ORIGINAL: 2524

Energy Association of Pennsylvania

800 North Third Street, Suite 301, Harrisburg, Pennsylvania 17102
Telephone (717) 901-0600 • Fax (717) 901-0611 • www.energypa.org

April 26, 2006

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
P. O. Box 3265
Commonwealth Keystone Building
Harrisburg, Pennsylvania 17105-3265

RE: COMMENTS of THE ENERGY ASSOCIATION of PENNSYLVANIA on the PROPOSED RULEMAKING ORDER
Docket No. M-00051865 and Docket No. L-00050175

Dear Secretary McNulty:

Enclosed for filing, please find an original and fifteen (15) copies of the Comments of the Energy Association of Pennsylvania submitted on behalf of its member electric distribution companies in connection with the November 10, 2005 Order on the Proposed Rulemaking for Interconnection Standards for Customer-Generators and Implementation of the Alternative Energy Portfolio Standards Act of 2004: Interconnection Standards.

Cordially,

J. Michael Love
President and CEO

Donna M. J. Clark
Vice President and General Counsel

CC: Chairman Wendell F. Holland
Vice Chairman James H. Cawley
Commissioner Bill Shane
Commissioner Kim Pizzingrilli
Commissioner Terrance J. Fitzpatrick
H. Kirk House, Esq. (via electronic mail)
Gregory A. Shawley (via electronic mail)

PENNSYLVANIA
PUBLIC UTILITY COMMISSION

Proposed Rulemaking Re Interconnection Standards for Customer-Generators Pursuant to Section 5 of the Alternative Energy Portfolio Standards Act, 73 P.S. §1648.5	:	**L-00050175**
Implementation of the Alternative Energy Portfolio Standards Act of 2004: Interconnection Standards	:	**M-00051865**

COMMENTS of the ENERGY ASSOCIATION of PENNSYLVANIA to PROPOSED RULEMAKING ORDER re INTERCONNECTION STANDARDS

I. INTRODUCTION

On November 16, 2005, the Pennsylvania Public Utility Commission ("Commission") entered a Proposed Rulemaking Order formally commencing its rulemaking process to establish regulations governing interconnection for customer-generators. The Proposed Rulemaking Order was published in the ***Pennsylvania Bulletin*** on February 25, 2006, with comments due sixty (60) days following publication or on April 26, 2006.

The Energy Association of Pennsylvania ("EAPA" or "Association") represents the interests of the Commonwealth's PUC-regulated electric distribution companies ("EDCs") listed below.[1] EAPA has been an active participant in the stakeholder process referenced by the Commission in the instant Proposed Rulemaking Order. EAPA has previously filed comments

[1] EDC members supporting these Comments include Allegheny Power, Citizens' Electric Co., Duquesne Light Co., Metropolitan Edison Co., *A FirstEnergy Company*, Pennsylvania Electric Co., *A FirstEnergy Company*, Pennsylvania Power Co., *A FirstEnergy Company*, Pike County Light & Power Co.,PPL Electric Utilities, UGI Utilities, Inc.-Electric Division, and Wellsboro Electric Co.

on behalf of its members on matters related to the development of Interconnection Standards on April 29, 2005, on May 24, 2005, and on September 19, 2005. EAPA incorporates by reference its previously filed comments.

In this filing, EAPA first submits general comments addressing the topics discussed by the Commission in the text of its Proposed Rulemaking Order. In doing so, the comments follow the outline/topic headings in the Order. Second, EAPA has included a red-lined version of Subchapter C - Interconnection Standards, indicating specifically where EAPA seeks language changes to the proposed regulations. While all of the proposed language changes are not discussed in the general comments, EAPA and its members seek the Commission's careful consideration of all of their suggestions.

EAPA welcomes the opportunity to provide comments and suggested language changes to the proposed regulations dealing with Interconnection Standards and looks forward to working with the Commission and stakeholders in this rulemaking process.

II. GENERAL COMMENTS

A. Interconnection Definitions

EAPA generally supports the proposed changes to the definitions. However, in addition to the definitions cited in the Proposed Rulemaking Order, EAPA contends that certain minor clarifications as well as other more significant changes are needed as detailed below in these comments. EAPA has incorporated the changes outlined below as well as other suggested edits to the definition section of the attached red-lined version of Subchapter C. EAPA believes these changes add important clarifications which will mitigate future interpretational difficulties.

- ***Affected System***

EAPA appreciates the Commission's recognition of this issue and reasserts its recommendation to include a definition for the term "*Affected System*"

Affected System -- shall mean an Electric Distribution System, other than the Electric Distribution System owned or operated by the EDC to which the customer-generator is interconnected, that may be affected by the proposed interconnection.

As previously stated, EAPA and its members contend that there will be situations where the installation of a customer-generator may have an impact on a neighboring EDC, particularly for Level 2 and Level 3 installations. These situations will most likely arise where there are interconnections with other utility systems at the distribution level, such as with Rural Electric Co-ops and Municipal Utilities. It is important that the regulations include a mechanism to deal with such situations both for purposes of system study and for purposes of accounting/cost allocation.

The potential effect of the additional generation on these systems is no less significant than the impact could be on the interconnected utility. Changes were made throughout the red-lined version of Subchapter C (attached) to reflect the addition of this definition.

- ***Certified***

In order to conform with standards published by IEEE, in particular as it may be modified in the future due to technological changes or advances, EAPA recommends the following addition to address the testing required for certification of equipment:

(c) The certified equipment has been tested by a Nationally Recognized Testing Laboratory ("NRTL") pursuant to IEEE 1547.1-2005 "Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems", as amended and supplemented.

