CHAPTER 480-108 WAC
November 21, 2012, CLEAN DRAFT

Part 1 - Introduction

WAC 480-108-001 Purpose and scope. (1) This chapter establishes rules for:

(a) determining the charges, terms and conditions governing the interconnection of customer-owned electric generating facilities with a nameplate generating capacity of no more than 20 megawatts (MW) to the electric system of an electrical company over which the commission has jurisdiction.

(b) requiring each electrical company to file interconnection service tariffs for interconnection of some electric generating facilities with a nameplate generating capacity greater than 500 kilowatts (kW) but no more than 20 MW to the electric system of an electrical company over which the commission has jurisdiction. The terms and conditions in such interconnection service tariffs must be either equivalent in all procedural and technical respects with the electrical company's interconnection service offered under its open access transmission tariff approved by the Federal Energy Regulatory Commission, or they must comply with a specified alternate set of requirements set out in WAC 480-108-EEE.

(2) These rules are intended:

(a) To be consistent with the requirements of chapter 80.60 RCW, Net metering of electricity;

(b) To comply with Section 1254 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); and

(c) To promote the purposes of RCW 82.16.120 (effective July 1, 2005).

(3) This chapter governs the terms and conditions under which an interconnection customer's generating facility, including without limitation net-metered facilities, will interconnect with, and operate in parallel with, the electrical company's electric system. This chapter does not govern the settlement, purchase or delivery of any power generated by an interconnection customer's net-metered or production-metered generating facility.

(4) This chapter does not govern interconnection of, or electrical company services to, PURPA qualifying facilities pursuant to chapter 480-107 WAC.

(5) This chapter does not govern standby generators

designed and used only to provide power to the customer when the local electric distribution company service is interrupted and that operate in parallel with the electric distribution company for less than 0.5 seconds both to and from emergency service.

(6) The specifications and requirements in these rules are intended to mitigate possible adverse impacts caused by a generating facility on electrical company equipment and personnel and on other customers of the electrical company. 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.

WAC 480-108-005 Application of rules. (1) This chapter applies to any electrical company subject to commission jurisdiction under RCW 80.04.010 and chapter 80.28 RCW. This chapter also includes eligibility and other requirements applicable to existing or potential interconnection customers.

(2) This chapter governs interconnections subject to the jurisdiction of the commission and does not govern interconnections subject to the jurisdiction of the Federal Energy Regulatory Commission.

(3) The tariff provisions filed by electrical companies must conform to these rules. If the commission accepts a tariff that conflicts with these rules, the acceptance does not constitute a waiver of these rules unless the commission specifically approves the variation consistent with WAC 480-100-008.

(4) Electrical companies shall modify existing tariffs, if necessary, to conform to these rules. This includes, but is not limited to, tariffs implementing chapter 80.60 RCW, Net metering of electricity.

WAC 480-108-010 Definitions.

"Application" means the written notice as defined in WAC 480-108-030 that the interconnection customer provides to the electrical company to start the interconnection process.

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

"Certificate of completion" means the form described in WAC 480-108-050 that must be completed by the interconnection customer's electrical inspector indicating completion of installation and inspection of the interconnection.

"Commission" means the Washington utilities and

transportation commission.

"Electric system" means all electrical wires, equipment, and other facilities owned by the electrical company used to transmit electricity to customers.

"Electrical company" means any public service company, as defined by RCW 80.04.010, engaged in the generation, distribution, sale or furnishing of electricity and subject to the jurisdiction of the commission.

"Generating facility" means a source of electricity owned by the interconnection customer that is located on the interconnection customer's side of the point of common coupling, and all ancillary and appurtenant facilities, including interconnection facilities, which the interconnection customer requests to interconnect to the electrical company's electric system.

"Grid network distribution system" 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 more than one location and more than one electrical company customer.

"Initial operation" means the first time the generating facility operates in parallel 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 Agreement" means an agreement between a electrical company and the interconnection customer which outlines the interconnection requirements, costs and billing agreements, and on-going inspection, maintenance and operational requirements.

"Interconnection customer" means the person, corporation, partnership, government agency, or other entity that has executed an Interconnection Agreement with the electrical company and that: (1) owns a generating facility interconnected to the electrical company's electric system; (2) is a customer-generator of net-metered facilities, as defined in RCW 80.60.010(2), including the third-party owner of an on-site generating facility; or (3) 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 electrical company.

"Interconnection facilities" means the electrical wires, switches and other equipment owned by the electrical company or the interconnection customer and used to interconnect a generating facility to the electric system. Interconnection facilities are located between the generating facility and the point of common coupling. Interconnection facilities do not include system upgrades.

"Model interconnection agreement" means a written agreement including standard terms and conditions for the interconnection of generating facilities under this chapter. 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 an electrical company and the electricity generated by a generating facility that is fed back to the electrical company over the applicable billing period.

"Nameplate rating" means the manufacturer's output rating of the generating facility. For a system that 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).

