BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's own motion to improve distribution level interconnection rules and regulations for certain classes of electric generators and electric storage resources.	Rulemaking 11-09-011 (Filed September 22, 2011)

JOINT DISTRIBUTION GROUP STUDY TARIFF FILING OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) AND SAN DIEGO GAS & ELECTRIC COMPANY (U 902 E)

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February 19, 2013

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I. INTRODUCTION

Pacific Gas and Electric Company (PG&E) makes this filing on behalf of itself and San Diego Gas & Electric Company (SDG&E) pursuant to Rule 9.1 of the California Public Utilities Commission ("Commission" or "CPUC") Rules of Practice and Procedure and in compliance with Administrative Law Judge DeAngelis's December 12, 2012 email. Following up on the workshop, proposals and comments regarding a Rule 21 Distribution Group Study Process (DGSP) submitted last summer, PG&E and SDG&E provide draft tariff language for the Commission's consideration.

II. DRAFT TARIFF LANGUAGE IMPLEMENTING UPDATED DGSP PROPOSAL

The attached draft tariff language is based on the DGSP proposal filed by PG&E on July 10, 2012. This tariff will continue to be a work in progress and PG&E and SDG&E anticipate that revisions will continue to be made following the workshops and comments anticipated in the coming months. In addition there will likely be some adjustments needed given the interaction between Rule 21 and wholesale distribution tariff (WDT and WDAT for PG&E and SDG&E, respectively) projects that may be electrically interdependent. Of particular concern is the need to accommodate completion of the electric independence test for all projects entering both group processes at the same time that may be electrically interdependent. Given the potential for a

timeline squeeze, particularly in the first DGSP window of the year, PG&E and SDG&E have added language regarding the Distribution Group Study (DGS) Phase one study start date to the scoping meeting agenda items.[1] Throughout the attached document new language is indicated in redline format on PG&E's CPUC approved Rule 21 (Rule 21)[2].

III. CONCLUSION

PG&E and SDG&E look forward to Commission approval of their joint DGSP proposal.

Respectfully submitted,

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By: /s/
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On Behalf of the Joint Parties:
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San Diego Gas & Electric Company (U 902-E).

February 19, 2013

[1] This language is included in new subsection F.3.b.(ii)(v).

[2] PG&E's and SDG&E's Rule 21 tariffs are substantially the same and upon approval of this proposal by the CPUC, SDG&E would incorporate the redlined tariff language into its tariff.

ATTACHMENT

ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 1

TABLE OF CONTENTS (N)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21 Sheet 3
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21 Sheet 5
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21 Sheet 8
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ELECTRIC RULE NO. 21 Sheet 9
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21 Sheet 10
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21 Sheet 11
GENERATING FACILITY INTERCONNECTIONS

B. APPLICABILITY (N)

1. APPLICABILITY

This Rule describes the Interconnection, operating and Metering requirements for those Generating Facilities to be connected to Distribution Provider's Distribution System and Transmission System over which the California Public Utilities Commission (Commission) has jurisdiction. All Generating Facilities seeking Interconnection with Distribution Provider's Transmission System shall apply to the California Independent System Operator (CAISO) for Interconnection and be subject to CAISO Tariff except for 1) Net Energy Metering Generating Facilities and 2) Generating Facilities that do not export to the grid or sell any exports sent to the grid (Non-Export Generating Facilities). NEM Generating Facilities and Non-Export Generating Facilities subject to Commission jurisdiction shall interconnect under this Rule regardless of whether they interconnect to Distribution Provider's Distribution or Transmission System. Subject to the requirements of this Rule, Distribution Provider will allow the Interconnection of Generating Facilities with its Distribution or Transmission System.

Generating Facility interconnections to Distribution Provider's Distribution System that are subject to Federal Energy Regulatory Commission (FERC) jurisdiction shall apply under Distribution Provider's Wholesale Distribution Tariff (WDT) whether they interconnect to Distribution Provider's Distribution or Transmission System.

2. DEFINITIONS

Capitalized terms used in this Rule, and not defined in Distribution Provider's other tariffs shall have the meaning ascribed to such terms in Section C of this Rule. The definitions set forth in Section C of this Rule shall only apply to this Rule, the Interconnection Request, study agreements and Generator Interconnection Agreements, and may not apply to Distribution Provider's other tariffs. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 12
GENERATING FACILITY INTERCONNECTIONS

B. APPLICABILITY (Cont'd.) (N)

3. APPLICABLE CODES AND STANDARDS

This Rule has been harmonized with the requirements of American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) 1547-2003 Standards for Interconnecting Distributed Resources with Electric Power Systems. In some sections, IEEE 1547 language has been adopted directly, in others, IEEE 1547 requirements were interpreted and this Rule's language was changed to maintain the spirit of both documents.

The language from IEEE 1547 that has been adopted directly (as opposed to paraphrased language or previous language that was determined to be consistent with IEEE 1547) is followed by a citation that lists the clause from which the language derived. For example, IEEE 1547-4.1.1 is a reference to Clause 4.1.1.

In the event of any conflict between this Rule, any of the standards listed herein, or any other applicable standards or codes, the requirements of this Rule shall take precedence.

C. DEFINITIONS

The definitions in this Section C are applicable only to this Rule, the Interconnection Request, Study Agreements and Generator Interconnection Agreements.

Added Facilities: See Special Facilities.

Affected System: An electric system other than Distribution Provider's Distribution or Transmission System that may be affected by the proposed Interconnection.

Affected System Operator: The entity that operates an Affected System.

Affiliate: With respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Allocated Capacity: Existing aggregate generation capacity in megawatts (MW) interconnected to a substation/area bus, bank or circuit (i.e., amount of generation online). (N)

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ELECTRIC RULE NO. 21 Sheet 13
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Anti-Islanding: A control scheme installed as part of the Generating or Interconnection Facility that senses and prevents the formation of an Unintended Island.

Applicant: The entity submitting an Interconnection Request pursuant to this Rule.

Application: See Interconnection Request.

Available Capacity: Total Capacity less the sum of Allocated Capacity and Queued Capacity.

Base Case: Data including, but not limited to, base power flow, short circuit and dynamic/stability data bases, underlying load, generation, and transmission facility assumptions, contingency lists, including relevant special protection systems, and transmission diagrams used to perform the Interconnection Studies. The Base Case may include Critical Energy Infrastructure Information (as that term is defined by FERC). The Base Case shall include (a) transmission facilities as approved by Distribution Provider or CAISO, as applicable, (b) planned Distribution Upgrades that may have an impact on the Interconnection Request, (c) Distribution Upgrades and Network Upgrades associated with generating facilities in (iv) below, and (d) generating facilities that (i) are directly interconnected to the Distribution System or CAISO Controlled Grid; (ii) are interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending request to interconnect to the Distribution System or an Affected System; or (iv) are not interconnected to the Distribution System or CAISO Controlled Grid, but are subject to a fully executed Generator Interconnection Agreement (or its equivalent predecessor agreement) or for which an unexecuted Generator Interconnection Agreement (or its equivalent predecessor agreement) has been requested to be filed with FERC.

Business Day: Monday through Friday, excluding Federal and State Holidays.

CAISO Controlled Grid: The system of transmission lines and associated facilities that have been placed under the CAISO's Operational Control.

CAISO Tariff: The California Independent System Operator FERC Electric Tariff. (N)

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ELECTRIC RULE NO. 21 Sheet 14
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Calendar Day: Any day, including Saturday, Sunday or a Federal and State Holiday.

Certification Test: A test pursuant to this Rule that verifies conformance of certain equipment with Commission-approved performance standards in order to be classified as Certified Equipment. Certification Tests are performed by Nationally Recognized Test Laboratories (NRTLs).

Certification; Certified; Certificate: The documented results of a successful Certification Testing.

Certified Equipment: Equipment that has passed all required Certification Tests.

Commercial Operation: The status of a Generating Facility that has commenced generating electricity, excluding electricity generated during the period which Producer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Commercial Operation Date: The date on which a Generator at a Generating Facility commences Commercial Operation, as agreed to by the Parties.

Commission: The Public Utilities Commission of the State of California.

Commissioning Test: A test performed during the commissioning of all or part of a Generating Facility to achieve one or more of the following:

Verify specific aspects of its performance;

Calibrate its instrumentation;

Establish instrument or Protective Function set-points.

Confidential Information: See Section D.7.

Conservation Voltage Regulation (CVR): The CVR program that the Commission directed Distribution Provider to implement as applicable to the operation and design of distribution circuits and related service voltages. (N)

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ELECTRIC RULE NO. 21 Sheet 15
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Construction Activities: Actions by Distribution Provider that result in irrevocable financial commitments for the purchase of major electrical equipment or land for Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades assigned to the Interconnection Customer that occur after receipt of all appropriate governmental approvals needed for Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades.

Control Area: As defined in the CAISO Tariff.

Customer: The entity that receives or is entitled to receive Distribution Service through Distribution Provider's Distribution System or is a retail Customer of Distribution Provider connected to the Transmission System.

Dedicated Transformer; Dedicated Distribution Transformer: A transformer that provides electricity service to a single Customer. The Customer may or may not have a Generating Facility.

Delivery Network Upgrades: The transmission facilities at or beyond the point where Distribution Provider's Distribution System interconnects to the CAISO Controlled Grid, other than Reliability Network Upgrades, as defined in the CAISO Tariff.

Detailed Study: An Independent Study, a Distribution Group Study or a Transmission Cluster Study.

Detailed Study Agreement: The agreement entered into by the Interconnection Customer and Distribution Provider which sets forth the Parties' agreement to perform Interconnection Studies under the Independent Study Process or the Distribution Group Study Process.

Device: A mechanism or piece of equipment designed to serve a purpose or perform a function. The term may be used interchangeably with the terms "equipment" and function without intentional difference in meaning. See also Function and Protective Function.

DGS Phase I Interconnection Study: Distribution Group Study (DGS) Phase I Interconnection Study performed by the Distribution Provider under the Distribution Group Study Process per Section G.3.c.i. (N)

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ELECTRIC RULE NO. 21 Sheet 16
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

DGS Phase II Interconnection Study: Distribution Group Study (DGS) Phase II Interconnection Study performed by the Distribution provider under the Distribution Group Study Process per Section G.3.c.ii.

