DISCUSSION DRAFT January 25, 2007

Chapter 480-108 WAC

ELECTRIC COMPANIES--INTERCONNECTION WITH ELECTRIC GENERATORS

WAC 480-108-001 Purpose and scope. (1) The purpose of this chapter is two-fold:

(a) ~~to~~ This chapter establishes rules in WAC 480-108-010 through 480-108-060 for determining the terms and conditions governing the interconnection of electric generating facilities with a nameplate generating capacity of no more than 300 ~~not more than~~ ~~25~~ kilowatts to the electric system of an electrical company over which the commission has jurisdiction. WAC 480-108-010 through 480-108-060 do not govern interconnection of generating facilities with generating capacities greater than 300 kW.

(b) ~~to~~ This chapter in WAC 480-108-070 requires each electrical company over which the commission has jurisdiction to file tariff sheets that set forth standards for interconnection of electric generating facilities with a nameplate generating capacity greater than 300 kW. WAC 480-108-070 establishes principles with which the tariffs each utility files for interconnection of facilities greater than 300 kW must comply.

(2) These rules are intended:

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

(b) T~~t~~o ~~partially~~ 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 t~~

(c) To promote the purposes of Substitute Senate Bill No. 5101, chapter 300, Laws of 2005 (effective July 1, 2005).

(3) This chapter governs the terms and conditions under which an interconnection customer's ~~the applicant's~~ generating facility 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 ~~the applicant's~~ generating facility.

WAC 480-108-005 Application of rules. (1) The rules in this chapter apply to any electrical company that is subject to ~~the~~ commission jurisdiction ~~of the commission~~ under RCW 80.04.010 and chapter 80.28 RCW. These rules also include various requirements applicable to an applicant or interconnection customer ~~the applicant and the generator~~.

(2) 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.

(3)Electrical companies shall modify~~, if necessary, any~~ existing tariffs, ~~including, but not limited to, tariffs implementing chapter 80.60 RCW, Net metering of electricity, which are currently on file and approved by the commission~~ if necessary, to conform to these rules. This includes, but is not limited to, tariffs implementing chapter 80.60 RCW, Net metering of electricity.

~~(3)~~(4) Disputes that arise under this chapter will be addressed in accordance with chapter 480-07 WAC.

WAC 480-108-010 Definitions. **"Applicant"** means any person, corporation, partnership, government agency, or other entity applying to interconnect a generating facility to ~~the~~ an electrical company's electric system pursuant to this chapter.

"Application" means the written notice ~~as defined~~ described in WAC 480-108-030 ~~provided by~~ that the applicant provides to the electrical company ~~that~~ to initiate~~s~~ the interconnection process.

"Certificate of completion" means the form ~~as defined~~ described in WAC 480-108-050 that must be completed by the applicant or interconnection customer ~~generator~~ and the electrical inspector having jurisdiction over the installation of the facilities 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 or provided by the electrical company that are 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 ~~which~~ that is subject to the jurisdiction of the commission.

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

"Interconnection Customer" means the entity that owns and/or operates the generating facility interconnected to the electrical company's electric system.

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

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

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

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

"Model interconnection agreement" means standardized terms and conditions that govern the interconnection of generating facilities pursuant to 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.

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

"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.

"**PURPA qualifying facility"** means a generating facility

that meets the criteria specified by the FERC in 18 C.F.R. Part 292 Subpart B and that sells power to an electrical company under WAC 480-107.

"Utility" means the electrical company that owns, operates or manages the electrical distribution system to which the applicant seeks to interconnect a generating facility.

WAC 480-108-020 Technical standards for interconnection. The technical standards listed in this section ~~shall~~ apply to all generating facilities of 300 kW or less that are to be interconnected to ~~the~~ an electrical company under this chapter.

(1) General interconnection requirements.

(a) ~~Any generating facility desiring to~~ The interconnection of a generating facility with the electrical company's electric system or the modification of ~~modify~~ an existing interconnection must meet all minimum technical specifications applicable, in their most current approved version, as set forth in this chapter in WAC 480-108-999.

(b) Interconnection of a generation facility 300 kW or smaller must comply with all applicable requirements in Table 1.