"Network protectors" means devices installed on a spot network distribution system designed to detect and interrupt reverse current-flow (flow out of the network) as quickly as possible, typically within three to six cycles.

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

"Point of common coupling" or **"PCC"** means the point where the generating facility's local electric power system connects to the electrical company'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 electrical company. The point of common coupling is the point of measurement for the application of IEEE 1547.

"PURPA qualifying facility" means a generating facility that meets the criteria specified by the Federal Energy Regulatory Commission (FERC) in 18 C.F.R. Part 292 Subpart B and that sells power to an electrical company under chapter 480-107 WAC.

"Spot network distribution system" 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 a secondary circuit serving a single location (e.g., a large facility or

campus) containing one or more electrical company customers.

"System upgrades" means the additions, modifications and upgrades to the electrical company's electrical system at or beyond the point of common coupling necessary to interconnect the generating facility. System upgrades do not include interconnection facilities.

[NOTE: WAC 480-108-030 is repealed and replaced by WAC 480-108-CCC Application for interconnection.]

NEW WAC 480-108-AAA [FORMERLY WAC 480-108-030] Application for interconnection. (1) The electrical company must file a standard application form with the commission that potential interconnection customers must use to request interconnection under this chapter. The interconnection customer's request must include the application fee established in subsection (6) of this section. The electrical company must make the standard application form available on its web site and, where practicable, allow for electronic submission.

(2) The electrical company must designate a point of contact and publish a telephone number and web site address for the purpose of assisting potential interconnection customers. The electrical company must comply with reasonable requests for information including relevant system studies, interconnection studies, and other materials useful for a potential interconnection customer to understand the circumstances of an interconnection at a particular point on the electrical company's electric system, to the extent provision of such information does not violate confidentiality provisions of prior electrical company agreements.

(3) When a potential interconnection customer requests interconnection from the electrical company, the potential interconnection customer must conform to the rules and regulations in effect and on file with the electrical company. The potential interconnection customer seeking to interconnect a generating facility under this chapter must fill out and submit, electronically or otherwise, a signed application form to the electrical company. Information on the form must be accurate, complete, and approved by the electrical company; however approval of the application as complete does not constitute approval to interconnect.

(4) The electrical company must respond within fifteen business days.

(5) If a project is to be installed in a phased manner, the potential interconnection customer may choose to submit an

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.

(a) If the potential interconnection customer applies for a final project size and meets the requirements, then the potential interconnection customer must notify the electrical company as additional units are added.

(b) If a potential interconnection customer submits an application for different stages of a project, the potential interconnection customer may not increase the size beyond that approved.

(6) Application fees. The electrical company must establish a nonrefundable interconnection application fee set according to facility size to be paid by the interconnection customer to the electrical company when the interconnection customer submits its application. The fee, intended to cover the costs of processing the application, will be no greater than:

(a) One hundred dollars for facilities 0 to 25 kW; and

(b) Five hundred dollars for facilities 26 to 500 kW.

(c) One thousand dollars for facilities 500 kW to 20 MW.

(7) Interconnection application. The electrical company must stamp all interconnection requests to document the date and time received. The original date and time stamp affixed to the interconnection request will serve as the beginning point for purposes of any timetables in the application and review process. All generating facility interconnection applications under to this chapter will be processed by the electrical company in a non-discriminatory manner, consistent with other service requests and in a manner that does not delay other service requests.

(8) Application evaluation. The electrical company must notify the interconnection customer within ten business days of receipt whether the interconnection request is complete. If the application is not complete, the electrical company must provide a written list detailing all additional information necessary to complete the application. The interconnection customer must supply the necessary information or request an extension of time within ten business days. If the interconnection customer does not provide within ten business days the listed information necessary to complete the application or request an extension of time, the electrical company may reject the application.

..

PART 2: INTERCONNECTION OF GENERATION FACILITIES WITH NAMEPLATE CAPACITY RATING OF 20 MW OR LESS

WAC 480-108-015 Scope of Part 2. (1) The provisions in Part 2 of this chapter apply to interconnections, and to applications to interconnect, customer-owned generating facilities with a nameplate capacity rating of 20 MW or less to an electrical company's electrical system under this chapter. Interconnections fall within three categories- Tier 1, 2, and 3, which differ by capacity and complexity. This section defines the applicability and technical standards for these interconnection categories.

(2) Most electrical company distribution systems were not originally designed with the intent of interconnecting generating facilities. Interconnection can be detrimental to the safe and reliable operation of the system. Generating facilities must obtain the electric company's permission to operate in an "islanded" condition (generating energy that flows onto the electrical company's system) when the electrical company's system serving the generating facility is de-energized.

(3) This chapter facilitates the interconnection process for both the interconnection customer and the electrical company by classifying interconnections based on shared characteristics. As smaller facilities with appropriate interconnection technologies are expected to have a much lower impact on the electrical company's system, expedited processes and standardized interconnection requirements are allowed for these interconnections. Larger generating facilities using different generating and interconnection technologies can have significant impacts on the electrical company's system, such that more in-depth review is required and additional technical requirements may apply.