Dispute Resolution: See Section K.

Distribution Group Study: An interconnection engineering study as defined in Section F.3.b of a group comprised of Interconnection Requests that fail Screen R that will be studied pursuant to Section F.3.b because the Screen R results demonstrate they are electrically interdependent.

Distribution Group Study Process: The interconnection study process set forth in Section F.3.b.

Distribution Provider: Pacific Gas and Electric Company

Distribution Service: The service of delivering energy over the Distribution System pursuant to the approved tariffs of Distribution Provider other than services directly related to the Interconnection of a Generating Facility under this Rule.

Distribution Study Group: A group comprised of Interconnection Requests that fail Screen R that will be studied pursuant to Section F.3.b because the Screen R results demonstrate they are electrically interdependent.

Distribution System: All electrical wires, equipment, and other facilities owned or provided by Distribution Provider, other than Interconnection Facilities or the Transmission System, by which Distribution Provider provides Distribution Service to its Customers.

Distribution Upgrades: The additions, modifications, and upgrades to Distribution Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the Distribution Service. Distribution Upgrades do not include Interconnection Facilities.

Electrical Independence Test: The tests set forth in Section G.3 used to determine eligibility for the Independent Study Process. (N)

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ELECTRIC RULE NO. 21 Sheet 17
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Emergency: Whenever in Distribution Provider's discretion an Unsafe Operating Condition or other hazardous condition exists or whenever access is necessary for emergency service restoration, and such immediate action is necessary to protect persons, Distribution Provider's facilities or property of others from damage or interference caused by Interconnection Customer's Generating Facility, or the failure of protective device to operate properly, or a malfunction of any electrical system equipment or a component part thereof.

Energy-Only Deliverability Status: A condition elected by an Interconnection Customer for a Generating Facility interconnected to Distribution System, the result of which is that the Interconnection Customer is responsible only for the costs of Reliability Network Upgrades and is not responsible for the costs of Delivery Network Upgrades, but the Generating Facility will be deemed to have a Net Qualifying Capacity as defined in the CAISO Tariff of zero.

Engineering and Procurement Agreement: An agreement that authorizes Distribution Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the Interconnection in order to advance the implementation of the Interconnection Request.

Exporting Generating Facility: Any Generating Facility other than a Non-Export Generating Facility, NEM Generating Facility, or uncompensated Generating Facility.

Fast Track Process: The interconnection study process set forth in Section F.2.

Federal Energy Regulatory Commission: Referred to herein as FERC.

Field Testing: Testing performed in the field to determine whether equipment meets Distribution Provider's requirements for safe and reliable Interconnection.

Function: Some combination of hardware and software designed to provide specific features or capabilities. Its use, as in Protective Function, is intended to encompass a range of implementations from a single-purpose device to a section of software and specific pieces of hardware within a larger piece of equipment to a collection of devices and software.

Generating Facility: All Generators, electrical wires, equipment, and other facilities, excluding Interconnection Facilities, owned or provided by Producer for the purpose of producing electric power, including storage. (N)

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ELECTRIC RULE NO. 21 Sheet 18
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Generating Facility Capacity: The net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple Generators.

Generator: A device converting mechanical, chemical, or solar energy into electrical energy, including all of its protective and control functions and structural appurtenances. One or more Generators comprise a Generating Facility.

Generator Interconnection Agreement: An agreement between Distribution Provider and Producer providing for the Interconnection of a Generating Facility that gives certain rights and obligations to effect or end Interconnection. For the purpose of this Rule, Net Energy Metering or power purchase agreements authorized by the Commission are also defined as Generator Interconnection Agreements.

Good Utility Practice: Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority: Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Distribution Provider, or any Affiliate thereof.

Gross Rating; Gross Nameplate Rating; Gross Capacity or Gross Nameplate Capacity: The total gross generating capacity of a Generator or Generating Facility as designated by the manufacturer(s) of the Generator(s).

Host Load: The electrical power, less the Generator auxiliary load, consumed by the Customer, to which the Generating Facility is connected. (N)

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ELECTRIC RULE NO. 21 Sheet 19
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Independent Study Process: The interconnection study process set forth in Section F.3.d.

Independent Study Process Study Agreement: The agreement entered into by the Interconnection Customer and Distribution Provider which sets forth the Parties' agreement to perform Interconnection Studies under the Independent Study Process.

Initial Review: See Section F.2.a.

In-rush Current: The current determined by the In-rush Current Test.

In-Service Date: The estimated date upon which Applicant reasonably expects it will be ready to begin use of Distribution Provider's Interconnection Facilities.

Interconnection; Interconnected: The physical connection of a Generating Facility in accordance with the requirements of this Rule so that Parallel Operation with Distribution Provider's Distribution or Transmission System can occur (has occurred).

Interconnection Agreement: See Generator Interconnection Agreement.

Interconnection Customer: See Applicant.

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Interconnection Facilities: The electrical wires, switches and related equipment that are required in addition to the facilities required to provide electric Distribution Service to a Customer to allow Interconnection. Interconnection Facilities may be located on either side of the Point of Common Coupling as appropriate to their purpose and design. Interconnection Facilities may be integral to a Generating Facility or provided separately. Interconnection Facilities may be owned by either Producer or Distribution Provider.

Interconnection Facilities Study: A study conducted by Distribution Provider for an Interconnection Customer under the Independent Study Process to determine a list of facilities (including Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with Distribution Provider's Distribution or Transmission System. The scope of the study is defined in Section G.3.c. (N)

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ELECTRIC RULE NO. 21 Sheet 20
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Interconnection Financial Security: Any of the financial instruments listed in Section F.4.a.

Interconnection Request: An Applicant's request to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with Distribution Provider's Distribution or Transmission System.

Interconnection Study: A study to establish the requirements for Interconnection of a Generating Facility with Distribution Provider's Distribution System or Transmission System, pursuant to this Rule.

Interconnection System Impact Study: An engineering study conducted by Distribution Provider for an Interconnection Customer under the Independent Study Process that evaluates the impact of the proposed interconnection on the safety and reliability of Distribution Provider's Distribution and/or Transmission System and, if applicable, an Affected System. The scope of the study is defined in Section G.3.c.i.

Island; Islanding: A condition on Distribution Provider's Distribution System in which one or more Generating Facilities deliver power to Customers using a portion of Distribution Provider's Distribution System that is electrically isolated from the remainder of Distribution Provider's Distribution System.

Large Generating Facility: A Generating Facility having a Generating Facility Capacity of more than 20 MW.

Line Section: That portion of Distribution Provider's Distribution or Transmission System connected to a Customer bounded by automatic sectionalizing devices or the end of the distribution line.

Local Furnishing Bond: Tax-exempt bonds utilized to finance facilities for the local furnishing of electric energy, as described in Internal Revenue Code, 26 U.S.C. § 142(f).

Local Furnishing Distribution Provider: Any Distribution Provider that owns facilities financed by Local Furnishing Bonds.

Material Modification: Those modifications that have a material impact on cost or timing of any Interconnection Request with the same or a later queue priority date or a change in Point of Interconnection. A Material Modification does not include a change in ownership of a Generating Facility. (N)

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ELECTRIC RULE NO. 21 Sheet 21
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Metering: The measurement of electrical power in kilowatts (kW) and/or energy in kilowatt-hours (kWh), and if necessary, reactive power in kVAR at a point, and its display to Distribution Provider, as required by this Rule.

Metering Equipment: All equipment, hardware, software including meter cabinets, conduit, etc., that are necessary for Metering.

Momentary Parallel Operation: The Interconnection of a Generating Facility to the Distribution and Transmission System for one second (60 cycles) or less.

Nationally Recognized Testing Laboratory (NRTL): A laboratory accredited to perform the Certification Testing requirements under this Rule.

Net Energy Metering (NEM): Metering for the receipt and delivery of electricity between Producer and Distribution Provider pursuant to California Public Utilities Code (PUC) sections 2827, 2827.8, or 2827.10.

Net Generation Output Metering: Metering of the net electrical power output in kW or energy in kWh, from a given Generating Facility. This may also be the measurement of the difference between the total electrical energy produced by a Generator and the electrical energy consumed by the auxiliary equipment necessary to operate the Generator. For a Generator with no Host Load and/or Section 218 Load, Metering that is located at the Point of Common Coupling. For a Generator with Host Load and/or Section 218 Load, Metering that is located at the Generator but after the point of auxiliary load(s) and prior to serving Host Load and/or Section 218 Load.

Net Rating or Net Nameplate Rating: The Gross Rating minus the consumption of electrical power of the auxiliary load.

Network Upgrades: Delivery Network Upgrades and Reliability Network Upgrades.

Networked Secondary System: An AC distribution system where the secondaries of the distribution transformers are connected to a common bus for supplying electricity directly to consumers. There are two types of secondary networks: grid networks (also referred to as area networks or street networks) and Spot Networks. Synonyms: Secondary Network. Refer to IEEE 1547.6 for additional detail. (N)

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ELECTRIC RULE NO. 21 Sheet 22
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Non-Emergency: Conditions or situations that are not Emergencies, including but not limited to meter reading, inspection, testing, routine repairs, replacement, and maintenance.

Non-Export; Non-Exporting: When the Generating Facility is sized and designed such that the Generator output is used for Host Load only and is designed to prevent the transfer of electrical energy from the Generating Facility to Distribution Provider's Distribution or Transmission System as described in Appendix One.

Non-Islanding: Designed to detect and disconnect from a stable Unintended Island with matched load and generation. Reliance solely on under/over voltage and frequency trip is not considered sufficient to qualify as Non-Islanding.

Parallel Operation: The simultaneous operation of a Generator with power delivered or received by Distribution Provider while Interconnected. For the purpose of this Rule, Parallel Operation includes only those Generating Facilities that are Interconnected with Distribution Provider's Distribution or Transmission System for more than 60 cycles (one second).

