§ 1.1. Scope.

This subchapter sets forth interconnection standards that apply to electric distribution companies which have residential or small commercial customers who generate electricity using alternative energy sources as defined in the Alternative Energy Portfolio Standards Act of 2004 (AEPS). 73 P.S. §§1648.1-1648.8. These interconnection standards are to be used for Customer-generators, as defined in 73 P.S. §1648.2, desiring interconnection with an electric distribution company's distribution system.

§ 1.2. Definitions.

The following works and terms, when used in this subchapter, have the following meanings unless the context clearly indicates otherwise:

Adverse System Impact -- The negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the Electric Distribution System.

Applicant -- A person who has submitted an Interconnection Request to interconnect a Small Generator Facility to an Electric Distribution Company's Electric Distribution System, also referred to as the *Interconnection Customer*.

Area Network -- A type of electric distribution system served by multiple transformers interconnected in an electrical network circuit, which is generally used in large metropolitan areas that are densely populated, in order to provide high reliability of service. This term has the same meaning as the term "distribution secondary grid network" as stated in IEEE Standard 1547 Section 4.1.4 (published July 2003), as amended and supplemented.

Certificate of Completion – A certificate in a form approved by the Commission containing information about the Interconnection Equipment to be used, its installation and local inspections.

Certified – A designation that the Interconnection Equipment to be used by a Customer-generator complies with the following standards, as applicable:

(a) IEEE Standard 1547, Standard for Interconnecting Distributed Resource s with Electric Power Systems, as amended and supplemented.
(b) UL Standard 1741, "Inverters, Converters and Controllers for use in Independent Power Systems" (January 2001), as amended and supplemented.

Commission – The Pennsylvania Public Utility Commission.

Distribution Upgrade – Any required additions and modifications to the Electric Distribution Company's Electric Distribution System at or beyond the Point of Interconnection. *Distribution Upgrades* do not include Interconnection Facilities.

Electric Nameplate Capacity -- The net maximum or net instantaneous peak electric output capability measured in volt-amps of a Small Generator Facility as designated by the manufacturer.

Electric Distribution Company or *EDC* -- The electric utility that owns the Electric Distribution System.

Electric Distribution System -- The facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which Electric Distribution Systems operate differ among areas but generally carry less than 69 kilovolts of electricity. Electric

Distribution System has the same meaning as the term Area EPS, defined in 3.1.6.1 of IEEE Standard 1547.

Fault Current -- The electrical current that flows through a circuit during an electrical fault condition. A fault condition occurs when one or more electrical conductors contact ground and/or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase. A *Fault Current* is several times larger in magnitude than the current that normally flows through a circuit.

IEEE Standard 1547 -- The most current official published version of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standard 1547 (2003) "Standard for Interconnecting Distributed Resources with Electric Power Systems" at the time the Interconnection Request is submitted.

IEEE Standard 1547.1 -- The most current official published version of IEEE Standard 1547.1 (2005) "Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems" at the time the Interconnection Request is submitted.

Interconnection Agreement -- An agreement between an Interconnection Customer and an Electric Distribution Company, which governs the connection of the Small Generator Facility to the Electric Distribution System, as well as the ongoing operation of the Small Generator Facility after it is connected to the system, consistent with the requirements of this subchapter.

Interconnection Customer -- Any entity, including an Electric Distribution Company, that proposes to interconnect a Small Generator Facility to an Electric Distribution System.

Interconnection Equipment -- A group of components or integrated system connecting an electric generator with an electric distribution system that includes all interface equipment including switchgear, protective devices, inverters, or other interface devices. Interconnection Equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.

Interconnection Facilities – Any facilities and equipment required by the EDC to interconnect the Small Generator Facility and the Interconnection Customer's Interconnection Equipment. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generator Facility and the Point of Common Coupling, including any modification, additions or Distribution Upgrades that are necessary to physically and electrically interconnect the Small Generator Facility to the Electric Distribution Company's Electric Distribution System. Interconnection Facilities are sole use facilities and do not include Distribution Upgrades.

Interconnection Facilities Study -- A study conducted by the Electric Distribution Company or a third party consultant for the Interconnection Customer to determine a list of facilities (including Electric Distribution Company's Interconnection Facilities and required Distribution Upgrades to the Electric Distribution System as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Small Generator Facility with the Electric Distribution Company's Electric Distribution System.

Interconnection Facilities Study Agreement -- An agreement in a form approved by the Commission which details the terms and conditions under which an Electric Distribution Company will conduct an Interconnection Facilities Study.

Interconnection Feasibility Study -- A preliminary evaluation of the system impact and cost of interconnecting the Small Generator Facility to the Electric Distribution Company's Electric Distribution System.

Interconnection Feasibility Study Agreement -- An agreement in a form approved by the Commission which details the terms and conditions under which an Electric Distribution Company will conduct an Interconnection Feasibility Study.

Interconnection Request -- An Interconnection Customer's request, in a form approved by the Commission, requesting the interconnection of a new Small Generator Facility, or to increase the capacity of, or operating characteristics of, an existing Small Generator Facility that is interconnected with the Electric Distribution Company's Electric Distribution System.

Interconnection Study -- This term means any of the following studies: the Interconnection Feasibility Study, the Interconnection System Impact Study, and the Interconnection Facilities Study.

Interconnection System Impact Study -- An engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Electric Distribution Company's Electric Distribution System. The study shall identify and detail the system impacts that would result if the Small Generator Facility were interconnected without project modifications or system modifications, focusing on the Adverse System Impacts identified in the Interconnection Feasibility Study, or to study potential impacts.