- ***Designated Address***

It is important that interconnection applications be properly addressed and routed to the appropriate location/addressee within the EDC's organization. Failure to do so can easily result in communications being delayed or failing to reach the appropriate recipient. The EAPA strongly recommends including a definition and associated requirements, which will ultimately result in fewer complaints and less frustration on the part of the customers, the EDCs and the Commission.

Designated Address – The name and address specified by the EDC to which all Interconnection Requests must be mailed if submitted in hardcopy form or the Email address specified by the EDC if submitted electronically. The EDC will post both the mailing address and an Email address on its website and make said addresses available for customers upon written or verbal inquiry.

- ***Electric nameplate capacity***

The use of the term "net" in the current definition is inappropriate. The effect of the generator on the EDC's system needs to be based on the rating of the generator and not on the net output capability. Theoretically, the definition as it stands would allow a 100 MW generator with 99 MW of load to connect under Level 2 criteria, which is clearly contrary to the intent. The definition should be amended as follows:

Electric nameplate capacity – The maximum or instantaneous peak electric output capability measured in volt-amps of a small generator facility as designated by the manufacturer.

- ***Minor equipment modification***

EAPA suggests that the maintenance of acceptable power quality be incorporated into several locations throughout the rulemaking. In addition to this instance, the attached redline incorporates these insertions where appropriate.

Minor equipment modification – Changes to the proposed small generator facility that do not have a material impact on safety, power quality or reliability of the electric distribution system.

- ***UL Standard 1741***

EAPA believes that any reference to particular standards recognize that these are living documents and should incorporate the concept as illustrated in the following:

UL Standard 1741– Means Underwriters Laboratories' standard titled "Inverters Converters, and Controllers for Use in Independent Power Systems", as amended and supplemented.

B. General Interconnection Provisions

Attached is a red-lined version of the proposed Subchapter C: Interconnection Standards which are consistent with previous submittals. Unless additional standards and procedures are going to be developed, EAPA believes that these clarifications need to be included here.

Comments beginning with the word "Note:" are provided as support for the clarification, and not intended to remain in the final document.

In response to the specific issues raised by Commission Staff, EAPA offers the following comments in the relative order they appear in the Discussion section of the Order.

- **Level 2 review limitation to inverter based equipment requirement**

  The Final MADRI documents retained the inverter requirement for this screen. The use of the inverter technology eliminates or greatly reduces the impact the facility will have on the Area EPS (Area Electric Power System as defined by IEEE 1547), as well as the efforts required as part of the review. On the other hand, non-inverter based generation (i.e. rotating equipment) has the ability to deliver five to seven times the fault current an inverter based generator of equal size can deliver. This contribution to the fault can significantly impact the ability of the distribution system's protective equipment to adequately detect a fault condition within an acceptable period. This can lead to equipment damage and prolonged outage conditions that may otherwise be avoided. Accordingly, these installations are appropriately given a more rigorous review.

- **Total Nameplate vs. Incremental Evaluation**

  EAPA supports the Staffs' position on this issue. All fault duty calculations must be based on the total nameplate capacity in order to assess the impact on the system. Further, any voltage fluctuations will be the result of the entire generation being added to or tripping off the system, not just the incremental capability. It is completely inappropriate to attempt to evaluate a system based on the incremental capacity.

- **Additional Reporting Requirements**

  EAPA generally does not oppose the additional reporting requirements so long as any additional costs shall be collected from customers and recovered on a full and current basis through the AEPS recovery mechanism.

- **Single Point of Delivery**

  Again, EAPA does not oppose this conceptually so long as any costs incurred by the EDC as a result of interconnecting more than one customer-generator at a single point of interconnection that are not paid by the interconnecting customers may be recovered by the EDC on a full and current basis through the AEPS cost recovery mechanism.

- **Disconnect Switch**

  The EDCs believe that the lockbox proposal represents a reasonable alternative to mandating an outdoor switch in all applications. At some installations, the installation of a lockbox at a mutually agreeable location could indeed reduce costs. This compromise was intended to provide a benefit to the customer-generator. Therefore the costs associated with the installation were intended to be borne by the customer-generator. Inasmuch as the contractor is already onsite performing the installation, the lockbox and installation should represent minimal incremental cost to the customer and/or contractor. Accordingly, the EDCs believe the acquisition and installation of the lockbox should be the responsibility of the customer-generator. However, in the event the EDCs are required to provide and install the lockbox, any costs incurred by the EDC should be recovered on a full and current basis through the AEPS cost recovery mechanism

- **Spot Network Installations**

EAPA continues to believe that the 50 kW cap is important from a safety and reliability perspective. As we stated in our previous comments on this issue, this limitation which was agreed to during the development of the MADRI standard is the same as is included in FERC Order 2006.

IEEE 1547 specifically states that the installation of distributed resources shall not cause the operation of any network protector installed on a spot network. Under light loading conditions where the output of the generation could exceed the load on the network, the protectors would operate. This is not to say that higher levels of generation cannot be installed; only that additional studies may be required.

- **Review Periods**

EAPA concurs with the retention of the MADRI timelines for review. Several of its members have operations in other states and are keenly aware of the difficulties that can occur in meeting even these kinds of deadlines. It is important to note that the review periods agreed to in the MADRI proceeding were less than those contained in the FERC Order 2006 proceeding.

- **Fault Current Limitations**

EAPA believes that the proposed 80% limitation is a step in the right direction, however still argues in favor of the more conservative approach. The analysis cited by the Commission does point out that the 82% calculation is based on several assumptions as well as reliance on data integrity which could introduce an additional margin of error.