Paralleling Device: An electrical device, typically a circuit breaker, operating under the control of a synchronization relay or by a qualified operator to connect an energized generator to an energized electric power system or two energized power systems to each other.

Party, Parties: Applicant or Distribution Provider.

Periodic Test: A test performed on part or all of a Generating Facility/Interconnection Facilities at pre-determined time or operational intervals to achieve one or more of the following: 1) verify specific aspects of its performance; 2) calibrate instrumentation; and 3) verify and re-establish instrument or Protective Function set-points.

Point of Common Coupling (PCC): The transfer point for electricity between the electrical conductors of Distribution Provider and the electrical conductors of Producer.

Point of Interconnection: The point where the Interconnection Facilities connect with Distribution Provider's Distribution or Transmission System. This may or may not be coincident with the Point of Common Coupling. (N)

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ELECTRIC RULE NO. 21 Sheet 23
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Pre-Construction Activities: The actions by Distribution Provider, other than those required by an Engineering and Procurement Agreement under Section F.3.f, undertaken prior to Construction Activities in order to prepare for the construction of Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades assigned to the Interconnection Customer, including, but not limited to, preliminary engineering, permitting activities, environmental analysis, or other activities specifically needed to obtain governmental approvals for Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades.

Producer: The entity that executes a Generator Interconnection Agreement with Distribution Provider. Producer may or may not own or operate the Generating Facility, but is responsible for the rights and obligations related to the Generator Interconnection Agreement.

Production Test: A test performed on each device coming off the production line to verify certain aspects of its performance.

Protective Function(s): The equipment, hardware and/or software in a Generating Facility (whether discrete or integrated with other functions) whose purpose is to protect against Unsafe Operating Conditions.

Prudent Electrical Practices: Those practices, methods, and equipment, as changed from time to time, that are commonly used in prudent electrical engineering and operations to design and operate electric equipment lawfully and with safety, dependability, efficiency, and economy.

Queue Position: See Section E.5.C.

Queued Capacity: Aggregate queued generation capacity (in MW) for a substation/area bus, bank or circuit (i.e., amount of generation in the queue).

Reasonable Efforts: With respect to an action required to be attempted or taken by a Party under this Rule, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Reliability Network Upgrades: The transmission facilities at or beyond the point where Distribution Provider's Distribution System interconnects to the CAISO Controlled Grid, necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, as defined in the CAISO Tariff.

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ELECTRIC RULE NO. 21 Sheet 24
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Section 218 Load: Electrical power that is supplied in compliance with California PUC section 218. PUC section 218 defines an "Electric Corporation" and provides conditions under which a transaction involving a Generating Facility would not classify a Producer as an Electric Corporation. These conditions relate to "over-the-fence" sale of electricity from a Generating Facility without using Distribution Provider's Distribution or Transmission System.

Short Circuit Contribution Ratio (SCCR): The ratio of the Generating Facility's short circuit contribution to the short circuit contribution provided through Distribution Provider's Distribution System for a three-phase fault at the high voltage side of the distribution transformer connecting the Generating Facility to Distribution Provider's Distribution System.

Single Line Diagram; Single Line Drawing: A schematic drawing, showing the major electric switchgear, Protective Function devices (including relays, current transformer and potential transformer configurations/wiring in addition to circuit breakers/fuses), wires, Generators, transformers, meters and other devices, providing relevant details to communicate to a qualified engineer the essential design and safety of the system being considered.

Site Exclusivity: Documentation reasonably demonstrating: (1) For private land: (a) Ownership of, a leasehold interest in, or a right to develop property upon which the Generating Facility will be located consisting of a minimum of 50% of the acreage reasonably necessary to accommodate the Generating Facility; or (b) an option to purchase or acquire a leasehold interest in property upon which the Generating Facility will be located consisting of a minimum of 50% of the acreage reasonably necessary to accommodate the Generating Facility. (2) For public land, including that controlled or managed by any federal, state or local agency, a final, non-appealable permit, license, or other right to use the property for the purpose of generating electric power and in acreage reasonably necessary to accommodate the Generating Facility, which exclusive right to use public land under the management of the federal Bureau of Land Management shall be in a form specified by the Bureau of Land Management. The demonstration of Site Exclusivity, at a minimum, must be through the Commercial Operation Date of the new Generating Facility or increase in capacity of the existing Generating Facility.

Small Generating Facility: A Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Special Facilities: As defined in Distribution Provider's Rule 2. (N)

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ELECTRIC RULE NO. 21 Sheet 25
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Spot Network: For purposes of this Rule, a Spot Network is a type of distribution system found within modern commercial buildings to provide high reliability of service to a single customer.

Starting Voltage Drop: The percentage voltage drop at a specified point resulting from In-rush Current. The Starting Voltage Drop can also be expressed in volts on a particular base voltage, (e.g. 6 volts on a 120-volt base, yielding a 5% drop).

Supplemental Review: See Section F.2.c.

System Integrity: The condition under which Distribution Provider's Distribution and Transmission System is deemed safe and can reliably perform its intended functions in accordance with the safety and reliability rules of Distribution Provider.

Telemetering: The electrical or electronic transmittal of Metering data on a real-time basis to Distribution Provider.

Total Capacity: Capacity (in MW) of substation/area bus, bank or circuit based on normal or operating ratings.

Transfer Trip: A Protective Function that trips a Generating Facility remotely by means of an automated communications link controlled by Distribution Provider.

Transient/Dynamic Stability: The ability of an electrical system to withstand disturbances. Transient/Dynamic Stability studies are performed to ensure power system stability and are time-based simulations that assess the performance of the power system during and shortly following system disturbances.

Transmission Cluster Study Process: The cluster study process as defined in Distribution Provider's Wholesale Distribution Tariff.

Transmission System: Transmission facilities owned by Distribution Provider that have been placed under the CAISO's operational control and are part of the CAISO Controlled Grid, as defined in the CAISO Tariff.

Type Test: A test performed on a sample of a particular model of a device to verify specific aspects of its design, construction and performance. (N)

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ELECTRIC RULE NO. 21 Sheet 26
GENERATING FACILITY INTERCONNECTIONS

C. DEFINITIONS (Cont'd.) (N)

Unintended Island: The creation of an Island, usually following a loss of a portion of Distribution Provider's Distribution System, without the approval of Distribution Provider.

Unsafe Operating Conditions: Conditions that, if left uncorrected, could result in harm to personnel, damage to equipment, loss of System Integrity or operation outside pre-established parameters required by the Generator Interconnection Agreement.

Wholesale Distribution Tariff: PG&E's Wholesale Distribution Tariff (WDT)

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS

1. AUTHORIZATION REQUIRED TO OPERATE

A Producer must comply with this Rule, execute a Generator Interconnection Agreement with Distribution Provider, and receive Distribution Provider's express written permission before Parallel Operation of its Generating Facility with Distribution Provider's Distribution or Transmission System. Distribution Provider shall apply this Rule in a non-discriminatory manner and shall not unreasonably withhold its permission for Parallel Operation of Producer's Generating Facility with Distribution Provider's Distribution or Transmission System.

2. SEPARATE AGREEMENTS REQUIRED FOR OTHER SERVICES

A Producer requiring other electric services from Distribution Provider including, but not limited to, Distribution Service during periods of curtailment or interruption of Producer's Generating Facility, must enter into agreements with Distribution Provider for such services in accordance with Distribution Provider's Commission-approved tariffs.

3. SERVICES UNDER THIS TARIFF LIMITED TO INTERCONNECTION

Interconnection with Distribution Provider's Distribution or Transmission System under this Rule does not provide a Producer any rights to utilize Distribution Provider's Distribution or Transmission System for the transmission, distribution, or wheeling of electric power, nor does it limit those rights. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 27
GENERATING FACILITY INTERCONNECTIONS

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (N)

4. COMPLIANCE WITH LAWS, RULES, AND TARIFFS

A Producer shall ascertain and comply with applicable Commission-approved tariffs of Distribution Provider; applicable FERC-approved rules, tariffs, and regulations; and any local, state or federal law, statute or regulation which applies to the design, siting, construction, installation, operation, or any other aspect of Producer's Generating Facility and Interconnection Facilities.

5. DESIGN REVIEWS AND INSPECTIONS

Distribution Provider shall have the right to review the design of a Producer's Generating and Interconnection Facilities and to inspect a Producer's Generating and/or Interconnection Facilities prior to the commencement of Parallel Operation with Distribution Provider's Distribution or Transmission System. Distribution Provider may require a Producer to make modifications as necessary to comply with the requirements of this Rule. Distribution Provider's review and authorization for Parallel Operation shall not be construed as confirming or endorsing Producer's design or as warranting the Generating Facilities' and/or Interconnection Facilities' safety, durability or reliability. Distribution Provider shall not, by reason of such review or lack of review, be responsible for the strength, adequacy, or capacity of such equipment.

6. RIGHT TO ACCESS

A Producer's Generating Facility and/or Interconnection Facilities shall be reasonably accessible to Distribution Provider personnel as necessary for Distribution Provider to perform its duties and exercise its rights under its tariffs approved by the Commission, and under any Generator Interconnection Agreement between Distribution Provider and Producer. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 28
GENERATING FACILITY INTERCONNECTIONS

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (N)

7. CONFIDENTIALITY

a. Scope

Confidential Information shall include, without limitation, confidential, proprietary or trade secret information relating to the present or planned business of Applicant, Customer, Producer, or Distribution Provider (individually referred to in Section D.7 as Party or collectively as Parties), including all information relating to a Party's technology, research and development, business affairs, and pricing. Distribution Provider shall not use the information contained in the Interconnection Request to propose discounted tariffs to the Customer unless authorized to do so by the Customer or the information is provided to Distribution Provider by the Customer through other means.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document (including electronic materials), or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential. For purposes of this Rule all design, operating specifications, and metering data provided by Applicant shall be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such, except as provided in section D.7.b. below.

If requested by either Party, the other Party shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

b. Limitations on Scope

Confidential Information shall not include information pertaining to each Interconnection Request that may be provided in a publicly-posted queue pursuant to Section E.5.d of this Rule. (N)

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ELECTRIC RULE NO. 21 Sheet 29
GENERATING FACILITY INTERCONNECTIONS

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (N)

7. CONFIDENTIALITY (Cont'd.)

b. Limitations on Scope (Cont'd.)