Interconnection System Impact Study Agreement -- An agreement in a form approved by the Commission which details the terms and conditions under which

an Electric Distribution Company will conduct an Interconnection System Impact Study.

kW – Kilowatts -- A unit of power representing 1,000 watts. A kW equals 1/1000 of a MW, as defined herein.

kVA – A unit of power representing one thousand volt-amps and is equivalent to one kW at unity power factor.

Line Section -- That portion of an Electric Distribution Company's distribution system connected to an Interconnection Customer, bounded by automatic sectionalizing devices or the end of the distribution line.

Minor Equipment Modification -- Minor changes to the proposed Small Generator Facility that do not have a material impact on safety or reliability of the Electric Distribution System.

MW – Megawatts -- A unit of power representing 1,000,000 watts. A megawatt equals 1,000 kW.

MVA – A unit of power representing one million volt-amps and is equivalent to one MW at unity power factor.

Nationally Recognized Testing Laboratory -- NRTL -- A qualified private organization that meets the requirements of the Occupational Safety and Health Administration's (OSHA) regulations. NRTLs perform independent safety testing and product certification. Each NRTL must meet the requirements as set forth by OSHA in the NRTL program.

Parallel Operation – Parallel – The state of operation which occurs when a Small Generator Facility is connected electrically to the Electric Distribution System and the potential exists for electricity to flow from the Small Generator Facility to the Electric Distribution System.

Point of Common Coupling -- The point where the Customer's Interconnection Equipment connects to the Electric Distribution System at which harmonic limits or other operational characteristics (IEEE Standard 1547 requirements) are applied.

Point of Interconnection -- The point where the Interconnection Equipment connects to the Electric Distribution Company's Electric Distribution System.

PJM Interconnection LLC – PJM – The Federal Energy Regulatory Commission approved regional transmission organization that operates the electric transmission system in the service territory in which the Customer-generator seeking interconnection is located.

Queue Position -- The order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, that is established based upon the date and time of receipt of the valid Interconnection Request by the Electric Distribution Company. An Interconnection Request shall not be deemed to be invalid by virtue of its being finally evaluated under different procedures than those under which it was originally considered, e.g. an Interconnection Request originally submitted as a Level 1 Interconnection Request but eventually evaluated under Level 2 procedures is still a valid interconnection request and is to be assigned a Queue Position based on the date of its original submission as a Level 1 Interconnection Request.

Scoping Meeting -- The meeting between representatives of the Interconnection Customer and Electric Distribution Company conducted for the purpose of discussing alternative interconnection options, to exchange information including any Electric Distribution System data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Small Generator Facility -- The equipment used by an Interconnection Customer to generate, or store electricity that operates in Parallel with the Electric Distribution System. A Small Generator Facility typically includes an electric generator, prime mover, and the Interconnection Equipment required to safely interconnect with the Electric Distribution System. Note that the scope of these regulations is limited to Customer-generators as defined by AEPS. That equipment has a nameplate capacity limitation of 1 MW or at unity power factor or, under certain specific circumstances, 2 MW at unity power factor.

Spot Network – Means the same as the term “Spot Network” under IEEE Standard 1547 Section 4.1.4, (published July 2003), as amended and supplemented. As of August, 2005, IEEE Standard 1547 defined "Spot Network" as "a type of electric distribution system that uses two or more inter-tied transformers to supply an electrical network circuit." A Spot Network is generally used to supply power to a single customer or a small group of customers.

Standard Small Generator Interconnection Agreement (SGIA) -- A form of Interconnection Agreement approved by the Commission which is applicable to a Level 2, Level 3 or Level 3A Interconnection Request pertaining to a Small Generating Facility.

UL Standard 1741 -- Underwriters Laboratories' standard "Inverters Converters, and Controllers for Use in Independent Power Systems".

Witness Test -- The Electric Distribution Company's interconnection installation evaluation required by IEEE Standard 1547 Section 5.3 and the Electric Distribution Company's witnessing of the commissioning test required by IEEE Standard 1547 Section 5.4. For interconnection equipment that has not been Certified, the Witness Test shall also include the witnessing by the Electric Distribution Company of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and witnessing by the Electric Distribution Company of production tests required by IEEE Standard 1547 Section 5.2. All tests witnessed by the Electric Distribution Company are to be performed in accordance with IEEE Standard 1547.1

§ 1.3 General Interconnection Provisions.

(a) Applicability. The interconnection procedures contained herein shall apply to Customer-generators with Small Generator Facilities that satisfy the following criteria:

(1) The Electric Nameplate Capacity of the Small Generator Facility is equal to or less than 2 MVA.

(2) The Small Generator Facility is not subject to the interconnection requirements of PJM.

(3) The Small Generator Facility is designed to operate in Parallel with the Electric Distribution System.

(b) Interconnection Requests. Interconnection Customers seeking to

interconnect a Small Generator Facility must submit an Interconnection Request to the EDC that owns the Electric Distribution System to which interconnection is sought. EDCs shall establish processes for accepting Interconnection Requests electronically.

(c) Fees. The Commission shall determine the appropriate interconnection fees for Levels 1, 2, 3, and 3A.

(d) Each EDC shall review Interconnection Requests using one or more of the following four review procedures:

(1) Level 1 Interconnection Review Procedures. An EDC shall use Level 1 procedures for evaluation of all Interconnection Requests to connect inverter-based Small Generation Facilities that: (1) have an Electric Nameplate Capacity of 10 kVA or less and, (2) the Customer Interconnection Equipment proposed for the Small Generator Facility is Certified.