Even more important is the effect that the additional fault current could have on other customer's equipment. The EDCs typically do not have a record of the ratings of customer owned equipment which will force a very conservative estimate. Often this equipment may have been placed in service more than 50 years ago. It is not uncommon for much of this equipment to have received little or no maintenance over the years. Furthermore, customer owned switchgear is often located indoors at ground level where personnel are in close proximity, not located in a fenced in substation or mounted out of contact on a pole.

- **Area Network Installations**

While the Commission's earlier request for additional comments was specifically directed to spot networks, this same limitation is even more important under a level 4 review when applied to an area network. The load on an area network can typically range to tens of MW or more, particularly in larger downtown cities. Absent the 50 kW limitation, 5% of an Area Network's maximum load can easily equate to hundreds of kW or potentially several megawatts. This amount of generation can easily offset the load at a single network location causing the network protectors to operate incorrectly, particularly under light load and/or fault conditions.

- **Area Network Level 4 Review**

Because of the complexity and uniqueness of any potential installation, IEEE does not provide for any interconnection to an Area Network, let alone under any pre-qualified review process. Furthermore, FERC Order 2006 does not provide for any interconnection to an area network. Both these documents and their respective

limitations are restricted to spot networks which typically only serve from one to a few customers. Area networks are usually only located in larger downtown metropolitan areas. Area Networks can serve thousands of customers and tens of MW of load. The EDCs consented in the MADRI process to an expedited review for interconnection to an Area Network in only very limited circumstances, and only at their discretion. There may be circumstances where there are well documented known loading conditions at a given location on an area network. Under such circumstances, an EDC may be able to assess a proposed installation with relatively little analysis. Conversely, there are locations which would require the installation of metering equipment to gather the data necessary to perform potentially significant analysis.

Network protectors are required to switch higher load currents than most utility equipment and often tremendous amounts of fault current, making them more susceptible to failure. Consequently, any unnecessary operation needs to be avoided.

The intent of this section was to work with the alternative energy community to provide an accommodation while simultaneously maintaining safety and reliability. However, it is imperative that the EDCs maintain the authority over the level of review required for interconnection to an Area Network.

C. Insurance and Indemnification

In order to protect the customer-generator from potential liability associated with the improper or negligent installation, operation or maintenance of the generator facility as well as the EDC and other third parties, the customer-generator should be required to have general liability insurance in place with policy limits commensurate with industry standards based upon

the size and type of generation equipment being utilized. Without such insurance, the customer-generator may be faced with personal liability for any damages associated with its ownership and operation of the generation equipment.

Moreover, it is likely that any EDC seeking indemnification through the interconnection agreement will require proof of insurance as a prudent business practice. EAPA and its members request that these proposed regulations address, at a minimum, the issue of liability insurance, requiring proof of insurance as a prerequisite to interconnection.

D. Forms and Fees

Pursuant to the text of the instant Proposed Rulemaking Order, the Commission notes that it will in the future initiate a proceeding to establish uniform form agreements and fees for interconnection and net metering purposes. EAPA and its member companies urge that such a proceeding begin at the earliest opportunity. As stated in its comments submitted on September 19, 2005, EAPA supports the use of fees for all interconnection requests and recommends a sliding scale of fees that would increase as a function of the size of the interconnection facility.

III. CONCLUSION

EAPA and its members offer the comments outlined above and the suggested changes in the attached red-lined version of Subchapter C for inclusion in the final regulations governing interconnection for customer-generators. EAPA recognizes the effort by all stake holders in this process and requests these changes for consideration as a means of clarifying and strengthening the proposed regulations.

J. Michael Love
President and CEO

Donna M. .J. Clark
Vice President and General Counsel

Date: April 26, 2006

CERTIFICATE of SERVICE

I hereby certify that I have served a copy of the foregoing ***"Comments of the Energy Association of Pennsylvania on the Proposed Rulemaking Order"*** relating to Docket No. M-00051865 and Docket No. L-00050175, on the persons listed below, by means of hand-delivery, first-class mail or electronic mail, as indicated:

By Hand-Delivery:

Hon. Wendell F. Holland, Chairman
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

Hon. James H. Cawley, Vice Chairman
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

Hon. Bill Shane, Commissioner
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

Hon. Kim Pizzingrilli, Commissioner
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

Hon. Terrance J. Fitzpatrick, Commissioner
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

By First-Class Mail Delivery:

Irwin A. Popowsky
Office of the Consumer Advocate
555 Walnut Street
Forum Place, Fifth Floor
Harrisburg, PA 17101-1923

William R. Lloyd, Jr., Esquire
Small Business Advocate
Suite 1102, Commerce Building
300 North Second Street
Harrisburg, PA 17101

J. Edward Simms, Esq.
Office of Trial Staff
PA Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17101-3265

Eric Thumma, Director
Dept. of Environmental Protection
RCSOB, 15th floor
400 Market Street
Harrisburg, PA17101-2301

Electronic Mail:

H. Kirk House hhouse@state.pa.us
Gregory A. Shawley gshawley@state.pa.us

April 26, 2006
Date

Donna M. J. Clark, Esq.
Vice President and General Counsel

ANNEX A
TITLE 52. PUBLIC UTILITIES
PART I. PUBLIC UTILITY COMMISSION
Subpart C. FIXED SERVICE UTILITIES
CHAPTER 75: THE ALTERNATIVE ENERGY PORFTOLIO STANDARDS ACT OF 2004

Subchapter C: INTERCONNECTION STANDARDS

§ 75.21. Scope.