(4) Tiers 1, 2, and 3 listed below contain initial applicability tests that determine which tier process an interconnection customer and electrical company will use, along with process descriptions, technical requirements and completion criteria for each tier. Tier 3 facilities include a set of alternative service tariffs and other requirements. Additionally, all facilities must meet the appropriate requirements of this chapter, and the rules and standards adopted by reference in WAC 480-108-999.

[NOTE: WAC 480-108-020 Technical standards for interconnection has been repealed and replaced by WAC 480-108-BBB Eligibility for tier 1 and 2 interconnection.]

NEW WAC 480-108-BBB Eligibility for tier 1 and 2 interconnection.

(1) Applicability

(a) Tier 1. Interconnection of a generating facility will use Tier 1 processes and technical requirements if the proposed generating facility meets all of the following:

(i) Uses inverter-based interconnection equipment certified by an independent, nationally recognized testing laboratory to meet the requirements of UL 1741;

(ii) Is single phase and has a nameplate rating of 25 kW or less;

(iii) Is connected through a single phase transformer on a radial distribution circuit;

(iv) Is proposed for interconnection at secondary voltages (600 V class);

(v) Does not require construction of new or upgrade of existing electrical company facilities, other than meter changes;

(vi) The aggregate generating capacity on the shared secondary does not exceed the lesser of the service wire capability or the nameplate of the transformer when interconnected on single-phase shared secondary;

(vii) If proposed to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 5 kVA; and

(viii) The aggregated nameplate rating of all interconnected generating facilities, including that of the proposed generating facility, on any line section does not exceed 15 percent 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 a electrical company's electric system connected to the generating facility and bounded by automatic sectionalizing devices or the end of the distribution line.

(b) Tier 2. Interconnection of a generating facility will use Tier 2 processes and technical requirements if the proposed generating facility meets the following criteria:

(i) It does not qualify for Tier 1 interconnection applicability requirements;

(ii) Has a nameplate rating of 500 kW or less;

(iii) Is proposed for interconnection to either a radial

distribution circuit, or to a spot network distribution circuit limited to serving one customer;

(iv) Is proposed for interconnection to an electric system distribution facility operated at or below 38 kV class;

(v) If an inverter is utilized, the inverter must be certified by an independent, nationally recognized testing laboratory to meet the requirements of UL 1741;

(vi) Is not a synchronous generator;

(vii) If it is proposed to be interconnected on a shared secondary, the aggregate generating capacity on the shared secondary, including the proposed generating facility, must not exceed the lesser of the service wire capability or the nameplate of the transformer;

(viii) Is single-phase and will be interconnected on a center tap neutral of a 240 volt service. It must not create an imbalance between the two sides of the 240 volt service of more than 5 kW;

(ix) The aggregated nameplate rating of all interconnected generating facilities, including that of the proposed generating facility, on any line section does not exceed 15 percent of the line section annual peak load as most recently measured or calculated for that line section, or 15 percent of the circuit annual peak load as most recently measured or calculated for the circuit. A line section is that portion of a electrical company’s electric system connected to the generating facility and bounded by automatic sectionalizing devices or the end of the distribution line;

(x) Any upgrades required to the electrical company’s system must fall within the requirements in subsection (2)(b) of this section.

(xi) For interconnection of a proposed generating facility to the load side of spot network protectors, the proposed generating facility must utilize an inverter-based equipment package which is certified by an independent, nationally recognized testing laboratory to meet the requirements of UL1741 and, together with the aggregated other inverter-based generating facilities, must not exceed the smaller of 5 percent of a spot network's maximum load or 50 kW;

(xii) The aggregated nameplate rating of existing and proposed generating facilities must not contribute more than 10 percent to the distribution circuit’s maximum fault current at the point on the primary voltage distribution line nearest the point of interconnection;

(xiii) 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 percent of the interrupting capability of the

electrical company's protective devices and equipment (including substation breakers, fuse cutouts, and line reclosers);

(xiv) If the generating facility is proposed for interconnection at primary (greater than 600 V class) distribution voltages, the connection of the transformer(s) used to connect the generating to the system must be the electrical company's standard connection. This is intended to limit the potential for creating overvoltages on the electrical company's system for a loss of ground during the operating time of any anti-islanding functions.

(xv) For primary-voltage connections to three-phase, three-wire systems, the transformer primary windings must be connected phase to phase.

(xvi) For primary-voltage connections to three-phase, four-wire systems, the transformer primary windings must be connected effectively grounded, phase to neutral.

(2) Technical Requirements:

(a) Tier 1.

(i) 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 electrical company source of electricity is de-energized. Inverters certified by an independent nationally recognized testing laboratory to meet the requirements of UL1741 must use undervoltage, overvoltage, and over/under frequency elements to detect loss of electrical company power and initiate shutdown.

(ii) 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 electrical company).

(iii) The generating facility must operate within the voltage and power factor ranges specified by the electrical company.