(2) An EDC shall use Level 2 procedures for evaluating all Interconnection Requests to connect Small Generation Facilities where: (1) the Small Generator Facility uses an inverter for interconnection and; (2) the Electric Nameplate Capacity rating is 2 MVA or less and; (3) the Customer Interconnection Equipment proposed for the Small Generator Facility is Certified or; (4) the Small Generator Facility was reviewed under Level 1 review procedures but not approved.

(3) An EDC shall use Level 3 review procedures for evaluating all Interconnection Requests to connect Small Generation Facilities with an Electric Nameplate Capacity of 2 MVA or less, which do not qualify for

either the Level 1 or Level 2 interconnection review procedures; or, have been reviewed under Level 1 or Level 2 review procedures but have not been approved for interconnection.

(4) Interconnection Customers that do not qualify for a Level 1 or a Level 2 review and do not export power beyond the Point of Common Coupling may request to be evaluated under Level 3A review procedures which provide for a potentially expedited review process.

(e) The technical standards to be used in evaluating all Interconnection Requests under Level 1, Level 2, Level 3 and Level 3A reviews, unless otherwise provided for in these procedures, are IEEE 1547 and U.L. 1741, as they may be amended and modified.

(f) Additional general requirements include:

(1) If the Interconnection Request is for a Small Generator Facility that includes multiple energy production devices at a site for which the Interconnection Customer seeks a single Point of Interconnection, the Interconnection Request shall be evaluated on the basis of the aggregate Electric Nameplate Capacity of multiple devices.

(2) If the Interconnection Request is for an increase in capacity for an existing Small Generator Facility, the Interconnection Request shall be evaluated on the basis of the new total Electric Nameplate Capacity of the Small Generator Facility.

(3) The EDC shall maintain records of all Interconnection Requests received, the times required to complete Interconnection Request approvals

and disapprovals, and justifications for the actions taken on the Interconnection Requests. The EDC shall keep such records on file for a minimum of three years.

(4) To assist a prospective Interconnection Customer, the EDC shall designate a contact person from whom information on the Interconnection Request and about the EDC's Electric Distribution System can be obtained through informal requests regarding a proposed project. Such information should include studies and other materials useful to an understanding of the feasibility of interconnecting a Small Generator Facility at a particular point on the EDC's Electric Distribution System, except to the extent providing such materials would violate security requirements or confidentiality agreements, or be contrary to law or state or federal regulations. The EDC shall comply with reasonable requests for access to or copies of such studies. In appropriate circumstances, the EDC may require confidentiality prior to release of such information.

(5) Once an Interconnection Request is deemed complete, any modification other than a Minor Equipment Modification to the proposed Small Generator Facility or Interconnection Equipment, or Minor Equipment Modification that would not affect the application of the screens in Levels 1, 2 or 3A that is not agreed to in writing by EDC, shall require submission of a new Interconnection Request.

(6) If the Interconnection Customer is not currently a customer of the EDC, upon request from the EDC, the Interconnection Customer shall provide proof of site control evidenced by a property tax bill or deed or a lease agreement or other legally binding contract.

(7) An EDC may propose to interconnect more than one Small Generator Facility at a single Point of Interconnection in order to minimize costs, and shall not unreasonably refuse a request to do so. However, an Interconnection Customer may elect to pay the entire cost of separate Interconnection Facilities.

(8) No external disconnect device will be required for Interconnection Equipment that has been Certified. EDCs shall develop and provide an alert label that will be attached to the customer service meter.

(g) Level 1 Interconnection Review.

(1) Each EDC shall use the Level 1 interconnection review procedure set forth in this Chapter. The EDC shall use the Level 1 review procedure only for an Interconnection Request that meets all of the following criteria:

(i) The Small Generator Facility is inverter-based; and
(ii) The Small Generator Facility has an Electric Nameplate Capacity of 10 kVA or less; and
(iii) The Interconnection Equipment proposed for the Small Generator Facility is Certified.

(2) For a Small Generator Facility described in Section 1.3 (g)(1), the EDC shall approve interconnection under the Level 1 interconnection review procedure if all of the Level 1 screening criteria are met. An EDC shall not impose additional requirements for Level 1 reviews not specifically authorized under this Section 1.3(g).

(3) The Level 1 Screening Criteria shall consist of:

(i) For interconnection of a proposed Small Generator Facility to a

radial distribution circuit, the aggregated generation, including the proposed Small Generator Facility, on the circuit may not exceed 15% of the Line Section annual peak load as most recently measured at the sub station.

(ii) For interconnection of a proposed Small Generator Facility to the load side of Spot Network protectors, the proposed Small Generator Facility must utilize an inverter-based equipment package, the Customer Interconnection Equipment proposed for the Small Generator Facility must be Certified and the aggregated other generation may not exceed 5% of the Spot Network's maximum load

(iii) If the proposed Small Generator Facility is to be interconnected on a single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed Small Generator Facility, may not exceed 20 kVA.

(iv) If the proposed Small Generator Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.

(v) No construction of facilities by the EDC on its own system will be required to accommodate the Small Generator Facility.

(4) The Level 1 Interconnection Review Procedure shall consist of:

(i) The EDC shall, within ten business days after receipt of the Interconnection Request, inform the Applicant that the Interconnection Request is either complete or incomplete and what materials are missing.