Confidential Information shall not include information that: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party; or (6) is required, in accordance with Section D.7.d, Required Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena.

Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

c. Disclosure to Commission, FERC, or their respective Staff

Notwithstanding anything in this Section D.7 to the contrary, and pursuant to 18 CFR section 1b.20 in the case of disclosure to FERC, if the Commission, FERC, or their respective staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Rule, the Party shall provide the requested information to the Commission, FERC, or their respective staff, within the time provided for in the request for information. In providing the information to the Commission, FERC, or their respective staff, the Party shall, pursuant to PUC section 583 and General Order 66-C in the case of disclosure to the Commission, and consistent with 18 CFR section 388.112 in the case of disclosure to FERC, request that the information be treated as confidential and non-public by the Commission, FERC, and their respective staff and that the information be withheld from public disclosure. Requests from another state regulatory body with jurisdiction conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 30
GENERATING FACILITY INTERCONNECTIONS

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (N)

7. CONFIDENTIALITY (Cont'd.)

d. Required Disclosure

Subject to the exception in Section D.7.c, any information that a Party claims is Confidential Information shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) required by law or pursuant to an order of the Commission or FERC; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; (iv) necessary to fulfill its obligations under this Rule; or (v) as a transmission or distribution service provider or a Control Area operator, including disclosing the Confidential Information to a Regional Transmission Organization or CAISO, or to a sub-regional, regional or national reliability organization or planning group under the applicable confidentiality provisions in the relevant tariffs. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

8. PRUDENT OPERATION AND MAINTENANCE REQUIRED

A Producer shall operate and maintain its Generating Facility and Interconnection Facilities in accordance with Prudent Electrical Practices and shall maintain compliance with this Rule. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 31
GENERATING FACILITY INTERCONNECTIONS

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (N)

9. CURTAILMENT AND DISCONNECTION

Distribution Provider may limit the operation or disconnect or require the disconnection of a Producer's Generating Facility from Distribution Provider's Distribution or Transmission System at any time, with or without notice, in the event of an Emergency, or to correct Unsafe Operating Conditions. Distribution Provider may also limit the operation or disconnect or require the disconnection of a Producer's Generating Facility from Distribution Provider's Distribution or Transmission System upon the provision of reasonable written notice: 1) to allow for routine maintenance, repairs or modifications to Distribution Provider's Distribution or Transmission System; 2) upon Distribution Provider's determination that a Producer's Generating Facility is not in compliance with this Rule; or 3) upon termination of the Generator Interconnection Agreement. Upon Producer's written request, Distribution Provider shall provide a written explanation of the reason for such curtailment or disconnection.

10. LOCAL FURNISHING BONDS

If a proposed Interconnection of a Generating Facility would impair the tax-exempt status of interest on the Local Furnishing Bonds or the deductibility of interest expense on the Local Furnishing Bonds to the Local Furnishing Distribution Provider under the Internal Revenue Code, Treasury Regulations and/or applicable IRS rulings, the Interconnection Customer will be required to pay the costs properly attributable to the proposed Interconnection of such Generating Facility. The Interconnection Study shall specify and estimate the cost of all remedial measures that address the financial impacts, if any, on Local Furnishing Bonds that would result from an Interconnection. (N)

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ELECTRIC RULE NO. 21 Sheet 32
GENERATING FACILITY INTERCONNECTIONS

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (N)

11. COORDINATION WITH AFFECTED SYSTEMS

Distribution Provider will notify the Affected System Operators that are potentially affected by an Applicant's Interconnection Request or group of Interconnection Requests. Distribution Provider will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System Operators and, if possible, include those results (if available) in its applicable Interconnection Study within the time frame specified in this Rule. Distribution Provider will include such Affected System Operators in all meetings held with Applicant as required by this Rule. Applicant will cooperate with Distribution Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A transmission provider which may be an Affected System shall cooperate with Distribution Provider with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems. Applicant shall enter into an agreement with the owner of the Affected System, as applicable. The agreement shall specify the terms governing payments to be made by Applicant to the owner of the Affected System as well as the repayment, if applicable, by the owner of the Affected System.

12. TRANSFERABILITY OF INTERCONNECTION REQUEST

An Applicant may transfer its Interconnection Request to another entity only if such entity acquires the proposed Generating Facility identified in the Interconnection Request and the Point of Interconnection does not change.

13. SPECIAL PROVISIONS APPLICABLE TO NET ENERGY METERED APPLICANTS

Notwithstanding any other provision in this Rule:

a. ~~1.~~ For Generating Facilities qualifying for service under PUC ~~s~~Sections 2827, 2827.8 and 2827.10 Distribution Provider may proceed from Initial to Supplemental Review to Independent Study Process or Distribution Group Study Process to further study without waiting for Applicant concurrence, since Applicant is not responsible for payment of study costs. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 33
GENERATING FACILITY INTERCONNECTIONS

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (N)

13. SPECIAL PROVISIONS APPLICABLE TO NET ENERGY METERED APPLICANTS (Cont'd.)

b. For Generating Facilities qualifying for service under PUC ~~s~~Sections 2827 and 2827.8 Distribution Provider approval for Interconnection shall normally be processed not later than thirty (30) Business Days following Distribution Provider's receipt of 1) a completed Net Energy Metering Interconnection Request including all supporting documents and required payments; 2) a completed signed Net Energy Metering Generator Interconnection Agreement; and 3) evidence of Applicant's final electric inspection clearance from the Governmental Authority having jurisdiction over the Generating Facility. If the 30-day period cannot be met, Distribution Provider shall notify Applicant and the Commission of the reason for the inability to process the Interconnection Request and the expected completion date. However, Applicants with PUC ~~s~~Section 2827 Generating Facilities that include non-inverter based Generators and/or Generators with non-Certified Equipment should plan to submit a completed Net Energy Metering Interconnection Request including all supporting documents sufficient for Distribution Provider to start the review process in Section F.2.a without waiting for the final inspection clearance. Applicants with such Generating Facilities are advised to submit their Interconnection Request at least six (6) months in advance of their planned Commercial Operation Date. Depending on the size and location of these Generating Facilities, additional time for review may be required and could include Supplemental Review (twenty (20) Business Days), a System Impact Study (sixty (60) Calendar Days), and a Facilities Study (sixty (60) to ninety (90) Calendar Days depending on whether upgrades to the electric system are identified) as set out in Section F. The advance submission of the Interconnection Request will better accommodate Distribution Provider's review and studies in a manner consistent with the timelines established in this Rule that may be required to complete the processing for interconnection of non-inverter based Generators and/or Generators with non-Certified Equipment.

c. Unless Net Generator Output Metering is required, Metering Equipment necessary to obtain service under PUC ~~s~~Sections 2827 and 2827.8 shall be installed and operational within the timeframe required to complete Interconnection.

(N)

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ELECTRIC RULE NO. 21 Sheet 34
GENERATING FACILITY INTERCONNECTIONS

D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (N)

SPECIAL PROVISIONS APPLICABLE TO NET ENERGY METERED APPLICANTS (Cont'd.)

d. ~~4.~~ An Applicant with a Fast Track Interconnection Request for a Net Energy Metering or Non-Export Generating Facility that 1) goes for more than one year from the date of Distribution Provider's written notification that the Interconnection Request is valid without a signed Generator Interconnection Agreement, or 2) has a Generating Facility that has not been approved for Parallel Operation within one year of completion of all applicable review and/or studies, is subject to withdrawal by Distribution Provider; however, Distribution Provider may not deem the Interconnection Request to be withdrawn if the i) Applicant provides reasonable evidence that the Interconnection Request is still active or ii) if the delay is at no fault of Applicant.

14. COMPLIANCE WITH ESTABLISHED TIMELINES

Distribution Provider shall use Reasonable Efforts in meeting all the timelines provided for under this Rule. In the event Distribution Provider is not able to meet a particular timeline set forth in this Rule, Distribution Provider shall notify Applicant as soon as practicable and provide an estimated completion date with an explanation of the reasons why additional time is needed. Any Applicant dissatisfied with the Reasonable Efforts of Distribution Provider may use the informal procedures set out in Section F.1.d and/or the Dispute Resolution process in Section K.

15. MODIFICATION OF TIMELINES

Distribution Provider and Applicant, for good cause, may agree to modify any of the timelines in this Rule. The modified timeline shall be mutually agreed upon, in writing, between Distribution Provider and Applicant. (N)

~~2.~~

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ELECTRIC RULE NO. 21 Sheet 35
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (N)

1. OPTIONAL PRE-APPLICATION REPORT

Upon receipt of a completed Pre-Application Report Request and a non-refundable processing fee of $300, Distribution Provider shall provide pre-application data described in this section within ten (10) Business Days of receipt. The Pre-Application Report Request shall include a proposed Point of Interconnection, generation technology and fuel source. The proposed Point of Interconnection shall be defined by latitude and longitude, site map, street address, utility equipment number (e.g. pole number), meter number, account number or some combination of the above sufficient to clearly identify the location of the point of interconnection.

The Pre-Application Report will include the following information if available:

a. Total Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.

b. Allocated Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.

c. Queued Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.

d. Available Capacity (MW) of substation/area bus or bank and circuit most likely to serve proposed site.

e. Substation nominal distribution voltage or transmission nominal voltage if applicable.

f. Nominal distribution circuit voltage at the proposed site.

g. Approximate circuit distance between the proposed site and the substation.

h. Relevant Line Section(s) peak load estimate, and minimum load data, when available.

i. Number of protective devices and number of voltage regulating devices between the proposed site and the substation/area.

j. Whether or not three-phase power is available at the site. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 36
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

1. PRE-APPLICATION REPORT (Cont'd.)

k. Limiting conductor rating from proposed Point of Interconnection to distribution substation.

l. Based on proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

The Pre-Application Report need only include pre-existing data. A Pre-Application Report request does not obligate Distribution Provider to conduct a study or other analysis of the proposed project in the event that data is not available. If Distribution Provider cannot complete all or some of a Pre-Application Report due to lack of available data, Distribution Provider will provide Applicant with a Pre-Application Report that includes the information that is available.

