certificate of completion showing inspection of the system by the electrical inspector having jurisdiction over the installation has been provided to the Utility;
3. The witness test, if required by the Utility, is successfully completed; and
4. All requirements and conditions of the Interconnection Agreement have been satisfied and approved by the Utility with permission granted by the Utility to proceed with commercial operation.

Chapter 6 - General Terms, Conditions and Technical Requirements for All Interconnections.

The terms and conditions, and technical requirements in this section will apply to the applicant and Interconnection Customer and their generating facility throughout the generating facility's installation, testing, commissioning, operation, maintenance, decommissioning and removal. The Utility may verify compliance at any time, with reasonable notice.

Any generating facility proposing to be interconnected with the Utility's electric system or any proposed change to a generating facility that requiring modification of an existing interconnection agreement must meet all applicable terms, conditions and technical requirements as set forth in the appropriate Tiers and this chapter and the regulations and standards adopted by reference in Chapter 8.

The terms, conditions and technical requirements in this section are intended to mitigate possible adverse impacts caused by the generating facility on Utility equipment and personnel and on other customers of the Utility. 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.

1. The applicant and Interconnection Customer will comply with and are responsible for the generating facility meeting the requirements in (a), (b) and (c) of this subsection. However, at its sole discretion, the Utility may approve, in writing, 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.
 - a. **Codes and standards.** Among these are the National Electric Code (NEC), National Electric Safety Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), American National Standards Institute (ANSI), Underwriters Laboratories (UL) standards, the Utility's Electric Service Requirements, and local, state and federal building codes. The Interconnection Customer will be responsible for obtaining all applicable permit(s) for the equipment installations on its property.
 - b. **Safety.** All safety and operating procedures for joint use equipment will 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.
 - c. **Power quality.** Installations will be in compliance with all applicable standards including IEEE Standard 519 Harmonic Limits, or more stringent harmonic requirements of the Utility.
2. Any electrical generating facility must comply with these rules to be eligible to interconnect and operate in parallel with the Utility's electric system. These specifications and standards will apply to all interconnecting generating facilities that are intended to operate in parallel with the Utility's electric system irrespective of whether the applicant intends to generate energy to serve all or a part of the applicant's load.
3. In order to ensure system safety and reliability of interconnected operations, all interconnected generating facilities will be constructed, operated and maintained by the Interconnection Customer in accordance with these rules, with the Interconnection Agreement, with the applicable manufacturer's recommended maintenance schedule and operating requirements, good Utility practice, and all other applicable federal, state, and local laws and regulations.

4. Prior to initial operation, all Interconnection Customers must submit a completed certificate of completion to the Utility. The Utility may substitute an approved Electrical Inspection by the appropriate agency and the installation of the generation meters as completion of the installation. Customers must also execute an appropriate Interconnection Agreement with the Utility. The Interconnection Agreement between the Utility and Interconnection Customer outlines the interconnection standards, cost allocation and billing agreements, insurance requirements, and on-going maintenance and operation requirements.
5. Applicant or Interconnection Customer will promptly furnish the Utility 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 Utility from time to time.
6. For the purposes of public and working personnel safety, any non-approved generating facility interconnections discovered will be immediately disconnected from the Utility system without any liability to the Utility. Such disconnection of non-approved interconnection may result in disconnection of electric service to customers of the Utility other than the owner of the generating facility.
7. To ensure reliable service to all Utility customers and to minimize possible problems for other customers, the Utility will review the need for upgrades to its system, including a dedicated transformer. If the Utility requires upgrades, the applicant or Interconnection Customer will pay for all costs of those upgrades.
8. Metering
 - a. **Net metering** for facilities as set forth in chapter 80.60 RCW: The Utility will install, own and maintain a kilowatt-hour meter, or meters as the Utility 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.
 - b. **Production metering:** The Utility may require separate metering for production. This meter will record all generation produced and may be billed separately from any net metering or customer usage metering. All costs associated with the installation of production metering will be paid by the applicant.

Meter Installations shall comply with Utility requirements as set forth in the Residential Electric Service Handbook or Commercial Electric Service Handbook, as applicable. Meter(s) may measure such parameters as time of delivery, power factor, voltage and such other parameters as the Utility will reasonably require. The applicant will provide space for metering equipment. It will be the applicant's responsibility to provide the current transformer enclosure (if required), meter socket(s) after the applicant has submitted drawings and equipment specifications for Utility approval.

9. Common labeling, at Interconnection Customer's expense, furnished or approved by the Utility and in accordance with NEC requirements must be posted on meter base,

disconnects, and transformers informing working personnel that a generating facility is operating at or is located on the premises.