Table 1. 300 kW or Smaller.

	Single-Phase		**Three-Phase**	
	***Capacity**			
Feature	**< 50 kW Inverter based**	**< 50 kW Non-inverter based**	**< 300 kW Inverter based**	**< 300 kW Non-inverter based**
IEEE 1547 compliant	√	√	√	√
UL 1741 listed	√	_	√	_
Interrupting devices (capable of interrupting maximum available fault current)	√ [8]	√	√ [8]	√
Interconnection disconnect device (manual, lockable, visible, accessible)	√ [1]	√	√	√
System Protection	_	√ [3][4][6]	_	√ [3][4][5][6]
Over-voltage trip	√ [8]	√	√ [8]	√
Under-voltage trip	√ [8]	√	√ [8]	√
Over/Under frequency trip	√ [8]	√	√ [8]	√

Automatic synchronizing check	_	√	_	√
Ground over-voltage or over-current trip for Utility system faults.	_	_	_	√ [2]
Power factor	_	√ [7]	_	√ [7]

Notes:
√ – Required feature (blank = not required)
* Capacity of single or aggregate generation
[1] – Utility may choose to waive this requirement
[2] – May be required by utility; selection based on grounding system
[3] – No single point of failure shall lead to loss of protection.
[4] – All protective devices shall fully meet the requirements of American National Standards Institute C37.90
[5] – Utility will specify the transformer connection.
[6] – It is the customer's responsibility to ensure that its system is effectively grounded as defined by IEEE Std. 142 at the point of common coupling .
[7] – Variance may be allowed based upon specific requirements per utility review. Charges may be incurred for losses.
[8] - UL 1741 listed equipment provides required protection.

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

~~(b)~~ (d) The specifications and 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~~ or its internal load, or generating facility personnel~~, or its internal load~~. ~~It is the responsibility of t~~The ~~generating facility~~ interconnection customer is responsible for complying ~~to comply~~ with the requirements of all appropriate standards, codes, statutes and authorities to protect its own facilities, personnel, and loads.

~~(c)~~ (e) The specifications and requirements in this section ~~shall~~ apply generally to the ~~nonelectrical company-owned electric generation equipment~~ interconnection customer-owned and/or operated electric equipment and any other facilities or equipment not owned by the utility to which ~~this standard and~~ interconnection agreement(s) apply throughout the period encompassing the ~~generator's~~ interconnection customer's installation, testing and commissioning, operation, maintenance, decommissioning and removal of said equipment. The electrical

company may verify compliance at any time, with reasonable notice.

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

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

(ii) Safety. All safety and operating procedures for ~~joint use equipment~~ interconnection facilities ~~shall~~ must ~~be in compliance~~ comply with the Occupational Safety and Health Administration (OSHA) Standard at 29 CFR 1910.269, the NEC, Washington Administrative Code (WAC) rules, the Washington Industrial Safety and Health Administration (WISHA) Standard, and equipment manufacturer's safety and operating manuals.

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

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

(2) Specific interconnection requirements.

(a) The ~~A~~applicant ~~shall~~ must furnish and install on its ~~applicant's~~ side of the meter, a UL-approved safety disconnect switch ~~which~~ that can ~~shall be capable of~~ fully disconnect~~ing~~ the applicant's generating facility from the electrical company's electric system. The disconnect switch ~~shall~~ must be located adjacent to electrical company meters and ~~shall~~ must be of the visible break type in a metal enclosure ~~which~~ that can be secured by a padlock. The disconnect switch ~~shall~~ must be

accessible to electrical company personnel at all times.

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

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

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

(c) The electrical company ~~shall~~ must have the right to disconnect the generating facility at the disconnect switch ~~under the following circumstances~~:

(i) When necessary to maintain safe electrical operating conditions~~;~~ .~~i~~

(ii) If the generating facility does not meet required standards~~;~~ . ~~or i~~

(iii) If the generating facility at any time adversely affects or endangers any person, the property of any person, the electrical company's operation of its electric system or the quality of the electrical company's service to other customers.

(d) Nominal voltage and phase configuration of the applicant's generating facility must be compatible with ~~to~~ the electrical company's system at the point of common coupling.