(ii) Within 15 business days, the EDC shall verify that the Small Generator Facility equipment can be interconnected safely and reliably using the Level 1 screens.

a. In the event the EDC does not have a record of receipt of the Interconnection Request, and the Applicant can demonstrate that the original Interconnection Request was delivered, the EDC shall expedite their review to complete the evaluation of the Interconnection Request within 15 days of the Applicant’s re-submittal.

(iii) Upon providing reasonable notice, within 10 Business Days after receipt of the Certificate of Completion, the EDC may conduct a Witness Test at a mutually convenient time, which must be passed. If the EDC does not conduct the Witness Test within 10 Business Days or

within the time otherwise mutually agreed to by the Parties, the Witness Test is deemed waived.

(iv) Unless the EDC determines and demonstrates that the Small Generator Facility cannot be interconnected safely and reliably, the EDC shall sign the Interconnection Request form subject to all of the conditions set forth below:

a. The Small Generator Facility has been approved by local or municipal electric code officials with jurisdiction over the interconnection; and
b. A Certificate of Completion has been returned to the EDC; and
c. The Witness Test has been successfully completed or waived.

(v) If the Small Generator Facility is not approved under a Level 1 review, the Interconnection Customer may submit a new Interconnection Request for consideration under Level 2, Level 3 or Level 3A procedures specified in this Chapter without sacrificing the Applicant's original Queue Position.

(h) The Level 2 Interconnection Review.

(1) Each EDC shall adopt the Level 2 interconnection review procedure set forth in this Chapter. The EDC shall use the Level 2 interconnection review procedure for an Interconnection Request that meets the following criteria:

(i) The Small Generator Facility is inverter-based; and
(ii) The Small Generator Facility has an Electric Nameplate Capacity of 2 MVA or less; and
(iii) The Customer Interconnection Equipment proposed for the Small Generator Facility is Certified; and
(iv) The proposed connection is to (1) a radial distribution circuit, or (2) a Spot Network limited to serving one customer.

(2) For a Small Generator Facility described in Section 1.3(h)(1), the EDC shall approve interconnection under the Level 2 interconnection review procedure set forth in this Chapter if all of the Level 2 screening criteria are met. An EDC shall not impose additional requirements for Level 2 reviews

not specifically authorized under this section 1.3(h).

(3) The Level 2 Screening Criteria shall consist of:

(i) For interconnection of a proposed Small Generator Facility to a radial distribution circuit, the aggregated generation, including the proposed Small Generator Facility, on the circuit may not exceed 15% of the Line Section annual peak load as most recently measured at the sub station.

(ii) For interconnection of a proposed Small Generator Facility to the load side of Spot Network protectors, the proposed Small Generator Facility must utilize an inverter-based equipment package. The Customer Interconnection Equipment proposed for the Small Generator Facility must be Certified and with the aggregated other generation may not exceed 5% of a Spot Network's maximum load.

(iii) The proposed Small Generator Facility, in aggregation with other generation on the distribution circuit, may not contribute more than 10 % to the distribution circuit's maximum Fault Current at the point on the primary voltage distribution line nearest the Point of Common Coupling.

(iv) The proposed Small Generator Facility, in aggregate with other generation on the distribution circuit, will not cause any distribution protective devices and equipment (including, but not limited, to substation breakers, fuse cutouts, and line reclosers), or other customer equipment on the Electric Distribution System to be exposed to fault currents exceeding 85% of the short circuit interrupting capability; nor is the Interconnection Request for a location on a circuit that already exceeds 85% of the short circuit interrupting capability.

(v) The proposed Small Generator Facility's Point of Interconnection will not be on a transmission line.

(vi) If a Customer-generator facility is to be connected to three-phase, three wire primary EDC distribution lines, a three-phase or single-phase generator will be connected phase-to-phase. If a Customer-generator facility is to be connected to three-phase, four wire primary EDC distribution lines, a three-phase or single phase generator will be connected line-to-neutral and will be effectively grounded. This screen includes a review of the type of electrical service provided to the Interconnection Customer, including line configuration and the transformer connection to limit the potential for creating over voltages on the EDC’s Electric Distribution System due to a loss of ground during the operating time of any anti-islanding function.

(vii) If the proposed Small Generator Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on

the shared secondary, including the proposed Small Generator Facility, will not exceed 20 kVA.

(viii) If the proposed Small Generator Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition will not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.

(ix) The Small Generator Facility, in aggregate with other generation interconnected to the distribution side of a substation transformer feeding the circuit where the Small Generator Facility proposes to interconnect may not exceed 2 MVA in an area where there are known, or posted transient stability limitations to generating units located in the general electrical vicinity (e.g. three or four distribution busses from the point of interconnection).

(x) Except as permitted under any additional review provided for in the Standard Small Generator Interconnection Agreement, no construction of facilities by the Electric Distribution Company on its own system will be required to accommodate the Small Generator Facility.

(4) The Level 2 Interconnection Process shall proceed as follows:

(i) The EDC shall, within 10 Business Days after receipt of the Interconnection Request, inform the Applicant that the Interconnection Request is either complete or incomplete and what materials are missing.

(ii) If in the process of evaluating the interconnection request, the EDC determines other additional information is required to complete the evaluation, the EDC shall request said information. The time necessary to complete the evaluation may be extended, but only to the extent of the delay required for the receipt of the additional information. The EDC may not begin the review process at the beginning of the 20-day period or alter the Interconnection Customer's Queue Position.

(iii) Once the Interconnection Request is complete, the EDC shall assign a Queue Position. The Queue Position of each Interconnection Request will be used to determine the potential Adverse System Impact of the Small Generator Facility based on the relevant screening criteria. The EDC will schedule a Scoping Meeting to notify the Interconnection Customer about other higher-queued Interconnection Customers on the same substation bus or Spot Network to which the Interconnection Customer is seeking to interconnect.