10. No additional insurance will be necessary for a net metered facility that is a qualifying generating facility under chapter 80.60 RCW. For other generating facilities permitted under these standards but not a qualifying facility under chapter 80.60 RCW, additional insurance, limitations of liability and indemnification may be required by the Utility.
11. Prior to any future modification or expansion of the generating facility, the Interconnection Customer will obtain Utility review and approval. The Utility reserves the right to require the Interconnection Customer, at the Interconnection Customer's expense, to provide corrections or additions to existing electrical devices in the event of modification of government or industry regulations and standards, or major changes in the Utility's electric system which impacts the interconnection.
12. Chapter 80.60 RCW, Net Metering of Electricity allows the Utility to limit interconnection of generation for net metering to 0.50% (5.17 MW) of the Utility's peak demand during 1996, effective January 1, 2014. However, the Utility may, if indicated by engineering, safety or reliability studies, restrict or prohibit new or expanded interconnected net metered generation capacity or number of net metered customers on any feeder, circuit or network.
13. Charges by the Utility to the applicant or Interconnection Customer 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 Utility testing, qualification, studies and approval of non-UL 1741 listed equipment. The Interconnection Customer will be responsible for any costs associated with any future upgrade or modification to its interconnected system required by modifications in the Utility's electric system.
14. Interconnection Customer may disconnect the generating facility at any time; provided that the Interconnection Customer provides reasonable advance notice to the Utility.
15. Interconnection Customer will notify the Utility 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 Interconnection Customer will not assign its rights or obligations under any agreement entered into pursuant to these rules without the prior written consent of Utility, which consent will not be unreasonably withheld.
16. All generating facilities must have an electrical permit and pass electrical inspection before they can be connected or operated in parallel with the Utility's electric system. Applicant will provide written certification to the Utility that the generating facility has been installed and inspected in compliance with the local building and/or electrical codes.
17. If the Interconnection Customer is a different entity than the owner of the real property on which the generating facility is located, the Interconnection Customer will indemnify the Utility for all risks to the owner of the real property, including disconnection of service. In addition, the Interconnection Customer will obtain all legal rights and easements requested by the Utility for the Utility to access, install, own, maintain, operate or remove its equipment and the disconnect switch, if installed, on the real property

where the generating facility is located, at no cost to the Utility.

Chapter 7 – Additional Terms

1. CUSTOMER ELECTRIC GENERATING FACILITY

- (a) A separate agreement shall be entered into for each Customer's electrical service location(s).
- (b) 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 Utility's Net Metering Interconnection Standards.
- (c) The Utility shall have the sole authority to determine which Interconnection requirements set forth herein are applicable to Customer's proposed generating facility.

2. NET METERING AND BILLING

- (a) The Utility shall measure the net electricity produced or consumed by the Customer during each billing period, in accordance with normal metering practices.
- (b) If the electricity supplied by the Utility 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 Utility together with the appropriate customer charge paid by other customers of the Utility in the same rate class.
- (c) If the electricity generated by the Customer during the billing period, or any portion thereof, exceeds the electricity supplied by the Utility, then the Customer shall be:
 - (i) billed for the appropriate customer service charge as other customers of the Utility in the same rate class; and
 - (ii) 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.
- (d) **Meter Aggregation:** Upon the Customer's request, the Utility shall aggregate for billing purposes the net meter that is physically attached to the Generating Facility with one or more meters located on the Customer's premises that are owned or leased by the Customer within the service territory of the Utility, provided that the total load of the net metering system does not exceed one hundred kilowatts. Meters so aggregated shall not change rate classes due to meter aggregation, must be and remain on property owned or controlled by the Customer Generator, and must remain under the same name or account as the Customer Generator. Kilowatt-hour credits earned by Generating Facility during the program year first shall be used to offset

electricity supplied to the Customer Generator's Net Meter. Excess kilowatt-hours credits earned by the net metering system, shall be credited equally to the aggregated meter(s) located on all premises of a Customer at the designated rate of each meter. The Customer will be billed an additional basic charge annually, equal to the basic charge in the schedule under which the aggregated meter is billed.

- (e) The Generating Facility is intended to offset either part or all of the Customer's electrical requirements.
- (f) On April 30th of each calendar year, any remaining unused kilowatt-hour credit accumulated by the Customer during the previous year (May 1 through April 30) shall be granted to the Utility, without any compensation to the Customer.
- (g) Customer shall pay any amount owing for electric service provided by the Utility in accordance with applicable rates and policies.