(iv) Variance may be allowed based on specific requirements, and charges may be incurred for losses.

(v) Visible lockable disconnect

(A) Except as provided in subsections C, D, and E of this subsection, the generating facility must include a UL listed AC disconnect switch, accessible to electrical company 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 sub-panel or other connection to the generating facility.

(B) The electrical company shall have the right to disconnect the generating facility at the disconnect switch to meet electrical company operating safety requirements.

(C) At the electrical company's sole discretion, an interconnection customer installing and operating inverter-based systems less than 25 kW in nameplate rating that are interconnected through a self-contained socket-based meter of 320 amps or less may not be required to install a visible, lockable AC disconnect switch.

(D) To maintain electrical company operating and personnel safety in the absence of an external disconnect switch, the interconnection customer shall agree that the electrical company 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 electrical company. These actions to disconnect the generating facility (due to an emergency or maintenance or other condition on the electrical company'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. The duration of outage may be longer than it would otherwise have been with an AC disconnect switch. If the interconnection customer is a different entity than the electrical company customer receiving service through the meter that may be used for disconnection or that may have a loss of electric service due to a need to disconnect the generating facility, the interconnection customer shall obtain these agreements and permissions from all other entities affected by such disconnection.

(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, annually test the performance of the inverter, and retain documentation demonstrating compliance. The interconnection customer will further agree that in the absence of such documentation, and at the interconnection customer's expense, to allow the electric company, at the electric company'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 electric company may disconnect the generating facility without notice, and may require at the interconnection customer's expense either replacing the inverter or installation of a visible lockable AC disconnect switch as described in subsection (A), or both, and charge the interconnection customer for any reconnection and other electrical company costs.

(b) Tier 2.

(i) In all cases, the interconnection facilities must isolate the generating facility from the electrical company'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 shall 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.

(ii) If the generating facility fails to meet the characteristics for Tier 2 applicability, but the electrical company 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 electrical company may offer the interconnection customer 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 interconnection customer authorizes the electrical company to proceed with the minor modifications and agrees to pay the entire cost of the modifications, then the electrical company may approve the application using Tier 2 processes and technical requirements.

(iii) For proposed generating facilities 50 kW and greater, three-phase connection is required.

(iv) No construction of facilities by the electrical company on its own system shall be required to accommodate the Tier 2 generating facility except as allowed in subsection 1 of this section.

(v) For three-phase induction generator interconnections, the electrical company 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 electrical company uses three-wire or effectively grounded four-wire systems.

(vi) 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. In the absence of such documentation, and at the interconnection customer’s expense, the interconnection customer will allow the electrical company, at the electrical company’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 electrical company 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 electrical company personnel, or

both, and charge the interconnection customer for any reconnection and other electrical company costs.

(vii) Visible lockable disconnect.

(A) The generating facility must include a UL listed AC disconnect switch, accessible to electrical company 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 sub-panel or other connection to the generating facility.

(B)The electrical company shall have the right to disconnect the generating facility at the disconnect switch to meet electrical company operating safety requirements.

(C) The interconnection customer is required to test and maintain the inverter in accordance with the manufacturer's guidelines and retain documentation demonstrating compliance. In the absence of such documentation, and at the interconnection customer's expense, the interconnection customer must allow the electrical company, at the electrical company's sole discretion, to test, or cause to be tested, and certify the inverter, to ensure its continued operating and protection capability. If the electrical company cannot certify the inverter, the electrical company may disconnect the generating facility without notice, may require, at the interconnection customer's expense either replacing the inverter or installation of a visible lockable AC disconnect switch as described in subsection (A) of this section, or both, and charge the interconnection customer for any reconnection and other electrical company costs.

[NOTE: WAC 480-108-030 is repealed and replaced by new WAC 480-108-CCC Application for tier-specific interconnection.]

NEW WAC 480-120-CCC Application for tier-specific interconnection.

(1) Tier 1. The following application timelines are intended to be consistent with, and not cause delays in, other service request applications of the electrical company.

(a) Notice of receipt of an application shall be sent by the electrical company to the interconnection customer by electronic mail within 5 business days if the interconnection customer provides an electronic mail address; otherwise no notice of receipt will be provided to the interconnection customer.

(b) The electrical company must provide a response to the interconnection customer of whether the application is complete within 10 business days after notice of receipt of application.

The electrical company will notify the interconnection customer of specific areas of deficiency.

(c) When an electrical company sends a notice of an incomplete application to an interconnection customer, the interconnection customer shall provide a complete application to the electrical company within 60 business days of the notice of incomplete application. The electrical company may, but is not required to, grant an extension beyond 60 days to correct an incomplete application. After the end of the incomplete application period an application expires.

(d) Within 20 business days after a complete application notice is sent to an interconnection customer, the electrical company shall approve, approve with conditions, or deny the application with written justification. If delays result due to unforeseen circumstances, customer variance requests, or other incentive program approval requirements, the customer will be notified.