This subchapter sets forth the interconnection standards that apply to EDCs which have customer-generators intending to pursue net metering opportunities in accordance with the Alternative Energy Portfolio Standards Act of 2004 ("AEPS"), 73 P.S. §§ 1648.1 - 1648.8.

§ 75.22. Definitions.

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

Adverse system impact – A negative effect, due to technical or operational limits on conductors or equipment being exceeded, that compromises the power quality, safety and reliability of the electric distribution system.

Affected System -- shall mean an Electric Distribution System, other than the Electric Distribution System owned or operated by the EDC to which the customer-generator is interconnected, that may be affected by the proposed interconnection.

Applicant – A person who has submitted an interconnection request to interconnect a small generator facility to an EDC'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. This term shall have 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 customer, the interconnection equipment to be used, its installation and local inspections. Completion of local inspections may be designated on inspection forms used by local inspecting authorities.

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 Resources 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.
(c) The certified equipment has been tested by a NRTL pursuant to IEEE 1547.1-2005 "Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems", as amended and supplemented.

Designated Address – The name and address specified by the EDC to which all Interconnection Requests must be mailed if submitted in hardcopy form or the Email address specified by the EDC if submitted electronically. The EDC will post both the mailing address and an Email address on its website and make said addresses available for customers upon written or verbal inquiry.

Distribution upgrade – A required addition or modification to the EDC'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. This term shall have the same meaning as the term Electric Distribution Company defined in the Electric Generation Competition and Customer Choice Act Section 2803.

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 shall have the same meaning as the term Area EPS, as 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 or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase. Often, 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 EDC, 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 – An entity, ~~including an EDC~~, that proposes to interconnect a small generator facility to an electric distribution system, also referred to as a customer- generator.

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 – 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 modifications, or additions or ~~distribution upgrades~~ that are necessary to physically and electrically interconnect the small generator facility to the EDC's electric distribution system. Interconnection facilities are sole use facilities and do not include Ddistribution upgrades.

Interconnection facilities study – A study conducted by the EDC ~~or a third-party consultant~~ for the interconnection customer to determine a list of facilities (including EDC'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 EDC'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 EDC will conduct an interconnection facilities study.

Interconnection feasibility study – A preliminary evaluation by the EDC of the system impact and cost of interconnecting the small generator facility to the EDC'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 EDC 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 or operating characteristics of an existing small generator facility that is interconnected with the EDC's electric distribution system, which shall be sent to the EDC's Designated Address.

Interconnection study – 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 by the EDC that evaluates the impact of the proposed interconnection on the safety and reliability of an EDC's electric distribution system and, if applicable, an Affected 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 EDC will conduct an interconnection system impact study.

Line section – That portion of an EDC's distribution system connected to an interconnection customer, bounded by automatic sectionalizing devices or the end of the distribution line.

Minor equipment modification – Changes to the proposed small generator facility that do not have a material impact on power quality, safety or reliability of the electric distribution system.

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 EDC's electric distribution system.

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 EDC. An interconnection request may not be deemed invalid by virtue of its being finally evaluated under different procedures than those under which it was originally considered. For example, 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 – A meeting between representatives of the interconnection customer and EDC conducted for the purpose of discussing alternative interconnection options, exchanging information including any electric distribution system data and earlier study evaluations that would be reasonably expected to impact interconnection options, analyzing information, and determining 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.

Spot network – This term shall have the same meaning 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 4 interconnection request pertaining to a small generating facility.

UL Standard 1741– Means Underwriters Laboratories' standard titled "Inverters Converters, and Controllers for Use in Independent Power Systems", as amended and supplemented.

Witness test -- The EDC's interconnection installation evaluation required by IEEE Standard 1547 Section 5.3 and the EDC'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 EDC of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and witnessing by the EDC of production tests required by IEEE Standard 1547 Section 5.2. All tests witnessed by the EDC are to be performed in accordance with IEEE Standard 1547.1

§ 75.23 General interconnection provisions.

(a) *Applicability.* The interconnection procedures 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 MW.

(2) The small generator facility is not subject to the interconnection requirements of an RTO.

(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 and Forms.* The Commission will determine the appropriate interconnection fees for Levels 1, 2, 3, and 4. In circumstances where standard forms are used for the interconnection process, examples of those forms shall be posted on the EDCs' websites.

(d) *Review procedures.* An EDC shall review interconnection requests using one or more of the following four review procedures:

(1) An EDC shall use Level 1 procedures for evaluation of all interconnection requests to connect inverter-based small generation facilities when:

(i) The small generator facility has an electric nameplate capacity of 10 kW or less; and

(ii) The Customer Interconnection Equipment proposed for the Small

Generator Facility is Certified.

(2) An EDC shall use Level 2 procedures for evaluating interconnection requests to connect Small Generation Facilities when:

(i) The small generator facility uses an inverter for interconnection; and

(ii) The Electric Nameplate Capacity rating is 2 MW or less; and

(iii) The customer interconnection equipment proposed for the small generator facility is certified; and

(iv) The proposed interconnection is to a radial distribution circuit, or a spot network limited to serving one customer; or

(v) 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 interconnection requests to connect small generation facilities with an electric nameplate capacity of 2 MW or less which do not qualify under Level 1 or Level 2 interconnection review procedures or which 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 Level 1or Level 2 review ~~and do not export~~ and agree to install specific equipment to prevent any exporting of power beyond the point of common coupling may request to be evaluated under Level 4 review procedures which provide for a potentially expedited review process.

(e) *Technical standards*. The technical standards to be used in evaluating all interconnection requests under Level 1, Level 2, Level 3 and Level 4 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.* Additional general requirements include:

(1) When an 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) When an 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) An EDC shall maintain records of:

(i) The total interconnection requests received.