In requesting a Pre-Application Report, Applicant understands that 1) the existence of "Available Capacity" in no way implies that an interconnection up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, 2) the distribution system is dynamic and subject to change and 3) data provided in the Pre-Application Report may become outdated and not useful at the time of submission of the complete Interconnection Request. Notwithstanding any of the provisions of this Section, Distribution Provider shall, in good faith, provide Pre-Application Report data that represents the best available information at the time of reporting. (N)

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ELECTRIC RULE NO. 21 Sheet 37
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

2. INTERCONNECTION REQUEST PROCESS

a. Applicant Initiates Contact with Distribution Provider

Upon request, Distribution Provider will provide information and documents (such as sample agreements, Interconnection Request, technical information, listing of Certified Equipment, Initial and Supplemental Review fee information, applicable tariff schedules and Metering requirements) to a potential Applicant. Unless otherwise agreed upon, all such information shall normally be sent to an Applicant within three (3) Business Days following the initial request from Applicant. Distribution Provider will establish an individual representative as the single point of contact for Applicant, but may allocate responsibilities among its staff to best coordinate the Interconnection of an Applicant's Generating Facility.

b. Applicant Selects a Study Process

An Applicant may select one of two interconnection evaluation processes in accordance with the following eligibility requirements:

i) Fast Track Eligibility

Non-Exporting and Net Energy Metered Generating Facilities are eligible for Fast Track evaluation regardless of the Gross Nameplate Rating of the proposed Generating Facility. Exporting Generating Facilities with a Gross Nameplate Rating no larger than 3.0 MW on a 12 kV or higher voltage interconnection point for PG&E are also eligible for Fast Track evaluation.

For an Exporting Generating Facility that agrees to the installation of Distribution Provider-approved protective devices at Applicant's cost such that the Exporting Generating Facility's net export will never exceed the Fast Track eligibility limits, the Generating Facility's net export will be considered for purposes of Fast Track eligibility. However, these Interconnection Requests will be required to complete Supplemental Review and Applicants should pre-pay for Supplemental Review at the time the Interconnection Request is submitted. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 38
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

2. INTERCONNECTION REQUEST PROCESS (Cont'd.)

b. Applicant Selects a Study Process (Cont'd.)

ii) Detailed Study Eligibility

Interconnection Requests that are not eligible for Fast Track evaluation must apply for Detailed Study. An Applicant may also choose to apply directly for Detailed Studies. Detailed Study shall require (i) an Independent Study Process, (ii) a Distribution Group Study Process, or (iii) a Transmission Cluster Study Process. The specific study process used will depend on the results of the Electrical Independence Tests for the Transmission and Distribution Systems.

iii) Request for Deliverability Assessment

Unless specified otherwise in the Interconnection Request, Generating Facilities eligible to be studied under the Fast Track Process, Independent Study Process or Distribution Group Study Process will be assumed to have selected Energy-Only Deliverability Status. Nothing herein will prohibit an Applicant from seeking a deliverability assessment in accordance with the WDT. Applicants studied under the Transmission Cluster Study Process may seek a deliverability assessment in accordance with the applicable provisions of the WDT.

c. Applicant Completes an Interconnection Request

All Applicants shall submit a complete and valid Interconnection Request. When applicable per Table E.1, a nonrefundable $800 Interconnection Request fee, and for Applicants that elect Detailed Study in the Interconnection Request, a study deposit shall be required per instructions in the Interconnection Request. Applicants who proceed to Detailed Study after Fast Track will provide a Detailed Study deposit as specified in Section E.3.a.

Applicant shall submit a separate Interconnection Request for each Point of Interconnection. An Interconnection Request for the expansion of capacity of an existing operating Generating Facility shall be treated the same as an Interconnection Request for a new Generating Facility pursuant to this Rule. (N)

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ELECTRIC RULE NO. 21 Sheet 39
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

2. INTERCONNECTION REQUEST PROCESS (Cont'd.)

c. Applicant Completes an Interconnection Request (Cont'd.)

i) Interconnection Requests for the Independent Study Process will be accepted throughout the year, except during the Distribution Group Study windows described below.

ii) Interconnection Requests to be studied under the Distribution Group Study Process shall either be (a) an Independent Study Process Interconnection Request that passed screen Q and failed Screen R for which the Applicant elects to continue to the next available Distribution Group Study, or (b) an Interconnection Request submitted during a Distribution Group Study Application window that passes Screen Q.

There will normally be two (2) Distribution Group Study Application windows annually. The first Distribution Group Study Application window will usually open on March 1 and close on March 31. The second Distribution Group Study Application window will usually open on September 1 and close on September 30. In the event that any date set in this Section is not a Business Day, then the applicable date shall be the next Business Day thereafter.

The Distribution Provider may change the Distribution Group Study Application window interval and opening or closing dates. Any changes will be posted on the Distribution Provider's website. If there is a conflict between the Distribution Group Study Application window interval and opening or closing dates posted on the Distribution Provider's website and the dates identified in the paragraph above, the dates posted on the Distribution Provider's website shall apply. (N)

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ELECTRIC RULE NO. 21 Sheet 40
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

2. INTERCONNECTION REQUEST PROCESS (Cont'd.)

c. Applicant Completes an Interconnection Request (Cont'd.)

TABLE E-1

Summary of Interconnection Request Fees, Deposits and Exemptions

Generating Facility Type	Interconnection Request Fee	Supplemental Review Fee	Detailed Study Deposit	Additional Commissioning Test Verification
Non-Net Energy Metering	$800	$2,500	For a Generating Facility with a Gross Nameplate Rating of 5 MW or less and applying to the Independent Study Process, $10,000 for a System Impact Study or the DGS Phase I Interconnection Study in the case of the Distribution Group Study Process~~,~~ ; ~~$10,000 for a System Impact Study~~ and $15,000 for an Interconnection Facilities Study or DGS Phase II Interconnection Study in the case of the Distribution Group Study Process. For a Generating Facility with a Gross Nameplate Rating above 5 MW, $50,000 plus $1,000 per MW of electrical output of the Generating Facility, or the increase in electrical output of the existing Generation Facility, as applicable, rounded up to the nearest whole MW, up to a maximum of $250,000.	$150/Person Hour *
Net Energy Metering (per PUC sections 2827, 2827.8, or 2827.10 (per D.02-03-057)	$0	$0	$0	N/A
Solar 1MW or less that does not sell power to Distribution Provider (per D.01-07-027)	First $5,000 of study fees waived			$150/Person Hour *

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ELECTRIC RULE NO. 21 Sheet 40
GENERATING FACILITY INTERCONNECTIONS

*Plus additional costs for travel, lodging and meals.

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ELECTRIC RULE NO. 21 Sheet 41
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

2. INTERCONNECTION REQUEST PROCESS (Cont'd.)

d. Site Exclusivity

Documentation of Site Exclusivity must be submitted with the Interconnection Request. This requirement does not apply to Applicants with NEM or Non-Export Generating Facilities.

3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT

The Interconnection Request fee shall be waived for Interconnection Requests pursuant to PUC Sections 2827, 2827.8, or 2827.10, per Commission Decision 02-03-057 and for solar-powered Generating Facilities that do not sell power to Distribution Provider per Commission Decision 01-07-027. Generating Facilities eligible for Net Energy Metering under PUC Sections 2827, 2827.8, or 2827.10 are exempt from any costs associated with Interconnection Studies. Interconnection Study fees for solar Generating Facilities up to 1 MW interconnecting to the Distribution System that do not sell power to the grid will be waived up to the amount of $5,000.

a. Detailed Study Deposit

i) Detailed Study Deposit

To proceed with Detailed Study, Applicant must submit a ~~d~~Detailed ~~s~~Study deposit.

For a Generating Facility with a Gross Nameplate Rating of 5 MW or less, Applicant must submit a Detailed Study deposit of $10,000 for the Interconnection System Impact Study or the DGS Phase I Interconnection Study, and where an Interconnection Facilities Study or DGS Phase II Interconnection Study in the case of the Distribution Group Study Process is required, an additional $15,000 deposit must be submitted as required in Section F.3.b.viii or F.3.d.viii.

For a Generating Facility with a Gross Nameplate Rating above 5 MW, Applicant must submit a Detailed Study deposit equal to $50,000 plus $1,000 per MW of electrical output of the Generating Facility, or the increase in electrical output of the existing Generating Facility, as applicable, rounded up to the nearest whole MW, up to a maximum of $250,000. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 42
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.)

a. Detailed Study Deposit (Cont'd.)

ii) Use of Detailed Study Deposit

The Detailed Study deposit shall be applied to pay for prudent costs incurred by Distribution Provider, the CAISO, or third parties at the direction of Distribution Provider or CAISO, as applicable, to perform and administer the Interconnection Studies. Deposit amounts that exceed the prudent costs incurred by Distribution Provider shall be refunded to Applicant within sixty (60) Calendar Days following the issuance of the final study applicable to the Interconnection Request.

The interconnection study costs for a Distribution Study Group shall be allocated equally among the Interconnection Requests within the group.

The Detailed Study deposits shall be refundable as follows:

(1) Should an Interconnection Request be withdrawn by Applicant or be deemed withdrawn by Distribution Provider by written notice under Section F.6 on or before thirty (30) Calendar Days following the scoping meeting, Distribution Provider shall refund to Applicant any portion of Applicant's ~~d~~Detailed ~~s~~Study deposit that exceeds the costs Distribution Provider, CAISO, and third parties have incurred on Applicant's behalf, including interest from the date of receipt by Distribution Provider to the date of payment to Applicant. The applicable interest shall be one-twelfth of the Federal Reserve three-month Commercial Paper Rate – Non-Financial, from the Federal Reserve Statistical Release H.15 (expressed as an annual rate).

(N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 43
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.)

a. Detailed Study Deposit (Cont'd.)

ii) Use of Detailed Study Deposit (Cont'd.)