(e) An interconnection customer has one year from the date of approval of the application to interconnect and begin operating the generating facility, or the application expires, unless the electrical company grants an extension of time in writing. Such extension shall be at the electrical company's sole discretion.

(2) Tier 2. The following application timelines are intended to be consistent with, and not cause delays in, other service request applications of the electrical company

(a) Notice of receipt of an application shall be sent by the electrical company to the interconnection customer by electronic mail within 5 business days if the interconnection customer provides an electronic mail address; otherwise no notice of receipt will be provided to the interconnection customer.

(b) Response to application completeness or incompleteness with identified areas of deficiency will be provided to interconnection customer within 20 business days of notice of receipt of application.

(c) When an incomplete application notice is sent to an interconnection customer, the interconnection customer shall provide a complete application to the electrical company within 60 business days of the notice of incomplete application. The electrical company may, but is not required to grant an extension beyond the 60 business day notice of an incomplete application. If the interconnection customer fails to complete

the application, an application expires at the end of the incomplete application period.

(d) Within 30 business days after a complete application notice is sent to an interconnection customer, the electrical company shall approve, approve with conditions, or deny the application with written justification. If delays result due to unforeseen circumstances, customer variance requests, or incentive program approval requirements, the interconnection customer will be notified.

(e) An interconnection customer has one year from the date of approval of the application to interconnect and begin operation of the generating facility, or the application expires, unless the electrical company grants an extension of time in writing. Such extension shall be at the electrical company’s sole discretion.

NEW WAC 480-108-DDD Tier 3 Interconnection service tariffs [Formerly WAC 480-108-080 Interconnection service tariffs.]

(1) No later than January 31, 2008, each electrical company over which the commission has jurisdiction must file an interconnection service tariff for facilities with nameplate generating capacity greater than 300 kW but no more than 20 MW.

(2) Interconnection service tariffs must offer service equivalent in all procedural and technical respects to the interconnection service the electrical company offers under the small generator interconnection provisions of its open access transmission tariff as approved by the Federal Energy Regulatory Commission (FERC).

(3) For purposes of Part 2 of this chapter, "small generator interconnection provisions" means the procedural and technical requirements established by the FERC in Standardization of Small Generator Interconnection Agreements and Procedures, Order No. 2006, 70 FR 34190 (June 13, 2005), FERC Stats. & Regs. ¶ 31,180 (2005) (Order No. 2006), order on reh'g, Order No. 2006-A, 70 FR 71760 (Nov. 30, 2005), FERC Stats. & Regs. ¶ 31,196 (2005), order on clarif'n, Order No. 2006-B, 71 FR 42587 (July 27, 2006), FERC Stats. & Regs. ¶ 61,046 (2006). "Small generator interconnection provisions" does not include the 10 kW inverter process required under the above-listed FERC regulations.

(4) Interconnection service includes only the terms and conditions that govern physical interconnection to the electrical company's delivery system and does not include sale or transmission of power by the interconnecting customer or retail service to the interconnecting customer.

NEW WAC 480-108-EEE Tier 3 Alternative Interconnection Service Tariffs [Formerly WAC 480-108-090] Alternative interconnection service tariff.

(1) If an electrical company demonstrates that the small generator interconnection provisions will impair service adequacy, reliability or safety or will otherwise be incompatible with its electric system, the electrical company may file no later than January 31, 2008, an alternative to the interconnection service tariff required in WAC 480-108-DDD.

(2) An interconnection service tariff filed under this section must meet the following requirements.

(a) All interconnection customers with generating facilities with nameplate capacity greater than 500 kW but no more than 20 MW must be treated equally without undue discrimination or preference.

(b) Electric companies must ensure that interconnection service will not impair safe, adequate and reliable electric service to its retail electric customers.

(c) Technical requirements for all interconnections must comply with IEEE, NESC, NEC, North American Electric Reliability Corporation, Western Electric Coordinating Council and other applicable safety and reliability standards.

(d) Charges by the electrical company to the interconnection customer in addition to the application fee, if any, must be cost-based and consistent with generally accepted engineering practices. Unless an electrical company demonstrates by reference to its integrated resource plan prepared pursuant to WAC 480-100-238, its conservation targets pursuant to RCW 19.285.040, the studies it performs under WAC 480-108-120, or other evidence that an interconnection will provide quantifiable benefits to the electrical company's other customers, an interconnecting customer must pay all costs made necessary by the requested interconnection service. Such costs include, but are not limited to, the cost of engineering studies, upgrades to electrical company facilities made necessary by the interconnection, metering and insurance. If an electrical company demonstrates that an interconnection will produce quantifiable benefits for the electrical company's other customers, it may incur a portion of these costs for commission consideration for recovery in its general rates commensurate with such benefits. If after consideration of any costs approved by the commission for recovery in general rates the remaining costs are less than any amounts paid by the interconnection customer, the electrical company must refund the excess to the interconnection customer.

(e) Interconnection customers must be responsible for all operation, maintenance and code compliance for facilities and equipment on the customer's side of the point of common coupling.