(e) The ~~A~~applicant must provide evidence that its ~~generation~~ generating facility will never result in reverse current flow through the electrical company's network protectors.

(f) All instances of interconnection to ~~secondary~~ spot network distribution systems ~~networks~~ ~~shall~~ require review and written preapproval by the electrical company.

(g) Interconnection to grid network distribution systems ~~secondary grid networks~~ is not allowed.

(h) Closed transition transfer switches are not allowed in ~~secondary~~ network distribution systems.

(3) Specifications applicable to all inverter-based interconnections. The interconnection of any ~~Any~~ inverter-based generating facility ~~desiring to interconnect~~ with the electrical company's electric system, the modification ~~or modify~~ of an existing interconnection must meet the technical specifications, in their most current approved version, as set forth below.

(a) IEEE Standard 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems.

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

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

(4) Requirements applicable to all noninverter-based interconnections. Noninverter-based interconnection requests may require more detailed electrical company review. Applicants must pay for ~~,~~ testing~~,~~ and approval~~, at applicant cost,~~ of the equipment proposed to be installed to ensure compliance with applicable technical specifications, in their most current approved version, including:

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

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

(c) Applicants proposing ~~such~~ noninverter-based interconnection may also be required to submit a power factor mitigation plan for electrical company review and approval.

WAC 480-108-030 Application for interconnection. (1) When an applicant requests interconnection with ~~from~~ an electrical company, the applicant ~~shall be~~ is responsible for conforming to the rules and regulations that are in effect and on file with the commission. ~~The electric utility will designate a point of contact and publish a telephone number or web site address for this unique purpose.~~ The applicant seeking to interconnect a generating facility under these rules must fill out and submit a signed application form to the electrical company. The electrical company will file a standard form of application with the commission. Information must be accurate, complete, and approved by the electrical company prior to interconnecting ~~installing~~ the generating facility. ~~The electrical company shall file a form of application with the commission.~~ The electric utility will designate a point of contact and publish a telephone number or web site address for the unique purpose of assisting interconnection applicants.

(2) Application fees. ~~The~~ A ~~electrical company may require a nonrefundable interconnection application fee of no more than one hundred dollars.~~ nonrefundable interconnection application fee is set according to facility size. The fee will be no greater than: (i) One hundred dollars for facilities 0 to 25 kW, and (ii) Five hundred dollars for facilities 26 to 300 kW.

(3) Application prioritization. All generation interconnection requests pursuant to this chapter will be prioritized by the electrical company in the same manner as any new load requests. Preference will not be given to either request type. The electrical company will process the application and provide interconnection in a time frame consistent with the average of other service connections.

(4) Application evaluation. All ~~generation~~ 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 ~~shall~~ will provide the applicant ~~with~~ written notification stating its reasons for rejecting the application.

New Section

WAC 480-108-035 Interconnection Agreements and Costs. (1) Once an application is accepted by the utility as complete, the utility will determine if any additional engineering, safety, reliability or other studies are required.

(2) If the utility determines that additional studies are required, the utility will provide to the applicant a form of agreement that includes a description of what is required and a good faith estimate of the cost to perform the studies. The applicant must execute and return the completed agreement along with any deposit required by the utility against the estimated study costs within 30 days.

(3) The utility will provide the applicant with the results of the studies. The utility also will provide any additional interim agreements, such as construction agreements, that may be necessary and a cost estimate to complete the interconnection. If the studies determine that the interconnection is not feasible, the utility will provide notice of denial to the applicant and the reasons for the denial.

(4) If the interconnection is found to be feasible, the utility will provide a form of interconnection agreement to the applicant. The applicant must execute and return the completed agreement within thirty (30) days following receipt. The applicant must simultaneously pay any deposit required by the utility against the estimated costs to complete the interconnection.

(5) Failure to execute and return completed agreements and required deposits within the time frames specified in subsections (2) and (4) of this section may result in termination of the application process by the utility under terms and conditions stated in such agreements.

WAC 480-108-040 General terms and conditions of interconnection. The general terms and conditions listed in this section ~~shall~~ apply to all generating facilities less than or equal to 300 kW that interconnect~~ing~~ to ~~the~~ an electrical company under this chapter.