(iv) Within 20 Business Days after the EDC notifies the Interconnection Customer it has received a completed Interconnection Request, the EDC shall: (1) evaluate the Interconnection Request using the Level 2 screening criteria, (2) review the Interconnection Customer's analysis, if provided by Interconnection Customer, using the same criteria, and (3) provide the Interconnection Customer with the EDC's

evaluation, including a comparison of the results of its own analyses with those of Interconnection Customer, if applicable.

a. In the event the EDC does not have a record of receipt of the Interconnection Request and the Applicant can demonstrate that the original Interconnection Request was delivered, the EDC shall expedite their review to complete the evaluation of the Interconnection Request within 15 days of the Applicant's re-submittal.

(v) Upon providing reasonable notice within 10 Business Days after receipt of the Certificate of Completion, the EDC may conduct a Witness Test at a mutually convenient time. If the EDC does not conduct the Witness Test within 10 Business Days or within the time otherwise mutually agreed to by the Parties, the Witness Test is deemed waived.

(5) If the EDC determines that the Interconnection Request: (1) passes the Level 2 screening criteria, or (2) fails one or more of the Level 2 screening criteria but determines that the Small Generator Facility can be interconnected safely and reliably, it shall provide the Interconnection Customer a Standard Small Generator Interconnection Agreement within five Business Days after such determination.

(6) Additional review may be appropriate if a Small Generator Facility has failed to meet one or more of the Level 2 screens, and such additional review may enable the EDC to determine that the Small Generator Facility can be interconnected consistent with safety, reliability, and power quality criteria. In such a case, the EDC shall offer to perform additional review to determine whether Minor Modifications to the Electric Distribution System would enable the interconnection to be made consistent with safety, reliability and power quality criteria. The EDC shall provide to the Applicant a non-binding, good faith estimate of the costs of such additional review, and/or such Minor Modifications. The EDC shall undertake the additional review or modifications only after the Applicant consents to pay for the review and/or modifications.

(7) The Interconnection Customer will have either 30 Business Days or another mutually agreeable timeframe after receipt of the Standard Small Generator Interconnection Agreement, to sign and return the Standard Small Generator Interconnection Agreement. If the Interconnection Customer does not sign the Standard Small Generator Interconnection Agreement within 30 Business Days, the request will be deemed withdrawn unless the Interconnection Customer requests to have the deadline extended. The request for such an extension shall not be unreasonably denied by the EDC. If any construction is required, the interconnection of the Small Generator Facility will proceed according to any milestones agreed to by the Parties in the Standard Small Generator Interconnection Agreement. The Interconnection Agreement shall not be final until:

(i) Any milestones agreed to in the Standard Small Generator Interconnection Agreement are satisfied; and
(ii) The Small Generator Facility is approved by electric code officials with jurisdiction over the interconnection; and
(iii) The Interconnection Customer provides a Certificate of Completion to the EDC; and
(iv) There is a successful completion of the Witness Test unless waived.

(8) If the Small Generator Facility is not approved under a Level 2 review, the Interconnection Customer may submit a new Interconnection Request for consideration under a Level 3 or Level 3A interconnection review; however, the Queue Position assigned to the Level 2 Interconnection Request shall be retained.

(i) Level 3 Interconnection Review.

(1) Each EDC shall adopt the Level 3 interconnection review procedure set forth in this Chapter. The EDC shall use the Level 3 interconnection review procedure to evaluate Interconnection Requests that meet the criteria set forth below and for Interconnection Requests that were considered but

not approved under a Level 2 or a Level 3A review if the Interconnection Customer submits a new Interconnection Request for consideration under Level 3:

(i) The Small Generator Facility has an Electric Nameplate Capacity that is less than 2MVA; or

(ii) The Small Generator Facility is less than 2 MVA and not Certified; or

(iii) The Small Generator Facility is less than 2 MVA and non-inverter based.

(2) The Level 3 Interconnection Review Process shall consist of the following:

(i) By mutual agreement of the Parties, the Scoping Meeting, Interconnection Feasibility Study, Interconnection Impact Study, or Interconnection Facilities Studies as set forth in these Level 3 procedures may be waived.

(ii) Within 10 Business Days from the date of receipt of the Interconnection Request, the EDC shall notify the Interconnection Customer whether the request is complete. If the Interconnection Request is not complete, the EDC shall provide the Interconnection Customer a written list detailing all information that must be provided to complete the Interconnection Request. The Interconnection Customer shall have 10 Business Days to provide appropriate data in order to complete the Interconnection Request or the Interconnection Request will be considered withdrawn. The Parties may agree to extend the time frame for receipt of the additional information. The Interconnection Request shall be deemed complete when the required information has been provided by the Interconnection Customer, or the Parties have agreed that the Interconnection Customer may provide additional information at a later time.

(iii) Once the Interconnection Request is complete, the EDC shall assign a Queue Position. The Queue Position of each Interconnection Request will be used to determine the cost responsibility for the facilities necessary to accommodate the interconnection. The EDC will notify the Interconnection Customer at the Scoping Meeting about other higher-queued Interconnection Customers.

(iv) A Scoping Meeting will be held within 10 Business Days, or as agreed to by the Parties, after the EDC has notified the Interconnection Customer that the Interconnection Request is deemed complete, or the Interconnection Customer has requested their Interconnection Request

proceed after failing the requirements of the Level 2 review or a Level 3A review. The purpose of the meeting shall be to review the Interconnection Request, existing studies relevant to the Interconnection Request, and the results of the Level 1, Level 2 or Level 3A screening criteria.