(2) Should an Interconnection Request that has moved into the Detailed Study Process be withdrawn by Applicant or be deemed withdrawn by Distribution Provider by written notice under Section F.6 more than thirty 930) Calendar Days after the scoping meeting, but on or before thirty (30) Calendar Days following the results meeting for the Interconnection System Impact Study or DGS Phase I Interconnection Study, Distribution Provider shall refund to Applicant the difference between (i) Applicant's ~~d~~Detailed ~~s~~Study deposit and (ii) the greater of the costs Distribution Provider, CAISO, and third parties have incurred on Applicant's behalf or one-half of the original ~~d~~Detailed ~~s~~Study deposit up to a maximum of $100,000, including interest from the date of receipt by Distribution Provider to the date of payment to Applicant. The applicable interest shall be one-twelfth of the Federal Reserve three-month Commercial Paper Rate – Non-Financial, from the Federal Reserve Statistical Release H.15 (expressed as an annual rate).

(3) Should an Interconnection Request be withdrawn by Applicant or be deemed withdrawn by Distribution Provider by written notice under Section F.6 at any time more than thirty (30) Calendar Days after the results meeting for the Interconnection System Impact Study or DGS Phase Interconnection Study, the ~~d~~Detailed ~~s~~Study deposit shall be non-refundable. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 44
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.)

a. Detailed Study Deposit (Cont'd.)

ii) Use of Detailed Study Deposit (Cont'd.)

(4) Upon execution of a Generator Interconnection Agreement by an Applicant and Distribution Provider, Distribution Provider shall refund to Applicant any portion of Applicant's dDetailed sStudy deposit that exceeds the costs Distribution Provider, CAISO, and third parties have incurred on Applicant's behalf, including interest from the date of receipt by Distribution Provider to the date of payment to Applicant. The applicable interest shall be one-twelfth of the Federal Reserve three-month Commercial Paper Rate – Non-Financial, from the Federal Reserve Statistical Release H.15 (expressed as an annual rate).

iii) Impact of Withdrawal

Notwithstanding the foregoing, an Applicant that withdraws or is deemed to have withdrawn its Interconnection Request shall be obligated to pay to Distribution Provider all costs in excess of the ~~d~~Detailed ~~s~~Study deposit that have been prudently incurred or irrevocably have been committed to be incurred with respect to that Interconnection Request prior to withdrawal. Distribution Provider will reimburse the CAISO or third parties, as applicable, for all work performed on behalf of the withdrawn Interconnection Request at Distribution Provider's direction. Applicant must pay all monies due before it is allowed to obtain any Interconnection Study data or results. Any proceeds of the Detailed Study deposit not otherwise reimbursed to Applicant or applied to costs incurred or irrevocably committed to be incurred for the interconnection studies shall be applied as directed by the Commission. Where an Applicant with remaining proceeds from a Detailed Study deposit cannot be located, such remaining proceeds shall escheat to the State pursuant to the Unclaimed Property Law commencing with the California Code of Civil Procedure § 1500. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 45
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.)

a. Detailed Study Deposit (Cont'd.)

iv) Special Circumstances

Applicant may propose, and Distribution Provider may agree to reduced costs for reviewing atypical Interconnection Requests, such as Interconnection Requests submitted for multiple Generating Facilities, multiple sites, or otherwise as conditions warrant.

4. INTERCONNECTION COST RESPONSIBILITY

An Applicant, or a Producer where those are different entities, is responsible for all fees and/or costs, including Commissioning Testing, required to complete the interconnection process. A Producer that interconnects to Distribution Provider's Distribution or Transmission System is responsible for all costs associated with Parallel Operation to support the safe and reliable operation of the Distribution and Transmission System. Generating Facilities eligible for Net Energy Metering under California PUC ~~s~~Sections 2827, 2827.8 or 2827.10 are exempt from any costs associated with Distribution or Network Upgrades.

a. Costs of Interconnection and Parallel Operation

The Interconnection and Parallel Operation of a Producer may trigger the need for Interconnection Facilities, Special Facilities or Added Facilities, Upgrades, Delivery Network Upgrades, and/or Reliability Network Upgrades. Interconnection Facilities installed on Producer's side of the PCC may be owned, operated and maintained by Producer or Distribution Provider. Interconnection Facilities installed on Distribution Provider's side of the PCC and Distribution System modifications shall be owned, operated, and maintained only by Distribution Provider. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 46
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

4. INTERCONNECTION COST RESPONSIBILITY (Cont'd.)

b. Methodology and Timing of Cost Identification

Any costs triggered by a Producer are based on Producer's unique Interconnection requirements, Producer's impact on the Distribution System and/or Transmission System following allocation of capacity to earlier-queued interconnection requests, and Producer's electrical interdependence with any earlier-queued interconnection requests. Earlier-queued interconnection requests include interconnection requests under any applicable tariff.

c. Timing of Cost Identification

For Applicants to Fast Track, Independent Study Process, or Distribution Group Study Process, costs may be identified during the study process, or after the study process is complete and a Generator Interconnection Agreement is executed. The purpose of later identification of costs is to facilitate Applicant's Interconnection while accommodating incomplete interconnection studies for earlier-queued interconnection requests to the same Line Section, distribution circuit, and/or substation, incomplete interconnection studies for earlier-queued interconnection requests with which Applicant is electrically interdependent with respect to short circuit duty, withdrawal of earlier-queued interconnection requests for Interconnection to the Distribution or Transmission System, and delay or cancellation of planned Distribution System Upgrades.

d. Producer Costs During Parallel Operation

All Producers are required to provide and maintain Interconnection Facilities, for the duration of the Generator Interconnection Agreement, that meet Distribution Provider's technical design and operating standards for Parallel Operation as set out in Section H, including any updates to those standards. This includes Producer responsibility for costs associated with changes to the operating characteristics at the Point of Interconnection necessitated by Distribution Provider's upgrades to the Transmission or Distribution System from time to time. (N)

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ELECTRIC RULE NO. 21 Sheet 47
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

4. INTERCONNECTION COST RESPONSIBILITY (Cont'd.)

e. Cost Allocation

Except where exempt by law or Commission decision, costs triggered by an Interconnection Request under the Fast Track ~~p~~Process or the Independent Study Process are the responsibility of the triggering Interconnection Request, or in the case of the Distribution Group Study Process, the responsibility of the triggering Interconnection Request(s). The costs of Distribution Upgrades or Network Upgrades identified through a Distribution Group Study shall be assigned to all Interconnection Requests in a Distribution Study Group pro rata based on each Interconnection Request's contribution to the need for the upgrade.

f. Summary Tables

Table E.2 summarizes cost responsibility for costs and fees that may arise in the course of the interconnection process for NEM and non-NEM Applicants. Table E.3 summarizes cost responsibility for costs and fees that may arise in the course of the interconnection process for NEM Applicants under various sequences of interconnecting NEM and non-NEM Generators on the same PCC interconnecting to the Distribution or Transmission System.

Table E.2 Summary of Producer Cost Responsibility

Generating Facility Type	Interconnection Request Fee		Supplemental Review Fee		Detailed Study Cost (Independent Study Process, Distribution Group Study Process, or Transmission Cluster Study Process)		Interconnection Facilities Cost		Distribution Upgrades Cost		Transmission Network Upgrade Cost (CAISO Tariff Section 12.3.2 of Appendix Y)	
	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Non-NEM	X		X		X		X		X		X	
NEM		X		X		X	X			X		X

(N)

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ELECTRIC RULE NO. 21 Sheet 48
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

4. INTERCONNECTION COST RESPONSIBILITY (Cont'd.)

f. Summary Tables (Cont'd.)

Table E.3 Summary of Producer Cost Responsibility for Multiple Tariff Interconnections

Existing Generating Facility	New Generating Facility	Interconnection Request Fee		Supplemental Review Fee		Detailed Study Cost		Interconnection Facilities Cost		Distribution Upgrades Cost	
		YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
NEM	Non-NEM	X		X		X		X		X[a]	
NEM	NEM		X		X		X	X			X
Non-NEM	NEM		X[b]		X[b]		X[b]	X			X[a,b]
Simultaneous NEM and Non-NEM		X		X		X		X		X[a]	

a) Proration will be based upon the annual expected energy output (kWh) derived from the nameplate of the Generator(s) modified by technology-specific capacity/availability factors of all NEM eligible versus non-NEM eligible Generators for the costs that cannot be clearly assigned to either type of tariff.

b) Change of operation of a non-NEM eligible Generator at any time to export is treated as a simultaneous NEM and non-NEM Interconnection Request, resulting in associated costs being allocated to Producer.

(N)

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ELECTRIC RULE NO. 21 Sheet 49
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

5. INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION

Any Applicant for Interconnection to Distribution Provider's Distribution or Transmission System must submit a complete and valid Interconnection Request. An Interconnection Request will be considered complete and valid when all items required for an Interconnection Request have been received by Distribution Provider and deemed valid by Distribution Provider.

a. Acknowledgement of Interconnection Request

Distribution Provider shall provide a first written notification to the Interconnection Customer within ten (10) Business Days of receipt of the Interconnection Request, which notice shall state whether the Interconnection Request is deemed complete and valid.

b. Deficiencies in Interconnection Request

i) First Notification of Deficiency

If an Interconnection Request fails to meet the requirements, Distribution Provider shall state in its first written notification the reasons for such failure and that the Interconnection Request does not constitute a valid request.

Applicant shall provide Distribution Provider the additional requested information needed to constitute a complete and valid request within ten (10) Business Days from the date of the first written notification that the Interconnection Request is invalid.

ii) Second Notification of Deficiency

Distribution Provider shall provide a second written notification to Applicant within ten (10) Business Days of receipt of the additional requested information, stating whether the Interconnection Request is valid or the reasons for any failure. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 50
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

5. INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION (Cont'd.)

b. Deficiencies in Interconnection Request (Cont'd.)

ii) Second Notification of Deficiency

Applicant shall provide Distribution Provider the additional requested information needed to constitute a complete and valid request within five (5) Business Days from the date of the second written notification that the Interconnection Request is invalid.

iii) Extension Request

Upon request, Applicant can receive one extension of up to twenty (20) Business Days to resolve deficiencies in the Interconnection Request.

iv) Failure to Resolve Deficiencies

If Applicant does not resolve deficiencies in the Interconnection Request within the time frames set out above, Distribution Provider will deem the Interconnection Request withdrawn. Applicant may submit a new Interconnection Request.