(1) Any electrical generating facility with a maximum electrical generating capacity of ~~25~~ 300 kW or less must comply with these rules to be eligible to interconnect and operate in parallel with the electrical company's electric system. The

rules under this chapter ~~shall~~ apply to all interconnecting generating facilities that are intended to operate in parallel with an electrical company's electric system irrespective of whether the applicant intends to generate energy to serve all or a part of the applicant's load; or to sell the output to the electrical company or any third party purchaser.

(2) ~~In order to~~To ensure system safety and reliability of interconnected operations, all interconnected generating facilities ~~shall~~ must be constructed and operated by the interconnection customer ~~generator~~ in accordance with this chapter and all other applicable federal, state, and local laws and regulations.

(3) Prior to initial operation, all interconnection customers ~~generators~~ must submit a completed certificate of completion to the electrical company, execute an appropriate interconnection agreement and any other agreement(s) required for the disposition of the generating facility's electric power output as described in WAC 480-108-040(14). The interconnection agreement between the electrical company and ~~generator~~ the interconnection customer outlines the interconnection standards, cost allocation and billing agreements, and on-going maintenance and operation requirements.

(4) The ~~A~~applicant or interconnection customer ~~or generator~~ 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.

(5) For the purposes of public and working personnel safety, the electrical company will immediately disconnect from the electrical company system any nonapproved generation interconnections. ~~discovered will be immediately disconnected from the electrical company system.~~

(6) To ensure reliable service to all electrical company customers and to minimize possible problems for other customers, the electrical company will review the need for a dedicated-to-single-customer distribution transformer. ~~Interconnecting generating facilities under 25 kW may require a separate transformer.~~ If the electrical company requires a dedicated distribution transformer, the applicant or interconnection customer ~~generator~~ ~~shall~~ must pay ~~for~~ all costs of the new transformer and related facilities.

(7) Metering.

(a) Net metering for solar, wind, hydropower and fuel cells as set forth in chapter 80.60 RCW~~:~~. The electrical company ~~shall~~ will install, own and maintain a kilowatt-hour meter, or meters as the installation may determine, capable of registering the bi-directional flow of electricity at the point of common

coupling at a level of accuracy that meets all applicable standards, regulations and statutes. The meter(s) may measure such parameters as time of delivery, power factor, voltage and such other parameters as the electrical company ~~shall specify~~ specifies. The applicant ~~shall~~ must provide space for metering equipment. ~~It will be t~~The ~~applicant's~~ applicant must provide ~~responsibility to provide~~ the current transformer enclosure (if required), meter socket(s) and junction box after the applicant has submitted drawings and equipment specifications for electrical company approval. The electrical company may approve other generating sources for net metering but is not required to do so.

(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 applicant.

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

(9) As currently set forth for qualifying generation under chapter 80.60 RCW, ~~for solar, wind, hydro or fuel cells,~~ no additional insurance will be necessary for solar, wind, hydro or fuel cells. For other generating facilities permitted under these standards but not contained within chapter 80.60 RCW, additional insurance, limitations of liability and indemnification may be required by the electrical company.

(10) Prior to any future modification or expansion of the generating facility, the interconnection customer ~~generator~~ will obtain electrical company review and approval. The electrical company ~~reserves the right to~~ may require the interconnection customer ~~generator, at the generator's expense,~~ to provide and pay for corrections or additions to existing electrical devices ~~in the event of~~ if ~~modification of~~ government or industry regulations and standards are modified.

(11) For the overall safety and protection of the electrical company system, chapter 80.60 RCW currently limits interconnection of generation for net metering to ~~0.1%~~ .25% of the electrical company's peak demand during 1996. Additionally, interconnection of generating facilities to individual distribution feeders ~~will be~~ is limited to 10% of the feeder's peak capacity. However, the electrical company ~~may, in its sole~~ has discretion to ~~,~~ allow additional generation interconnection beyond these stated limits~~,~~. The electrical company also may restrict or prohibit new or expanded interconnected generation capacity on any feeder, circuit or network if engineering,

safety or reliability studies indicate a need for restriction or prohibition.