(v) If the Parties agree at the Scoping Meeting that an Interconnection Feasibility Study needs to be performed, the EDC shall provide to the Interconnection Customer, no later than five Business Days after the Scoping Meeting, an Interconnection Feasibility Study Agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

(vi) If the Parties agree at the Scoping Meeting that an Interconnection Feasibility Study does not need to be performed, the EDC shall provide to the Interconnection Customer, no later than 5 Business Days after the Scoping Meeting, an Interconnection System Impact Study Agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

(vii) If the Parties agree at the Scoping Meeting that an Interconnection Feasibility Study and System Impact Study do not need to be performed, the EDC shall provide to the Interconnection Customer, no later than 5 Business Days after the Scoping Meeting, an Interconnection Facilities Study Agreement including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

(3) An Interconnection Feasibility Study will include the following analyses for the purpose of identifying a potential Adverse System Impact to the EDC's Electric Distribution System that would result from the interconnection: (1) initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection; (2) initial identification of any thermal overload or voltage limit violations resulting from the interconnection; (3) initial review of grounding requirements and system protection; and (4) description and non-binding estimated cost of facilities required to interconnect the Small Generator Facility to the EDC's Electric Distribution System in a safe and reliable manner.

(i) If the Interconnection Customer requests that the Interconnection Feasibility Study evaluate multiple potential points of interconnection,

additional evaluations may need to be performed. All such evaluations are to be paid by the Interconnection Customer.

(ii) An Interconnection System Impact Study shall not be required if the Interconnection Feasibility Study concludes that there is no Adverse System Impact or if it identifies an Adverse System Impact, but the EDC is able to identify a remedy without the need for an Interconnection System Impact Study.

(iii) An Interconnection Feasibility Study Agreement as approved by the Commission will be used.

(4) The Interconnection System Impact Study will evaluate the impact of the proposed interconnection on the safety and reliability of the EDC's Electric Distribution System. The study will identify and detail the system impacts that would result if the Small Generator Facility were interconnected without project modifications or system modifications, focusing on the Adverse System Impacts identified in the Interconnection Feasibility Study; or to study potential impacts, including but not limited to those identified in the Scoping Meeting. The study will consider all generating facilities that, on the date the Interconnection System Impact Study is commenced, (1) are directly interconnected with the EDC's system; (2) have a pending higher Queue Position to interconnect to the system; or, (3) have a signed Interconnection Agreement.

(i) The Interconnection System Impact Study will consider, as appropriate, a short circuit analysis, a stability analysis, a power flow analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews. The Interconnection System Impact Study will state the underlying assumptions of the study, show the results of the analyses, and list any potential impediments to providing the requested interconnection service. The study will indicate required Distribution Upgrades and a non-binding good faith estimate of cost and time to construct.

(ii) A distribution Interconnection System Impact Study will be performed if a potential Distribution System Adverse System Impact is identified in the Interconnection Feasibility Study. The EDC shall send to the Interconnection Customer an Interconnection System Impact Study Agreement within 5 Business Days of transmittal of the

Interconnection Feasibility Study report, including an outline of the scope of the study and a good faith estimate of the cost to perform the study. The study shall incorporate a load flow study, an analysis of equipment Interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews, and the impact on system operation, as necessary.

(iii) An Interconnection Impact Study Agreement and/or a distribution Interconnection Impact Study as approved by the Commission will be used.

(5) The Interconnection Facilities Study will be conducted as follows:

(i) Within 5 Business Days of completion of the Interconnection System Impact Study, a report will be prepared and transmitted to the Interconnection Customer along with an Interconnection Facilities Study Agreement, which shall include an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

(ii) The Interconnection Facilities Study shall specify and estimate the cost of the equipment, engineering, procurement and construction work, including overheads, needed to implement the conclusions of the Interconnection Feasibility Study and the Interconnection System Impact Study to interconnect the Small Generator Facility. The Interconnection Facilities Study shall also identify: (1) the electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment; (2) the nature and estimated cost of the EDC's Interconnection Facilities and Distribution Upgrades necessary to accomplish the interconnection; and (3) an estimate of the time required to complete the construction and installation of such facilities.

(ii) The Parties may agree to permit the Interconnection Customer to separately arrange for a third party to design and construct the required Interconnection Facilities. In such cases, the EDC may review the design of the facilities under the provisions of the Interconnection Facilities Study Agreement. If the Parties agree to separately arrange for design and construction, and to comply with any security and confidentiality requirements, the EDC shall make all relevant information and required specifications available to the Interconnection Customer in order to permit the Interconnection Customer to obtain an independent design and cost estimate for the facilities, which must be built in accordance with such specifications.

(iv) Upon completion of the Interconnection Facilities Study, and with the agreement of the Interconnection Customer to pay for Interconnection

Facilities and Distribution Upgrades identified in the Interconnection Facilities Study, the EDC shall provide the Interconnection Customer with a Standard Small Generator Interconnection Agreement within 5 Business Days.

(v) An Interconnection Facility Study Agreement as approved by the Commission will be used.

(6) If the EDC determines, as a result of the studies conducted under a Level 3 review, that it is appropriate to interconnect the Small Generator Facility, the EDC shall provide the Interconnection Customer with a Standard Small Generator Interconnection Agreement. If the Interconnection Request is denied, the EDC shall provide a written explanation.