3. INTERRUPTION OR REDUCTION OF DELIVERIES

- (a) The Utility may require Customer to interrupt or reduce deliveries as follows:
 - (i) when necessary in order to install, maintain, repair, replace, remove, investigate, or inspect any of its equipment or part of its system; or
 - (ii) if it determines that curtailment, interruption, or reduction is necessary because of emergencies, force majeure, or compliance with prudent electrical practices.
- (b) Whenever possible, the Utility shall give Customer reasonable notice of the possibility that interruption or reduction of deliveries may be required.
- (c) Notwithstanding any other provision of this policy, if at any time the Utility determines that either:
 - (i) the generating facility may endanger Utility personnel, or
 - (ii) the continued operation of Customer's generating facility may endanger the integrity of the Utility's electric system;

The Utility shall have the right to temporarily or permanently disconnect Customer's generating facility from the Utility's electric system. Customer's generating facility shall remain disconnected until such time as the Utility is satisfied that the condition(s) referenced in this section have been corrected.

4. INTERCONNECTION

- (a) Customer shall deliver the excess energy to the Utility at the Utility's meter.

(b) Customer shall be responsible for designing, installing, inspecting, operating, and maintaining the electric generating facility in accordance with all applicable laws and regulations and shall comply with the Utility's Interconnection Standards.

(c) Customer shall pay for the Utility's standard watt-hour meter electrical hook-up, if not already present.

(d) Customer shall not commence parallel operation of the generating facility until written approval of the Interconnection facilities has been given by the Utility. Such approval shall not be unreasonably withheld. The Utility shall have the right to have representatives present at the initial testing of Customer's protective apparatus. Customer shall notify the Utility when testing is to take place.

5. MAINTENANCE AND PERMITS

The Customer shall:

(a) 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 Utility's Interconnection Standards, and

(b) Obtain any governmental authorizations and permits required for the construction and operation of the electric generating facility and Interconnection facilities, including electrical permit(s).

6. ACCESS TO PREMISES

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

(a) Inspect Customer's generating facility's protective devices and metering equipment with prior notice during reasonable hours;

(b) Read meter; and

(c) Disconnect the Generating Facility at the Customer's disconnect switch, Utility's meter or transformer pursuant to Section 3 without notice. This may interrupt normal utility service to the customer.

7. LIABILITY AND INDEMNIFICATION

(a) The Customer assumes the risk of all damages, loss, cost and expense and shall indemnify the Utility, 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 the Interconnection or use of the Customer's Generating Facility, which may occur or be sustained by the Utility on account

of any claim or action brought against the Utility 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.

(b) 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 connection 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 Utility or its employees acting within the scope of their employment and liability occasioned by a partial negligence of the Utility 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.

(c) The provisions of 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.

(d) The Utility shall have no liability, ownership interest, control or responsibility for the Customer's Generating Facility or its Interconnection with the Utility's electric system, regardless of what the Utility knows or should know about the Customer's Generating Facility or its Interconnection.

(e) Customer recognizes that it is 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 Utility.

8. 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 Utility. The Utility 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.

Chapter 8 - Adoption by Reference

In this chapter, the Utility adopts by reference all or portions of regulations and standards identified below:

1. The National Electrical Code (NEC) is published by the National Fire Protection Association (NFPA). (Version 2012 adopted; <http://www.nfpa.org>.)
2. National Electric Safety Code (NESC). (Version 2012 adopted;

- <http://standards.ieee.org/nesc.>)
3. Institute of Electrical and Electronics Engineers (IEEE) Standard 1547, Interconnecting Distributed Resources with Electric Power Systems. (Version 2012 adopted; <http://www.ieee.org/web/standards/home>.)
 4. American National Standards Institute (ANSI) Standard C37.90, IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus. (Most recent version adopted; <http://www.ieee.org/web/standards/home>.)
 5. Institute of Electrical and Electronics Engineers (IEEE) Standard 519, Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems. (Most recent version adopted; <http://www.ieee.org/web/standards/home>.)
 6. Underwriters Laboratories (UL), including UL Standard 1741, Inverters, Converters, and Controllers for Use in Independent Power Systems. (Most recent version adopted; <http://www.ul.com>.)
 7. Occupational Safety and Health Administration (OSHA) Standard at 29 CFR 1910.269. (Most recent version adopted; <http://bookstore.gpo.gov/>)
 8. Washington Division of Occupational Safety and Health (DOSH) Standard, chapter 296-155 WAC. (Most recent version adopted; <http://www.lni.wa.gov>.)
 9. American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE) Standard C62.92, Application of neutral grounding in electrical Utility systems. (Version 2000 adopted; <http://www.ieee.org/web/standards/home>.)
 10. Institute of Electrical and Electronics Engineers (IEEE) Standard 1453, Practice for Measurement and Limits of Voltage Fluctuations and Associated Light Flicker on AC Power Systems (Version 2008 adopted; <http://www.ieee.org/web/standards/home>.)