(ii) The times required to complete interconnection request approvals and disapprovals.

(iii) The number of interconnection requests denied or moved to another review level.

(iv) The justifications for the actions taken on the interconnection requests.

(v) The number of requests that were not processed within established timelines.

(4) An EDC shall provide a report to the Commission containing the information required in § 75.23(f)(3) within 30 business days of the close of each annualized period. The EDC shall keep the records on file for a minimum of 3 years.

(5) An EDC shall designate a contact person from whom information on the interconnection request and the EDC's electric distribution system can be obtained through informal requests regarding a proposed project. The information shall 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 the materials would violate security requirements or confidentiality agreements, compromise the confidentiality of information regarding any electric delivery customers of the EDC, or other Interconnection Customers, or be contrary to law or state or federal regulations. In appropriate circumstances, the EDC may require a confidentiality agreement prior to release of such information.

(6) The EDC shall notify in writing the owner of any potential Affected System about the Interconnection Request. The EDC shall invite representatives of all Affected System(s) to all meetings held with Interconnection Customer as required by these procedures. EDC shall coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected System(s) and include those results in the applicable study within the time frame specified in these procedures. Interconnection Customer shall cooperate with EDC in all matters related to the conduct of studies and the determination of modifications to Affected System(s).

(7) When an interconnection request is deemed complete, a 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 4 that is not agreed to in writing by the EDC, shall require submission of a new interconnection request.

(8) When an interconnection customer is not currently a customer ~~of~~ receiving electric delivery service from the EDC, upon request from the EDC, the interconnection customer shall provide proof of site control evidenced by a property tax bill, deed, lease agreement or other legally binding contract. If the Interconnection Customer is a party representing a customer receiving electric delivery service from the EDC, the Interconnection Customer shall provide proof of his representation evidenced by an original letter signed by the delivery customer or other means acceptable to the EDC.

(9) An EDC may propose to interconnect more than one small generator facility at a single point of interconnection in order to minimize costs to the customer generator, and may not unreasonably refuse a request to do so. An interconnection customer may elect to pay the entire cost of separate interconnection facilities.

(10) In addition to the requirements contained herein, the Customer-Generator's facility shall be designed and installed in conformance with the provisions of the National Electrical Code ("NEC") and all other applicable codes, standards and requirements.

(11) The aApplicant shall obtain all necessary permits including, but not limited to, local building permits and appropriate environmental permits (Air-quality, Army Corp of Engineers, etc.).

(12) Small generator facilities shall be capable of being isolated from the EDC by means of a lockable, visible-break isolation device accessible by the EDC. The isolation device shall be installed, owned, and maintained by the owner of the small generation facility and located between the small generation facility and the point of interconnection. A draw-out type circuit breaker with a

provision for padlocking at the draw-out position can be considered an isolation device for purposes of this requirement.

(13) An interconnection customer may elect to provide the EDC access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise readily accessible to the EDC, by providing a key in a lockbox, capable of accepting a lock provided by the EDC, installed by the ~~EDC~~ Interconnection Customer that shall provide ready access to the isolation device. The interconnection customer shall ~~permit the EDC to~~ install the lockbox in a mutually agreeable location that is readily accessible by the EDC. ~~and~~ The interconnection customer shall ~~permit the EDC to~~ affix a placard in a location of ~~it's~~ the EDC's choosing that provides clear instructions to EDC operating personnel on access to the isolation device.

(g) *Level 1 interconnection review.*

(1) An EDC shall use the Level 1 interconnection review procedure for an interconnection request that meets the criteria set forth in § 75.23(d)(1). An EDC shall not impose additional requirements for Level 1 reviews not specifically authorized under this Section.

(2) 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 on the circuit, including the proposed small generator facility, 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 shall utilize an inverter-based equipment package. The customer

interconnection equipment proposed for the small generator facility must be certified, and when aggregated with other generation, may not exceed the lesser of 5% of the spot network's maximum load or 50 kW.

(iii) When a 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 kW.

(iv) When a 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) Construction of facilities by the EDC on its own system is not required to accommodate the small generator facility.

(4) The Level 1 interconnection review procedure shall consist of:

(i) An EDC shall, within 10 business days after receipt of the interconnection request, at the Designated Address, inform the applicant that the interconnection request is complete or incomplete and what materials are missing.

(ii) The EDC shall, within 15 business days after the end of the 10 business days noted in (i), verify that the small generator facility equipment can be interconnected safely and reliably using Level 1 screens.

(A) When an EDC does not have a record of receipt of the interconnection request, and the applicant can demonstrate that the original interconnection request was delivered to the Designated Address,, the EDC shall expedite its review to

complete the evaluation of the interconnection request within 15 business days of the applicant's re-submittal.

(iii) Upon notice, within 10 Business Days after receipt of the certificate of completion, an 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 an EDC determines and demonstrates that a small generator facility cannot be interconnected safely and reliably, without affecting power quality, the EDC shall sign the interconnection request form subject to the following conditions:

(A) The small generator facility has been approved by local or municipal electric code officials with jurisdiction over the interconnection.

(B) A certificate of completion has been returned to the EDC.

(C) The witness test has been successfully completed or waived.

(v) When a 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 4 procedures specified in this Chapter without sacrificing the applicant's original queue position.

(h) *Level 2 Interconnection Review.*

(1) An EDC shall use the Level 2 interconnection review procedure for an interconnection request that meets the criteria set forth in § 75.23(d)(2). An EDC shall not impose additional requirements for Level 2 reviews not specifically authorized under this Section.