Applicants with invalid Interconnection Requests under this Section may seek relief under the dispute resolution provisions in Section K by so notifying Distribution Provider within two (2) Business Days of receipt of the first or second written notification that the Interconnection Request is incomplete and/or invalid.

(N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 51
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

5. INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION (Cont'd.)

c. Assignment of Queue Position

Distribution Provider shall assign a queue position to all non-Net Energy Metering Applicants. If there were no deficiencies in the Interconnection Request, the queue position will be based on the date Distribution Provider received the Interconnection Request. If there were deficiencies in the Interconnection Request, the queue position will be based on the date Distribution Provider determines an Interconnection Request to be complete and valid. Should Distribution Provider not meet any deadline for providing the first (Section E.5.b.iE.5.b.i) or second written notification (Section E.5.b.ii) to Applicant regarding the Interconnection Request, Applicant's queue position shall be set on the final day of the period in which Distribution Provider was obligated to provide such written notification, provided, however, that Applicant meets deadlines as set out above to submit any additional information required for a valid Interconnection Request following such written notification under Section E.5.b.i or E.5.b.ii, and that Distribution Provider determines that the Interconnection Request is valid.

Distribution Provider shall maintain a single queue for all non-Net Energy Metering Interconnection Requests governed by this Rule with a Point of Interconnection on Distribution Provider's Distribution System. For Interconnection Requests that are studied under the Distribution Group Study Process, the effective queue position for all Interconnection Requests in a Distribution Study Group will be established on the last day of the Distribution Group Study window for that Distribution Study Group. For Interconnection Requests that are studied under the Transmission Cluster Study Process, the queue position will be the applicable cluster's queue position. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 52
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

5. INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION (Cont'd.)

d. Publication of the Interconnection Queue

Distribution Provider shall publish and update monthly on its website the interconnection queue for all Interconnection Requests governed by this Rule with a Point of Interconnection on Distribution Provider's Distribution System that have been assigned a queue position. Nothing here prohibits Distribution Provider from publishing this queue combined with other interconnection requests to Distribution Provider's Distribution System. The published interconnection queue may include the following information for each Interconnection Request governed by this Rule, subject to Energy Division approval:

i) Interconnection Request and Queue Position Data

(~~i~~1) The assigned number, if any;

(~~ii~~2) the queue position;

(~~iii~~3) the date the Interconnection Request was received by Distribution Provider;

(~~iv~~4) the date the Interconnection Request was determined to be complete and valid;

(~~v~~5) the review process to which Applicant originally applied (Fast Track, Independent Study Process, ~~Transmission Cluster Study Process~~Distribution Group Study Process, or WDT Cluster Study Process);

(~~vi~~6) the original requested In-Service Date;

(~~vii~~7) the currently requested In-Service Date;

(~~viii~~8) the agreed-upon Commercial Operation Date or actual Commercial Operation Date. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 53
GENERATING FACILITY INTERCONNECTIONS

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)

5. INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION (Cont'd.)

d. Publication of the Interconnection Queue (Cont'd.)

ii) Applicant Generating Facility/Storage System and Point of Interconnection Data

(~~i~~1~~x~~) the maximum summer and winter MW electrical output;

(~~x~~2) the type of generating or storage facility to be constructed;

(~~xi~~3) the fuel source;

(~~xii~~4) the proposed Point of Interconnection location by county;

(~~xiii~~5) the proposed Point of Interconnection location by substation/area and, if applicable, circuit.~~;~~

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS

1. OVERVIEW OF THE INTERCONNECTION REVIEW PROCESS

a. Valid Interconnection Request

After an Interconnection Request is deemed complete and valid, Distribution Provider will perform Fast Track evaluation unless an Applicant applies for Detailed Study or is not eligible for Fast Track evaluation. The eligibility requirements for Fast Track evaluation are set forth in Section E.2.b. See Section D.13 for special provisions related to the timeframe and costs applicable to NEM Applicants. (N)

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ELECTRIC RULE NO. 21 Sheet 54
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

1. OVERVIEW OF THE INTERCONNECTION REVIEW PROCESS (Cont'd.)

b. Fast Track Review

Fast Track evaluation allows for rapid review of the Interconnection of those Generating Facilities that do not require Detailed Study. Regardless of study process, all Generating Facilities shall be designed to meet the applicable requirements of Section H which identifies Generating Facility Design and Operation Requirements.

Fast Track review consists of an Initial Review and, if required, a Supplemental Review. The need for Supplemental Review will be determined based on the results of Initial Review Screens A through M in Section G.1. Applicants that successfully pass Initial Review Screens A through M will be allowed to interconnect without Supplemental Review.

If Supplemental Review is required, Distribution Provider will notify Applicant and Applicant must pay a nonrefundable Supplemental Review fee or withdraw its Interconnection Request. Supplemental Review shall consist of the application of Screens N through P in Section G.2. Applicants that pass Screens N through P will be allowed to interconnect without additional review.

If Supplemental Review reveals that a proposed Generating Facility cannot be interconnected to Distribution Provider's Distribution System by means of Fast Track evaluation, Distribution Provider will notify Applicant that Detailed Study will be required.

Failure to pass Fast Track evaluation means only that further review and/or study are required before the Generating Facility can be interconnected with Distribution Provider's Distribution System. It does not mean that the Generating Facility cannot be interconnected. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 55
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

1. OVERVIEW OF THE INTERCONNECTION REVIEW PROCESS (Cont'd.)

c. Detailed Studies

Detailed Study will be required for Interconnection Requests that apply directly for Detailed Study, are not eligible for Fast Track evaluation, or do not pass Fast Track evaluation. Detailed Study shall consist of one of three study processes: (i) Independent Study Process; (ii) Distribution Group Study Process; or (iii) Transmission Cluster Study Process. The specific study process that is applied will depend on the results of Screens Q and R in Section G.3. Interconnection Requests that are found to be electrically interdependent with earlier-queued interconnection requests with impacts on the Transmission System, and thereby fail screen Q, will proceed to the Transmission Cluster Study Process. Interconnection Requests that are not electrically interdependent with earlier-queued interconnection requests with impacts on the Transmission System, and thereby pass Screen Q, will be studied under either the Independent Study Process or the Distribution Group Study Process, depending on the results of Screen R.

d. Compliance with Timelines

Distribution Provider shall use Reasonable Efforts in meeting all the timelines set out in this Rule, or mutually modified by Distribution Provider and Applicant pursuant to Section D.15. Each Distribution Provider shall designate an ombudsman with authority to resolve disputes over missed timelines. The identity, role, and contact information of the ombudsman shall be available on Distribution Provider's website.

If at any time an Applicant is dissatisfied with the Reasonable Efforts of Distribution Provider to meet the timelines in this Section, Applicant may use the following procedures:

(i) Contact the ombudsman designated by Distribution Provider;

(ii) If the Distribution Provider ombudsman is unable to resolve the dispute within ten (10) Business Days, Applicant may either:

a) Contact the Consumer Affairs Branch (CAB) at the Commission. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 56
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

1. OVERVIEW OF THE INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Compliance with Timelines (Cont'd.)

b) Upon mutual agreement with Distribution Provider, make a written request for mediation to the Alternative Dispute Resolution (ADR) Coordinator in the Commission's Administrative Law (ALJ) Division. The request may be made by electronic mail to adr_program@cpuc.ca.gov, and shall state "Rule 21" in the subject line. The request shall contain the relevant facts of the timeline dispute. A copy of the request shall be sent to the Distribution Provider ombudsman. Provided that resources are available, the mediator assigned shall schedule a mediation with Applicant and Distribution Provider within ten (10) Business Days of receiving the request.

At any time, Applicant may file a formal complaint before the Commission pursuant to California PUC ~~s~~Section 1702 and Article 4 of the Commission's Rules of Practice and Procedure.

2. FAST TRACK INTERCONNECTION REVIEW PROCESS

a. Initial Review

Upon receipt of a complete and valid Interconnection Request, Distribution Provider shall perform Initial Review using the process in Section G.1. The Initial Review determines if (i) the Generating Facility qualifies for Fast Track Interconnection through Initial Review, or (ii) the Generating Facility requires a Supplemental Review. Absent extraordinary circumstances, Distribution Provider shall notify Applicant in writing of the results of Initial Review within fifteen (15) Business Days following validation of an Interconnection Request. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 57
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)

a. Initial Review (Cont'd.)

For Interconnection Requests that pass Initial Review and do not require Interconnection Facilities or Distribution Upgrades, Distribution Provider shall provide Applicant with a Generator Interconnection Agreement within fifteen (15) Business Days of providing notice of Initial Review results. For Interconnection Requests that pass Initial Review but do require Interconnection Facilities or Distribution Upgrades, within fifteen (15) Business Days of providing notice of Initial Review results, Distribution Provider shall provide Applicant with a non-binding cost estimate of the Interconnection Facilities or Distribution Upgrades.

For all Interconnection Requests that pass Initial Review, refer to Section F.2.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.

For Interconnection Requests that fail Initial Review, Distribution Provider shall provide the technical reason, data and analysis supporting the Initial Review results in writing and provide Applicant the option to either attend an Initial Review results meeting or proceed directly to Supplemental Review. Net Energy Metering Applicants covered under Section D.13.1 shall proceed directly to Supplemental Review without an Initial Review results meeting. Applicant shall notify Distribution Provider within ten (10) Business Days following such notification whether to (i) proceed to an Initial Review results meeting, (ii) proceed to Supplemental Review, or (iii) withdraw the Interconnection Request. Applicant may request one extension of no more than ten (10) Business Days to respond. If Applicant fails to notify Distribution Provider within ten (10) Business Days of such notification, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn.