(7) Upon providing reasonable notice within 10 Business Days after receipt of the Certificate of Completion, the EDC may conduct a Witness Test at a mutually convenient time. If the EDC does not conduct the Witness Test within 10 Business Days, or within the time otherwise mutually agreed to by the Parties, the Witness Test is deemed waived.

(8) The Interconnection Customer will have either 30 Business Days, or another mutually agreeable timeframe, after receipt of the Standard Small Generator Interconnection Agreement, to sign and return the Standard Small Generator Interconnection Agreement. If the Interconnection Customer does not sign the Standard Small Generator Interconnection Agreement within 30 Business Days, the request will be deemed withdrawn unless the Interconnection Customer requests to have the deadline extended. The request for such an extension shall not be unreasonably denied by the EDC. If any construction is required, the interconnection of the Small Generator Facility will proceed according to any milestones

agreed to by the Parties in the Standard Small Generator Interconnection Agreement. The Interconnection Agreement shall not be final until:

(i) The milestones agreed to in the Standard Small Generator Interconnection Agreement are satisfied; and

(ii) The Small Generator Facility is approved by electric code officials with jurisdiction over the interconnection; and

(iii) The Interconnection Customer provides a Certificate of Completion to the EDC; and

(iv) There is a successful completion of the Witness Test, if conducted by the EDC.

(j) Level 3A Interconnection Review

(1) Interconnection Customers desiring to interconnect a Small Generator Facility that does not qualify for a Level 1 or a Level 2 review may request to be evaluated under Level 3A procedures as set forth below.

(2) Once the Interconnection Request is complete, the EDC shall assign a Queue Position. The Queue Position of each Interconnection Request will be used to determine the potential Adverse System Impact of the Small Generator Facility based on the relevant screening criteria. The EDC will schedule a Scoping Meeting to notify the Interconnection Customer about other higher-queued Interconnection Customers on the same substation bus or Area Network that the Interconnection Customer is seeking to interconnect to.

(3) For Small Generator Facilities submitting an Interconnection Request to be interconnected to the load side of an Area Network, the EDC, notwithstanding any conflicting requirements in IEEE Standard 1547, shall use the procedures outlined below:

(i) For facilities that are less than or equal to 10 kVA, the EDC shall use the review procedures set forth for a Level 3A Review, provided that the Small Generator Facility that meets all of the criteria below:

a. The Electric Nameplate Capacity of the Small Generator Facility is equal to or less than 10kVA; and
b. The proposed Small Generator Facility utilizes a Certified inverter-based equipment package for interconnection; and
c. The Customer-generator installs reverse power relays and/or other protection functions that prevent power flow beyond the Point of Interconnection; and
d. The aggregated other generation on the Area Network does not exceed 5% of an Area Network's maximum load.

(ii) No construction of facilities by the Electric Distribution Company on its own system will be required to accommodate the Small Generator Facility.

(iii) The proposed Small Generator Facility meeting the criteria set forth above shall be presumed to be appropriate for interconnecting to an Area network and shall be further evaluated by the EDC based on the following procedures:

a. The EDC shall evaluate the Interconnection Request under the Level 1 interconnection review procedures, except that the EDC shall have 20 Business Days to conduct an Area Network impact study to determine any potential adverse impacts of interconnecting to the EDC’s area network.

b. In the event the Area Network impact study identifies potential Adverse System Impacts, the EDC may determine at its sole discretion that it is inappropriate for the Small Generator Facility to interconnect to the Area Network, in which case the Interconnection Request shall be denied; however, the Interconnection Customer may elect to submit a new Interconnection Request for consideration under level 3 procedures in which case the Queue Position assigned to the Level 3A Interconnection Request shall be retained.
c. The EDC shall conduct the Area Network impact study at its own expense.

(iv) In the event the EDC denies the Interconnection Request the EDC shall provide the Interconnection Customer with a copy of its Area

Network impact study and written justification for denying the Interconnection Request.

(v)For facilities greater than 10 kVA and equal to or less than 50 kVA, the EDC shall use the review procedures set forth for a Level 3A application to interconnect a Small Generator Facility that meets all of the criteria below:

a. The Electric Nameplate Capacity of the Small Generator Facility is greater than 10 kVA and equal to or less than 50kVA; and
b. The proposed Small Generator Facility utilizes a Certified inverter-based equipment package for interconnection; and
c. The Customer-generator installs reverse power relays and/or other protection functions that prevent power flow beyond the Point of Interconnection; and
d. The aggregated other generation on the Area Network does not exceed 5% of an Area Network's maximum load; and

(vi) No construction of facilities by the Electric Distribution Company on its own system will be required to accommodate the Small Generator Facility

(vii) The proposed Small Generator Facility meeting the criteria set forth above shall be presumed to be appropriate for interconnecting to an Area network and shall be further evaluated by the EDC based on the following procedures:

a. The EDC shall evaluate the Interconnection Request under Level 2 interconnection review procedures except that the EDC may have 25 days to conduct an Area Network impact study to determine any potential adverse impacts of interconnecting to the EDC’s area network.
b. In the event the Area Network impact study identifies potential Adverse System Impacts, the EDC may determine at its sole discretion that it is inappropriate for the Small Generator Facility to interconnect to the Area Network in which case the Interconnection Request shall be denied; however, the Interconnection Customer may elect to submit a new Interconnection Request for consideration under Level 3 procedures in which case the Queue Position assigned to the Level 3A Interconnection Request shall be retained.
c. The EDC shall conduct the Area Network impact study at its own expense.
d. In the event the EDC denies the Interconnection Request, the EDC shall provide the Interconnection Customer with a copy of its

Area Network impact study and written justification for denying the Interconnection Request.