(2) 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 on the circuit, including the proposed small generator facility, 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, when aggregated with other generation, may not exceed the lesser of 5% of a Spot Network's maximum load or 50 kW.

(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, may not cause any distribution protective devices and equipment (including substation breakers, fuse cutouts, and line reclosers), or other customer equipment on the electric distribution system to be exposed to fault currents exceeding 80% of the short circuit interrupting capability. The interconnection request may not request interconnection on a circuit that already exceeds 80% of the short circuit interrupting capability.

(v) The proposed small generator facility's point of interconnection may not be on a transmission line.

(vi) When a customer-generator facility is to be connected to 3 phase, 3 wire primary EDC distribution lines, a 3 phase or single-phase generator shall be connected phase-to-phase.

(v) When a customer-generator facility is to be connected to 3 phase, 4 wire primary EDC distribution lines, a 3 phase or single phase generator will be connected line-to-neutral and will be effectively grounded.

(vi) This Level 2 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 or fault protection function.

(vii) When the proposed small generator facility is to be interconnected on single-phase shared secondary line, the aggregate generation capacity on the shared secondary line, including the proposed small generator facility, will not exceed 20 kW.

(viii) When a 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.

(ix) A 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 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity (for example, three or four distribution busses from the point of interconnection).

(x) Except as permitted by an additional review under the standard small generator interconnection agreement, no construction of facilities by an EDC on its own system will be required to accommodate the small generator facility.

(3) The Level 2 interconnection procedure shall consist of:

(i) An EDC shall, within 10 business days after receipt of the interconnection Request, inform the applicant that the interconnection request is complete or incomplete and what materials are missing.

(ii) When an EDC determines additional information is required to complete an evaluation, the EDC shall request the information. The time necessary to complete the evaluation may be extended, but only to the extent of the delay required for receipt of the additional information. The EDC may not revert to the start of the review process or alter the interconnection customer's queue position.

(iii) When an interconnection request is complete, the EDC shall assign a queue position. The queue position of the interconnection request shall be used to determine the potential adverse system impact of the small generator facility based on the relevant screening criteria. The EDC shall schedule a scoping meeting to notify the interconnection customer about other higher-queued interconnection customers on the same substation bus or spot network for which interconnection is sought, except to the extent that doing so would compromise the confidentiality of information regarding any electric delivery customers of the EDC or other Interconnection Customers.

(iv) Within 20 business days after the EDC notifies the interconnection customer it has received a completed interconnection request, the EDC shall:

(A) Evaluate the interconnection request using the Level 2 screening criteria.

(B) Review the interconnection customer's analysis, if provided by interconnection customer, using the same criteria.

(C) 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.

(I) When an 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 20 ~~15~~ business days of the applicant's re-submittal. (***Note: This is consistent with MADRI & the number of days specified in (iv) above.)***

(v) Upon 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.

(4) When an EDC determines that the interconnection request passes the Level 2 screening criteria, or 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 5 business days after such determination.

(5) Additional review may be appropriate when a small generator facility has failed to meet one or more of the Level 2 screens. An 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 the applicant with a non-binding, good faith estimate of the costs of additional review and minor modifications. The EDC shall undertake the

additional review or modifications only after the applicant consents to pay for the review and modifications.

(6) An interconnection customer shall have 30 business days or another mutually agreeable timeframe after receipt of the standard small generator interconnection agreement to sign and return the agreement. When an interconnection customer does not sign the agreement within 30 business days, the interconnection request will be deemed withdrawn unless the interconnection customer requests to have the deadline extended. The request for extension may not be unreasonably denied by the EDC. When 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 may not become final until:

(i) The milestones agreed to in the standard small generator interconnection agreement are satisfied.

(ii) The small generator facility is approved by electric code officials with jurisdiction over the interconnection.

(iii) The interconnection customer provides a certificate of completion to the EDC.

(iv) There is a successful completion of the witness test, unless waived.

(7) 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 4 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. An EDC shall use the Level 3 review procedure to evaluate interconnection requests that meet the criteria below and for interconnection requests considered but not approved under a Level 2 or a Level 4 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 2MW.

(b) The small generator facility is less than 2 MW and not Certified.

(c) The small generator facility is less than 2 Mw 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 under Level 3 procedures may be waived.

(ii) Within 10 business days from receipt of an interconnection request <u>at the Designated Address</u>, the EDC shall notify the interconnection customer whether the request is complete. When the interconnection request is not complete, the EDC shall provide the interconnection customer a written list detailing information that shall 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 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) When an interconnection request is complete, the EDC shall assign a queue position. The queue position of an interconnection request shall be used to determine the cost responsibility necessary for the facilities to accommodate the interconnection. The EDC shall notify the interconnection customer at the scoping meeting about other higher-queued interconnection customers, except to the extent that doing so would compromise the confidentiality of information regarding any electric delivery customers of the EDC or other 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 that its interconnection request proceed after failing the requirements of a Level 2 review or Level 4 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 4 screening criteria.

(v) When the parties agree at a scoping meeting that an interconnection feasibility study shall be performed, the EDC shall provide to the interconnection customer, no later than 5 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) When the parties agree at a scoping meeting that an interconnection feasibility study is not required, 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) When the parties agree at the scoping meeting that an interconnection feasibility study and system impact study are not required, 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 shall 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:

(i) Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection.

(ii) Initial identification of any thermal or planning criteria overload or voltage limit violations resulting from the interconnection.

(iii) Initial review of grounding requirements and system protection.

(iv) 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.

(v) When an interconnection customer requests that the interconnection feasibility study evaluate multiple potential points of interconnection, additional evaluations may be required. Additional evaluations shall be paid by the interconnection customer.