(f) Interconnection service tariffs must describe:

(i) The process, timelines and cost of feasibility and facility impact studies the electrical company may require before allowing interconnection.

(ii) The prioritization or other processes by which the electrical company will manage multiple requests for interconnection service.

(g) Interconnection service tariffs must state:

(i) Specific time frames for electrical companies to respond to interconnection applications.

(ii) Specific time frames for interconnection customers to respond to study and interconnection agreements offered by the electrical company. Time frames must be adequate for the electrical company and the interconnection customer to have adequate opportunity to examine engineering studies and project design options.

(h) The electrical company must make knowledgeable personnel available to answer questions regarding applicability of the interconnection service tariff and otherwise provide assistance to a customer seeking interconnection service. The electrical company must comply with reasonable requests for information including relevant system studies, interconnection studies, and other materials useful for an interconnection customer to understand the circumstances of an interconnection at a particular point on the electrical company's electric system, to the extent provision of such information does not violate confidentiality provisions of prior electrical company agreements.

Part 3 – General Terms & Conditions for Interconnections

WAC 480-108-035 Model interconnection agreement, review and acceptance of interconnection agreements and costs. (1) Each electrical company must file a model form of interconnection agreement for approval by the commission.

(2) Simplified review process. Once an application is accepted by the electrical company as complete, the electrical company will review the application to determine if the interconnection request complies with the technical standards established in WAC 480-108-BBB and to determine whether any additional engineering, safety, reliability or other studies are required. The electrical company must notify the interconnection customer of the result of these determinations

within

(a) 20 business days, if Tier 1 applies;

(b) 30 business days, if Tier 2 or 3 applies of when the application is deemed complete.

(3) If the electrical company notifies the interconnection customer that the request complies with the technical requirements established in WAC 480-108-BBB and no additional studies are required to determine the feasibility of the interconnection, the electrical company must offer the interconnection customer an executable interconnection agreement within five business days of such notification. The electrical company also will provide any additional interim agreements, such as construction agreements, that may be necessary and a good faith estimate of the cost and time necessary to complete the interconnection. The interconnection customer must execute and return the completed agreement(s) within thirty business days following receipt. The interconnection customer must simultaneously pay any deposit required by the electrical company not to exceed 50 percent of the estimated costs to complete the interconnection.

(4) Supplemental review process. If the electrical company determines that additional studies are required to determine the feasibility of the interconnection, the electrical company must notify the interconnection customer within thirty business days of when the application is deemed complete and provide the interconnection customer a form of agreement that includes a description of what studies are required and a good faith estimate of the cost and time necessary to perform the studies. Within thirty business days after receiving the agreement, the interconnection customer may supply an alternative cost estimate from a third-party qualified to perform the studies required by the electrical company. After the electrical company and the interconnection customer agree on the estimated cost of the required studies and the identity of parties to perform the required studies the interconnection customer must execute and return the completed agreement within thirty business days along with any deposit required by the electrical company not to exceed the lower of one thousand dollars, or fifty percent of the estimated study cost.

(5) The electrical company will provide the interconnection customer with the results of the studies conducted under subsection (4) of this section. If the studies determine that the interconnection is not feasible, the electrical company will provide notice of denial to the interconnection customer and the reasons for the denial.

(6) If the studies conducted under subsection (4) of this section determine that the interconnection is feasible, the

electrical company will notify the interconnection customer and provide an executable interconnection agreement to the interconnection customer within five business days of such notification. The electrical company also will provide any additional interim agreements, such as construction agreements, that may be necessary and a good faith estimate of the cost and time necessary to complete the interconnection. The interconnection customer must execute and return the completed agreement(s) within thirty business days following receipt. The interconnection customer must simultaneously pay any deposit required by the electrical company not to exceed fifty percent of the estimated costs to complete the interconnection.

(7) An interconnection customer's failure to execute and return completed agreements and required deposits within the time frames specified in subsections (3), (4) and (6) of this section may result in termination of the application process by the electrical company under terms and conditions stated in such agreements.

(8) The interconnection customer is responsible for all reasonable costs incurred by the electrical company to study the proposed interconnection and to design, construct, operate and maintain any required interconnection facilities or system upgrades all as required under the charges, terms and conditions stated in the study agreement(s) and interconnection agreement required above.

[NOTE: WAC 480-108-040 is repealed.]

NEW WAC 480-108-FFF Model Interconnection agreement. (1) The terms and conditions, and technical requirements in this section apply to the interconnection customer and interconnection customer and their generating facility throughout the generating facility's installation, testing, commissioning, operation, maintenance, decommissioning and removal. The electrical company may verify compliance at any time, with reasonable notice.

(2) Any generating facility proposing to be interconnected with the electrical company's electric system or any proposed change to a generating facility that requires 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 WAC 480-108-999.

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

company. 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.