(12) ~~It is the responsibility of t~~ The interconnection customer ~~generator~~ is responsible for ~~to~~ protecting its facilities, loads and equipment and complying with the requirements of all appropriate standards, codes, statutes and authorities.

(13) Charges by the electrical company to the applicant or interconnection customer ~~generator~~ in addition to the application fee, if any, will be compensatory. ~~and applied as appropriate.~~ Such ~~costs~~ charges may include, but are not limited to, recovery of the costs of transformers, production meters, and electrical company testing, qualification, and approval of non-UL 1741 listed equipment. The interconnection customer ~~generator shall be~~ is 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.

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

(15) ~~Generator~~ The interconnection customer may disconnect the generating facility at any time~~; provided, that the generator provide~~ after providing reasonable advance notice to the electrical company.

(16) The interconnection customer ~~Generator shall~~ must 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 applicant or interconnection customer ~~or generator~~ shall not assign its rights or obligations under any agreement entered into pursuant to these rules without the prior written consent of the electrical company, which consent shall not be unreasonably withheld.

WAC 480-108-050 Certificate of completion. All generating facilities must obtain an electrical permit and pass electrical inspection before they can be connected or operated in parallel with the electrical company's electric system. ~~Generator~~ The interconnection customer must ~~shall~~ provide to the electrical company written certification that the generating facility has been installed and inspected in compliance with the local building and/or electrical codes.

WAC 480-108-060 Required filings--Exceptions. (1) The electrical company must ~~shall~~ file, 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 this chapter. Such filing must ~~shall~~ include model forms of the following documents and contracts:

(a) Application.

(b) Model interconnection agreement.

(c) Certificate of completion.

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

New Section

WAC 480-108-070 Interconnection of Facilities Greater than 300 kW. (1) No later than August 31, 2007, each electrical company over which the commission has jurisdiction must file interconnection service tariffs for facilities larger than 300 kW. Interconnection service, for purposes of this section, includes only the terms and conditions that govern physical interconnection to the electrical company's delivery system and does not include sale of power by the interconnecting customer or retail service to the interconnecting customer.

(2) All 300 kW and larger interconnection customers must be treated the same without undue discrimination or preference.

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

(4) Electrical companies will evaluate on an ongoing basis the cumulative effect of interconnections on circuits and load pockets, and will retain appropriate records of its evaluations.

(5)Technical requirements for all interconnections must comply with IEEE, NESC, NEC and other applicable safety and reliability standards.

(6) Unless an interconnection that is not a PURPA qualifying facility is shown to provide quantifiable benefits to an 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 utility facilities made necessary by the interconnection, metering and insurance.

(7) 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.

(8) Interconnection service tariffs must include the following standard forms:

(a) Application(s).

(b) Engineering study agreement(s).

(c) Interconnection agreement(s).

(9) Interconnection service tariffs must describe:

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

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

(10) Interconnection service tariffs must state:

(a)Specific timeframes within which electrical companies must respond to interconnection applications.

(b) Specific timeframes for interconnection applicants to respond to study and interconnection agreements offered by the electrical company. Timeframes must be flexible so that the electrical company and the applicant have adequate opportunities to examine engineering studies and project design options.

(11) The electrical company must, on request, make knowledgeable personnel available to answer questions regarding applicability of the interconnection service tariff and otherwise provide assistance to a customer seeking interconnection service.

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 version published in 2005.

(b) This publication is referenced in WAC 480-108-020.

(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 Electric Safety Code (NESC).

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

(b) This publication is referenced in WAC 480-108-020.

(c) Copies of the National Electric 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.

(b) This publication is referenced in WAC 480-108-020.

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

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

(b) This publication is referenced in WAC 480-108-020.

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

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

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

(b) This publication is referenced in WAC 480-108-020.

(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.

(6) 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 1992.

(b) This publication is referenced in WAC 480-108-020.

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

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

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

(b) This publication is referenced in WAC 480-108-020.

(c) UL Standard 1741 is available from Underwriters

Laboratory at http://www.ul.com.

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

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

(b) This publication is referenced in WAC 480-108-020.

(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.

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

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

(b) This publication is referenced in WAC 480-108-020.

(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.