(vi) An interconnection system impact study is not required when the interconnection feasibility study concludes there is no adverse system impact, or when the study identifies an adverse system impact, but the EDC is able to identify a remedy without the need for an interconnection system impact study.

(vii) The parties shall use a form of interconnection feasibility study agreement approved by the Commission.

(4) An interconnection system impact study shall evaluate the impact of the proposed interconnection on the safety and reliability of the EDC's electric distribution system and, if applicable, any Affected Systems. The study shall identify and detail the system impacts that result when a small generator facility is interconnected without project or system modifications, focusing on the adverse system impacts identified in the interconnection feasibility study; or potential impacts including those identified in the scoping meeting. The study shall consider all generating facilities that, on the date the interconnection system impact study is commenced, are directly interconnected with the EDC's system, are interconnected with Affected Systems and may have an impact on the proposed interconnection, have a pending higher queue position to interconnect to the system, or have a signed interconnection agreement.

(i) An interconnection system impact study shall:

(A) Consider the following criteria:

(I) A short circuit analysis.

(II) A stability analysis.

(III) Voltage drop and flicker studies.

(IV) Protection and set point coordination studies.

(V) Grounding reviews.

(B) State the underlying assumptions of the study.

(C) Show the results of the analyses.

(D) List any potential impediments to providing the requested interconnection service.

(E) Indicate required distribution upgrades and provide a non-binding good faith estimate of cost and time to construct the upgrades.

(ii) A distribution interconnection system impact study shall be performed when a potential distribution system adverse system impact is identified in the interconnection feasibility study. The EDC shall send the interconnection customer an interconnection system impact study agreement within 5 business days of transmittal of the interconnection feasibility study report. The agreement will include an outline of the scope of the study and a good faith estimate of the cost to perform the study. The study shall include:

(A) A load flow study.

(B) An analysis of equipment interrupting ratings.

(C) A protection coordination study.

(D) Voltage drop and flicker studies.

(E) Protection and set point coordination studies.

(F) Grounding reviews.

(G) Impact on system operation.

(iii) The parties shall use an interconnection impact study agreement or a distribution interconnection impact study as approved by the Commission.

(5) The interconnection facilities study shall be conducted as follows:

(i) Within 5 business days of completion of the interconnection system impact study, a report will be transmitted to the interconnection customer 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 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 identify:

(A) The electrical switching configuration of the equipment, including transformer, switchgear, meters, and other station equipment.

(B) The nature and estimated cost of the EDC's interconnection facilities and distribution upgrades necessary to accomplish the interconnection.

(C) An estimate of the time required to complete the construction and installation of such facilities.

(iii) The parties may agree to permit an interconnection customer to separately arrange for a third party to design and construct the required interconnection facilities. The EDC may review the design of the facilities under the interconnection facilities study agreement. When the parties agree to separately arrange for design and construction, and to comply with security and confidentiality requirements, the EDC shall make all relevant information and required specifications available to the interconnection customer to permit the interconnection customer to obtain an independent design and cost estimate for the facilities, which must be built in accordance with the specifications.

(iv) Upon completion of the interconnection facilities study, and with the agreement of the interconnection customer to pay for the 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) The parties shall use an interconnection facility study agreement approved by the Commission.

(6) When an EDC determines, as a result of the studies conducted under 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 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) An interconnection customer shall have 30 business days, or another mutually agreeable timeframe after receipt of the standard small generator interconnection agreement to sign and return the Agreement. When an interconnection customer does not sign the Agreement within 30 business days, the interconnection request will be deemed withdrawn unless the interconnection customer requests to have the deadline extended. The request for extension shall not be unreasonably denied by the EDC. When construction is required, the interconnection of the small generator facility shall proceed according to 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.

(ii) The small generator facility is approved by electric code officials with jurisdiction over the interconnection.

(iii) The interconnection customer provides a certificate of completion to the EDC.

(iv) There is a successful completion of the witness test, unless waived.

(j) *Level 4 interconnection review.*

(1) Interconnection customers desiring to interconnect a small generator facility that does not qualify for a Level 1 or Level 2 review may request to be evaluated under Level 4 procedures.

(2) When an 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 shall schedule a scoping meeting to notify the interconnection customer, except to the extent that doing so would compromise the confidentiality of information regarding any electric delivery customers of the EDC or other Interconnection Customers, about other higher-queued interconnection customers on the same substation bus or area network to which the interconnection customer seeks interconnection.

(3) When an interconnection customer submits 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~~ may use the procedures outlined below:

(i) When a small generator facility is less than or equal to 10 kW, the EDC ~~shall~~ may use the review procedures for a Level 4 Review, when 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 10 kW.

(B) The proposed small generator facility utilizes a certified inverter-based equipment package for interconnection.

(C) The customer-generator installs reverse power relays and/or other protection functions that prevent power flow beyond the point of interconnection.

(D) The aggregated other generation on the Area Network does not exceed the lesser of 5% of an Area Network's maximum load or 50 kW.

(ii) Construction of facilities by the EDC on its own system is not required to accommodate the small generator facility.

(iii) The proposed small generator facility meeting the criteria under 3(i) shall be presumed 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 an interconnection request under Level 1 interconnection review procedures. The EDC shall have 20 business days to conduct an area network impact study to determine potential adverse impacts of interconnecting to the EDC's area network. In the event the EDC does not have sufficient data to evaluate the interconnection in the specified period, the interconnection will be subject to a Level 3 review.