(4) The interconnection customer shall comply with and must ensure its generating facility meets the requirements in subsections (a), (b) and (c) of this subsection. However, at its sole discretion, the electrical company may approve, in writing, alternatives that satisfy the intent of, or may excuse compliance with, any specific elements of these requirements except local, state and federal building codes.

(a) Codes and standards. These include 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 interconnection customer shall 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 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.

(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 electrical company.

(5) Any electrical generating facility must comply with this chapter to be eligible to interconnect and operate in parallel with the electrical company's electric system. These specifications and standards shall apply to all interconnecting generating facilities that are intended to operate in parallel with the electrical company's electric system regardless of whether the interconnection customer intends to generate energy to serve all or a part of the interconnection customer's load; or to sell the output to the electrical company or any third party purchaser.

(6) In order to ensure system safety and reliability of interconnected operations, all interconnected generating facilities shall 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 electric company practice, and all other applicable federal, state, and local laws and regulations.

(7) Prior to initial operation, all interconnection customers must submit a completed certificate of completion to the electrical company, execute an appropriate interconnection agreement with the electrical company the interconnection agreement between the electrical company and interconnection customer outlines the interconnection standards, cost allocation and billing agreements, insurance requirements, and on-going maintenance and operation requirements.

(8) Separate agreements may be required with the electrical company, the Balancing Area Authority or transmission provider, or other party but not necessarily with the electrical company, for power purchase, for the sale, delivery and scheduling of output from the generating facility, for integration or other ancillary services. All required agreements must also be executed prior to initial operation.

(9) Interconnection customer shall promptly furnish the electrical company 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 electrical company from time to time.

(10) For the purposes of public and working personnel safety, any non-approved generating facility interconnections discovered will be immediately disconnected from the electrical company system without any liability to the electrical company. Such disconnection of non-approved interconnection may result in disconnection of electric service to customers of the electrical company other than the owner of the generating facility.

(8) To ensure reliable service to all electrical company customers and to minimize possible problems for other customers, the electrical company may review the need for upgrades to its system, including a dedicated transformer. If the electrical company requires upgrades, the interconnection customer shall pay for all costs of those upgrades.

(9) The electrical company may require, and if it so requires will provide its reasoning in writing, a transfer trip system or an equivalent protective function for a generating facility, that cannot: Detect distribution system faults (both line-to-line and line-to-ground) and clear such faults within two seconds; or detect the formation of an unintended island and cease to energize the electrical company's distribution system within two seconds.

(10) Metering.

(a) Net metering. The electrical company shall install,

own, and maintain a kilowatt-hour meter or meters capable of registering the bi-directional flow of electricity at the point of common coupling. The meters shall meet or exceed all applicable accuracy standards. The meters may measure parameters including the time of delivery, power factor, and voltage. The interconnection customer shall provide space for metering equipment. The interconnection customer must provide the current transformer enclosure (if required), meter socket(s) and junction box after the interconnection customer submits drawings and equipment specifications for approval by the electrical company.

(b) Production metering: The electrical company 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 interconnection customer.

(11) The interconnection customer must post common labeling, furnished or approved by the electrical company and in accordance with NEC requirements, on the meter base, disconnects, and transformers informing working personnel that a generating facility is operating at or is located on the premises.

(12) No additional insurance is necessary for a generating facility under 100 kW.

(13) An interconnection customer must obtain electrical company review and approval before any future modification or expansion of a generating facility. The electrical company may 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 electrical company’s electric system which impacts the interconnection.

(14) Chapter 80.60 RCW limits the total capacity of generation for net metering. However, the electrical company may restrict or prohibit new or expanded net metered systems on any feeder, circuit or network if the restriction is supported by engineering, safety, or reliability studies.

(15) Charges by the electrical company to the 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 electrical company testing, qualification, studies and approval of non-UL 1741 listed equipment. The interconnection customer shall be responsible for any costs associated with any future upgrade or modification

to its interconnected system required by modifications in the electrical company's electric system.

(16) This section does not govern the settlement, purchase, sale or delivery of any power generated by interconnection customer's generating facility. The purchase, sale or delivery of power, including net metered electricity pursuant to chapter 80.60 RCW, and other services that the interconnection customer 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.

(17) The interconnection customer may disconnect the generating facility at any time; provided that the interconnection customer provides reasonable advance notice to the electrical company.

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

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

(20) 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 shall indemnify the electrical company for all risks to the owner of the real property, including disconnection of service. In addition the interconnection customer shall obtain all legal rights and easements requested by the electrical company for the electrical company 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 electrical company.

[NOTE: WAC 480-108-050 is repealed and replaced by WAC 480-108-GGG Completion of the interconnection process.]