(4) For interconnection to circuits that are not networked, upon the mutual agreement of the EDC and the Interconnection Customer, the EDC may use the Level 3A review procedure for an Interconnection Request to interconnect a Small Generator Facility that meets all of the following criteria:

(i) The Small Generator Facility has an Electric Nameplate Capacity of 2 MVA or less; and

(ii) The aggregated total of the Electric Nameplate Capacity of all of the generators on the circuit, including the proposed Small Generator Facility, is 2 MVA or less; and

(iii) The Small Generator Facility will use reverse power relays or other protection functions that prevent power flow onto the utility grid; and

(iv) The Small Generator Facility will be interconnected with a radial distribution circuit; and

(v) The Small Generator Facility is not served by a shared transformer; and

(vi) The Small Generator Facility uses Certified Interconnection Equipment; and

(vii) No construction of facilities by the Electric Distribution Company on its own system will be required to accommodate the Small Generator Facility.

(5) For a Small Generator Facility described above, the EDC shall interconnect under the Level 3A review if all of the applicable requirements below are met:

(i) The proposed Small Generator Facility, in aggregation with other generation on the distribution circuit, will not contribute more than 10 % to the distribution circuit's maximum Fault Current at the point on the primary voltage distribution line nearest the Point of Common Coupling; and,

(ii) The aggregate generation capacity on the distribution circuit to which the Small Generator Facility will interconnect, including its capacity, will not cause any distribution protective equipment, or

customer equipment on the distribution system, to exceed 85% of the short-circuit interrupting capability of the equipment. In addition, a Small Generator Facility will not be connected to a circuit that already exceeds 85% of the short circuit interrupting capability; and,

(iii) If there are known or posted transient stability limits to generating units located in the general electrical vicinity of the proposed Point of Common Coupling, the proposed Customer-generator will be subject to a Level 3 review; and,

(iv) If a Customer-generator facility is to be connected to three-phase, three wire primary EDC distribution lines, a three-phase or single-phase generator will be connected phase-to-phase. If a customer-generator facility is to be connected to three-phase, four wire primary EDC distribution lines, a three-phase or single phase generator will be connected line-to-neutral and will be effectively grounded. This screen includes a review of the type of electrical service provided to the Interconnection Customer, including line configuration and the transformer connection to limit the potential for creating over voltages on the EDC's Electric Distribution System due to a loss of ground during the operating time of any anti-islanding function.

(6) For a Small Generator Facility failing to meet the criteria set forth at Section 1.3(j)(5) above, the EDC shall use the Level 3 interconnection procedures; however, the Queue Position assigned to the Level 3A Interconnection Request shall be retained.

(7) For a small Generator Facility that satisfies the above criteria the EDC may, upon providing reasonable notice, within 10 Business Days after receipt of the Certificate of Completion, conduct a Witness Test at a mutually convenient time. If the EDC does not conduct the Witness Test within 10 Business Days or within the time otherwise mutually agreed to by the Parties, the Witness Test is deemed waived.

(8) When a small Generator Facility satisfies the criteria for a Level 3A Interconnection, the EDC shall approve the Interconnection Request and

provide a Standard Interconnection Agreement to the Interconnection Customer for signature.

(i) The Interconnection Customer will have either 30 Business Days, or another mutually agreeable timeframe after receipt of the Standard Small Generator Interconnection Agreement to sign and return the Standard Small Generator Interconnection Agreement. If the Interconnection Customer does not sign the Standard Small Generator Interconnection Agreement within 30 Business Days, the request will be deemed withdrawn unless the Parties mutually agree to extend the time period for executing the Standard Small Generator Interconnection Agreement. After the Standard Small Generator Interconnection Agreement is signed by the Parties, interconnection of the Small Generator Facility will proceed according to any milestones agreed to by the Parties in the Standard Small Generator Interconnection Agreement. The Interconnection Agreement shall not be final until:

a. Any milestones agreed to in the Standard Small Generator Interconnection Agreement are satisfied; and
b. The Small Generator Facility is approved by electric code officials with jurisdiction over the interconnection; and
c. The Interconnection Customer provides a Certificate of Completion to the EDC; and
d. There is a successful completion of the Witness Test, if conducted by the EDC.

§ 1.4. Dispute Resolution.

(a) Each Party shall attempt to resolve all disputes regarding interconnection as provided in this Chapter promptly, equitably, and in a good faith manner.

(b) If a dispute arises, any Party may seek immediate resolution through complaint procedures available through the Commission, or any alternative dispute resolution process approved by the Commission, by providing written notice to the Commission and the other party stating the issues in dispute. Whenever possible, dispute resolution will be conducted in an informal, expeditious manner in order to reach resolution with minimal costs and delay. When appropriate and available, the dispute resolution may be conducted by phone.

(c) For disputes related to the technical application of these rules, the Commission may designate a technical master to resolve the dispute. The Commission may designate a Department of Energy national laboratory, PJM Interconnection L.L.C., or a college or university with distribution system engineering expertise as the technical master. Should the FERC identify a national technical dispute resolution team, the Commission may designate said team as its technical master. If the Commission has so designated, the Parties shall use the technical master to resolve the disputes related to interconnection. Any costs for dispute resolution conducted by the technical master shall be determined by the technical master subject to review by the Commission.

(d) Pursuit of dispute resolution will not affect an Interconnection Applicant with regard to consideration of the Interconnection Request or the Interconnection Applicant's position in the EDC's interconnection Queue.