(B) When an area network impact study identifies potential adverse system impacts, the EDC may determine that it is inappropriate for the small generator facility to interconnect to the area network and the interconnection request shall be denied. The interconnection customer may elect to submit a new interconnection request for consideration under Level 3 procedures. The queue position assigned to the Level 4 interconnection request shall be retained.

(C) An EDC shall conduct the area network impact study at its own expense. ***(Note: This assumes that the costs associated with said study are recoverable through the AEPS cost recovery mechanism.)***

(iv) When an EDC denies an interconnection request, the EDC shall provide the interconnection customer with a copy of the area network impact study and a written justification for denying the interconnection request.

(v) When a small generator facility is greater than 10 kW and equal to or less than 50 kW, an EDC ~~shall~~ may use the review procedures set forth for a Level 4 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 kW and equal to or less than 50 kW.

(B) The proposed small generator facility utilizes a Certified inverter-based equipment package for interconnection.

(C) The customer-generator installs reverse power relays or other protection functions that prevent power flow beyond the point of interconnection.

(D) The aggregated other generation on the area network does not exceed the lesser of 5% of an Area Network's maximum load or 50 kW.

(vi) Construction of facilities by the EDC on its own system is not required to accommodate the Small Generator Facility.

(vii) The proposed small generator facility meeting the criteria under (j)(3)(v) shall be presumed to be appropriate for interconnecting to an area network and shall be further evaluated by an EDC using the following procedures:

(A) An EDC shall evaluate the interconnection request under Level 2 interconnection review procedures. The EDC shall have 25 business days to conduct an area network impact study to determine any potential adverse impacts of interconnecting to the EDC's area network. In the event the EDC does not have sufficient data to evaluate the interconnection in the specified period, the interconnection will be subject to a Level 3 review.

(B) When an area network impact study identifies potential adverse system impacts, an EDC may determine that it is inappropriate for the small generator facility to interconnect to the area network and the interconnection request shall be denied. The interconnection customer may elect to submit a new interconnection request for consideration under Level 3 procedures. The queue position assigned to the Level 4 interconnection request shall be retained.

(C) An EDC shall conduct the area network impact study at its own expense. ***(Note: This assumes that the costs associated with said study are recoverable through the AEPS cost recovery mechanism.)***

(D) When an EDC denies an interconnection request, the EDC shall provide the interconnection customer with a copy of its area network impact study and a written justification for denying the interconnection request.

(4) When interconnection to circuits that are not networked is requested, upon the mutual agreement of the EDC and the interconnection customer, the EDC may use the Level 4 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 MW or less.

(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 MW or less.

(iii) The small generator facility uses reverse power relays or other protection functions that prevent power flow onto the utility grid.

(iv) The small generator facility will be interconnected with a radial distribution circuit.

(v) The small generator facility is not served by a shared transformer.

(vi) The Small Generator Facility uses Certified Interconnection Equipment. ***(Note: This section appears to have been inadvertently deleted. It was included previously.)***

(vii) Construction of facilities by the EDC on its own system is not required to accommodate the small generator facility.

(5) When a small generator facility meets the criteria under (j)(4), an EDC shall interconnect under the Level 4 review if it meets the following requirements:

(i) A 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.

(ii) The aggregate generation capacity on the distribution circuit to which the small generator facility shall interconnect, including its capacity, may not cause any distribution protective equipment, or customer equipment on the distribution system, to exceed 80% of the short-circuit interrupting capability of the equipment. A small generator facility may not be connected to a circuit that already exceeds 80% of the short circuit interrupting capability.

(iii) When 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 shall be subject to a Level 3 review.

(iv) When a customer-generator facility is to be connected to 3-phase, 3 wire primary EDC distribution lines, a 3-phase or single-phase generator shall be connected phase-to-phase. When a customer-generator facility is to be connected to 3-phase, 4 wire primary EDC distribution lines, a 3-phase or single phase generator shall be connected line-to-neutral and shall be effectively grounded. This review shall include examination of the type of electrical service provided to the interconnection customer, including line configuration and the transformer connection, to limit the potential for 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) When a small generator facility fails to meet the criteria under (j)(5), an EDC shall use the Level 3 interconnection procedures. The queue position assigned to the Level 4 interconnection request shall be retained.

(7) When a small generator facility satisfies the criteria under (j)(5), an 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 4 Interconnection, an EDC shall approve the interconnection request and provide a standard interconnection agreement to the interconnection customer for signature.

(9) The interconnection customer shall have 30 business days, or another mutually agreeable timeframe after receipt of the standard small generator interconnection agreement to sign and return the agreement. If the interconnection customer does not sign the agreement within 30 business days, the interconnection request shall be deemed withdrawn unless the parties mutually agree to extend the time period for executing the agreement. After the agreement is signed by the parties, interconnection of the small generator facility will proceed according to milestones agreed to by the parties in the agreement. The agreement shall not be final until:

(i) The milestones agreed to in the standard small generator interconnection agreement are satisfied.

(ii) The small generator facility is approved by electric code officials with jurisdiction over the interconnection.

(iii) The interconnection customer provides a certificate of completion to the EDC.

(iv) There is a successful completion of the witness test, unless waived.

§ 75.24. Dispute Resolution.

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

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

(c) When disputes relate to the technical application of these regulations, 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. When the FERC identifies a national technical dispute resolution team, the Commission may designate the team as its technical master. Upon Commission designation, the parties shall use the technical master to resolve disputes related to interconnection. 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 may not affect an interconnection applicant with regard to consideration of an interconnection request or an interconnection applicant's position in the EDC's interconnection queue.

§ 75.25. Insurance and Indemnification.

(a) Customer-generators shall have general liability insurance in place with policy limits commensurate with industry standards based upon the size and type of generation equipment being utilized.