WAC 480-108-GGG Completion of interconnection process. The

interconnection process is complete, the generating facility can begin operation, and the potential interconnection customer becomes an interconnection customer, if, and only if:

(1) The interconnection customer and the electric company execute an interconnection agreement;

(2) The certificate of completion showing inspection of the system by the electrical inspector having jurisdiction over the installation is provided to the electrical company;

(3) The interconnection customer provides to the electrical company documentation showing compliance with the technical requirements for interconnection in this chapter;

(4) All required agreements with the balancing area authority having jurisdiction, and all agreements covering the purchase, sale or transport of electricity and provision of any ancillary services have been completed and signed by all parties;

(5) The witness test, if required by the electrical company, is successfully completed; and

(6) All requirements and conditions of the interconnection agreement have been satisfied and approved by the electrical company with permission granted by the electrical company to proceed with commercial operation.

[NOTE: WAC 480-108-055 has been repealed and the language combined with that in WAC 480-108-100]

[NOTE: WAC 480-108-060 has been repealed and the language combined with that in WAC 480-108-110.]

[NOTE: WAC 480-108-065 has been repealed and the language combined with that in WAC 480-108-120.]

[NOTE: WAC 480-108-070 has been repealed.]

[NOTE: WAC 480-108-080 has been repealed and the language amended in WAC 480-108-DDD, Tier 3 Interconnection service tariffs]

[NOTE: WAC 480-108-090 has been repealed and the language amended in WAC 480-108-EEE Tier 3 Alternative Interconnection Service Tariffs]

WAC 480-108-100 Dispute resolution. An interconnection customer may ask the commission to review an electrical company's study costs, interconnection facility costs, system

upgrade costs, deposit requirements, assignment of costs to the interconnection customer or an electrical company's processing, termination, denial or rejection of an interconnection application by making an informal complaint under WAC 480-07-910, or by filing a formal complaint under WAC 480-07-370.

WAC 480-108-110 Required filings--Exceptions. (1) The electrical company must file for commission approval, as part of its tariff, and maintain on file for inspection at its place of business, the charges, terms and conditions for interconnections pursuant to Part 2 of this chapter. Such filing must include model forms of the following documents and contracts:

(a) Application;

(b) Feasibility Study Agreement;

(c) System Impact Study Agreement;

(d) Facilities Study Agreement;

(e) Construction Agreement;

(f) Interconnection Agreement; and

(g) Certificate of Completion.

(2) The commission may grant such exceptions to these rules as may be appropriate in individual cases.

WAC 480-108-120 Cumulative effects of interconnections with a nameplate capacity rating greater than 500 kW but no more than 20 MW. Electrical companies will evaluate on an ongoing basis, but not less than once every five years, the cumulative effect, including benefits to its other customers, of interconnections made under this chapter on its electric system and will retain appropriate records of its evaluations.

WAC 480-108-999 Adoption by reference. In this chapter, the commission adopts by reference all or portions of regulations and standards identified below. They are available for inspection at the commission branch of the Washington state library or as otherwise indicated. The publications, effective date, references within this chapter, and availability of the resources are as follows:

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

(a) The commission adopts the 2011 edition.

(b) This publication is referenced in WAC 480-108-BBB.

(c) The National Electrical 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 commission adopts the 2012 edition.

(b) This publication is referenced in WAC 480-108-BBB.

(c) 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 commission adopts the version published in 2003 and reaffirmed in 2008.

(b) This publication is referenced in WAC 480-108-BBB.

(c) Copies of IEEE Standard 1547 are available from the Institute of Electrical and Electronics Engineers at 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.

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

(b) This publication is referenced in WAC 480-108-BBB.

(c) Copies of IEEE Standard C37.90 are available from the Institute of Electrical and Electronics Engineers at 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.

(a) The commission adopts the version published in 2004.

(b) This publication is referenced in WAC 480-108-BBB.

(c) Copies of IEEE Standard 519 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 141, Recommended Practice for Electric Power Distribution for Industrial Plants.

(a) The commission adopts the version published in 1994 and reaffirmed in 1999.

(b) This publication is referenced in WAC 480-108-BBB.

(c) Copies of IEEE Standard 141 are available from the Institute of Electrical and Electronics Engineers at http://www.ieee.org/web/standards/home.

(7) Institute of Electrical and Electronics Engineers (IEEE) Standard 142, Recommended Practice for Grounding of Industrial and Commercial Power Systems.

(a) The commission adopts the version published in 2007.

(b) This publication is referenced in WAC 480-108-BBB.

(c) Copies of IEEE Standard 142 are available from the

Institute of Electrical and Electronics Engineers at http://www.ieee.org/web/standards/home.

(8) Underwriters Laboratories (UL), including UL Standard 1741, Inverters, Converters, Controllers and Interconnection Systems Equipment for Use with Distributed Energy Resources.

(a) The commission adopts the version published in 2010.

(b) This publication is referenced in WAC 480-108-BBB.

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

(9) Occupational Safety and Health Administration (OSHA) Standard at 29 C.F.R. 1910.269.

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

(b) This publication is referenced in WAC 480-108-BBB.

(c) 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.

(10) Washington Industrial Safety and Health Administration (WISHA) Standard, chapter 296-155 WAC.

(a) The commission adopts the version in effect on September 1, 2010.

(b) This publication is referenced in WAC 480-108-BBB.

(c) The WISHA 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.