No changes may be made to the planned Point of Interconnection or Generating Facility size included in the Interconnection Request during the Initial Review Process, unless such changes are agreed to by Distribution Provider. Where agreement has not been reached, Applicants choosing to change the Point of Interconnection or Generating Facility size must reapply and submit a new Interconnection Request. (N)

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ELECTRIC RULE NO. 21 Sheet 58
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)

a. Initial Review (Cont'd.)

Applicants that elect to proceed to Supplemental Review shall provide a nonrefundable Supplemental Review fee set forth in Section E.2.c with their response. The Supplemental Review fee shall be waived for Interconnection Requests requesting Interconnection pursuant to PUC ~~s~~Sections 2827, 2827.8, or 2827.10, per Commission Decision D. 02-03-057 and for solar-powered Generating Facilities that do not sell power to Distribution Provider, per Commission Decision D. 01-07-027.

b. Optional Initial Review Results Meeting

Within five (5) Business Days of Applicant's request for an Initial Review results meeting, Distribution Provider shall contact Applicant and offer to convene a meeting at a mutually acceptable time to review the Initial Review screen analysis and related results to determine what modifications, if any, may permit the Generating Facility to be connected safely and reliably without Supplemental Review.

If modifications that obviate the need for Supplemental Review are identified, and Applicant and Distribution Provider agree to such modifications, Distribution Provider shall provide Applicant with a Generator Interconnection Agreement within fifteen (15) Business Days of the Initial Review results meeting if no Interconnection Facilities or Distribution Upgrades are required. If Interconnection Facilities or Distribution Upgrades are required, Distribution Provider shall provide Applicant with a non-binding cost estimate of any Interconnection Facilities or Distribution Upgrades within fifteen (15) Business Days of the Initial Review results meeting. For all Interconnection Requests that pass Initial Review, refer to Section F.2.e for cost responsibility and time frames for completing the Generator Interconnection Agreement. (N)

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ELECTRIC RULE NO. 21 Sheet 59
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)

b. Optional Initial Review Results Meeting (Cont'd.)

If Applicant and Distribution Provider are unable to identify or agree to modifications that enable Applicant to pass Initial Review, Applicant shall notify Distribution Provider within five (5) Business Days of the Initial Review results meeting whether it would like to proceed with Supplemental Review or withdraw its Interconnection Request. Applicant may request one extension of no more than five (5) Business Days to respond. If Applicant fails to notify Distribution Provider within five (5) Business Days of the Initial Review results meeting, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn.

c. Supplemental Review

If Applicant requests Supplemental Review and submits a nonrefundable Supplemental Review fee, if required, Distribution Provider shall complete Supplemental Review within twenty (20) Business Days, absent extraordinary circumstances, following authorization and receipt of the fee. Supplemental Review determines if (i) the Generating Facility qualifies for Fast Track Interconnection, or (ii) the Generating Facility requires Detailed Study.

For Interconnection Requests that pass Supplemental Review and do not require Interconnection Facilities or Distribution Upgrades, Distribution Provider shall provide Applicant with a Generator Interconnection Agreement within fifteen (15) Business Days of providing notice of Supplemental Review results. For Interconnection Requests that pass Supplemental Review and do require Interconnection Facilities or Distribution Upgrades, within fifteen (15) Business Days of providing notice of Supplemental Review results, Distribution Provider shall provide Applicant with a non-binding cost estimate of any Interconnection Facilities or Distribution Upgrades. For all Interconnection Requests that pass Supplemental Review, refer to Section F.2.e for cost responsibility and time frames for completing the Generator Interconnection Agreement. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 60
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)

c. Supplemental Review (Cont'd.)

For Interconnection Requests that fail Supplemental Review, Distribution Provider shall provide the technical reason, data and analysis supporting the Supplemental Review results in writing, including, if Distribution Provider can make the determination, which Detailed Study track Applicant qualifies for, and provide Applicant the option to attend a Supplemental Review results meeting or proceed directly to Detailed Study. Applicant shall notify Distribution Provider within fifteen (15) Business Days following such notification whether to (i) proceed to a Supplemental Review results meeting, (ii) proceed to Detailed Study, or (iii) withdraw the Interconnection Request. Applicant may request one extension of no more than fifteen (15) Business Days to respond. If Applicant fails to notify Distribution Provider within fifteen (15) Business Days of such notification, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn.

Applicants that elect to proceed to Detailed Study shall provide the applicable study deposit set forth in Section E.3.a with their response. Detailed Study fees for solar Generating Facilities up to 1 MW interconnecting to the Distribution System that do not sell power to Distribution Provider will be waived up to the amount of $5,000. Generating Facilities eligible for Net Energy Metering under PUC ~~s~~Sections 2827, 2827.8, or 2827.10 are exempt from any costs associated with Detailed Studies.

d. Optional Supplemental Review Results Meeting

Within five (5) Business Days of Applicant's request for a Supplemental Review results meeting, Distribution Provider shall contact Applicant and offer to convene a meeting at a mutually acceptable time to review the Supplemental Review screen analysis and related results to determine what modifications, if any, may permit the Generating Facility to be connected safely and reliably without Detailed Study. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 61
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Optional Supplemental Review Results Meeting (Cont'd.)

If modifications that obviate the need for Detailed Study are identified and Applicant and Distribution Provider agree to such modifications, Distribution Provider shall provide Applicant with a Generator Interconnection Agreement within fifteen (15) Business Days of the Supplemental Review results meeting if no Interconnection Facilities or Distribution Upgrades are required. If Interconnection Facilities or Distribution Upgrades are required, Distribution Provider shall provide Applicant with a non-binding cost estimate of any Interconnection Facilities or Distribution Upgrades within fifteen (15) Business Days of the Supplemental Review results meeting. For all Interconnection Requests that pass Supplemental Review, refer to Section F.2.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.

If Applicant and Distribution Provider are unable to identify or agree to modifications, Applicant shall notify Distribution Provider within twenty (20) Business Days of the Supplemental Review Results Meeting whether it would like to proceed with Detailed Study or withdraw its Interconnection Request. Applicant may request one extension of no more than twenty (20) Business Days to respond. If Applicant fails to notify Distribution Provider within twenty (20) Business Days of the Supplemental Review results meeting, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn. Applicants that elect to proceed to Detailed Study shall provide the applicable study deposit set forth in Section E.3.a.

e. Execution of the Generator Interconnection Agreement

Following the receipt of a cost estimate for any Distribution Upgrades and/or Interconnection Facilities that have been identified (Applicants that did not require a cost estimate may proceed directly to the paragraph below), Applicant shall notify Distribution Provider within fifteen (15) Business Days whether Applicant: (i) requests a Generator Interconnection Agreement, or (ii) withdraws its Interconnection Request. Applicant may request one extension of no more than fifteen (15) Business Days to respond. If Applicant fails to notify Distribution Provider within fifteen (15) Business Days, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 62
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)

e. Execution of the Generator Interconnection Agreement (Cont'd.)

If Applicant elects to proceed to a Generator Interconnection Agreement, Distribution Provider shall provide Applicant with a Generator Interconnection Agreement for Applicant's signature within fifteen (15) Business Days of Applicant's request.

Upon receipt of a draft Generator Interconnection Agreement, Applicant has ninety (90) Calendar Days to sign and return the Generator Interconnection Agreement. Applicant shall provide written comments, or notification of no comments, to the draft Generator Interconnection Agreement and appendices within thirty (30) Calendar Days. At the request of Applicant, Distribution Provider shall begin negotiations with Applicant at any time after Distribution Provider provides Applicant with the draft Generator Interconnection Agreement, which contains in its appendices the cost estimate for any Distribution Upgrades and/or Interconnection Facilities that have been identified by Distribution Provider. Distribution Provider and Applicant shall negotiate concerning the cost estimate, or any disputed provisions of the appendices to a draft Generator Interconnection Agreement, for not more than ninety (90) Calendar Days after Distribution Provider provides Applicant with the Generator Interconnection Agreement. If Applicant determines that negotiations are at an impasse, it may request termination of the negotiations and initiate Dispute Resolution procedures pursuant to Section K. If Applicant fails to sign the Generator Interconnection Agreement or initiate Dispute Resolution within ninety (90) Calendar Days, the Interconnection Request shall be deemed withdrawn.

After Applicant, or a Producer where those are different entities, has executed the Generator Interconnection Agreement, Distribution Provider will commence design, procurement, construction and installation of Distribution Provider's Distribution Upgrades and/or Interconnection Facilities that have been identified in the Generator Interconnection Agreement. Distribution Provider and Producer will use good faith efforts to meet schedules in accordance with the requirements of the Generator Interconnection Agreement and estimated costs as appropriate. Producer is responsible for all costs associated with Parallel Operation to support the safe and reliable operation of the Distribution System and Transmission System as set forth in Section E.4. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 63
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)

e. Execution of the Generator Interconnection Agreement (Cont'd.)

Distribution Provider and Producer shall negotiate in good faith concerning a schedule for the construction of Distribution Provider's Interconnection Facilities and Distribution Upgrades.

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS

a. Detailed Study Track Selection Process

Applicants that apply directly for Detailed Study may elect to enter the Transmission Cluster Study Process without the application of Screens Q and R. For Applicants that applied for Fast Track evaluation but failed the Supplemental Review, Distribution Provider shall determine, to the extent practicable, the Detailed Study track for which Applicant is eligible and provide that information with the Supplemental Review Results as set out in section F.2.c. For all other Applicants, the specific Detailed Study track for which Applicant is eligible will be determined by the application of Screens Q and R. For Applicants that require application of Screens Q and R, absent extraordinary circumstances, within twenty (20) Business Days following validation of an Interconnection Request and receipt of the appropriate study deposit set forth in Section E.3.a, Distribution Provider will apply Screen Q, and if applicable, Screen R and provide Applicant with the screen results as set forth below.

If Applicant fails Screen Q, Distribution Provider shall provide the data and analysis supporting Screen Q results in writing. The Interconnection Request will be processed in accordance with Section F.3.c below and provide Applicant the option to proceed to the Transmission Cluster Study Process. Applicant shall notify Distribution Provider within twenty (20) Business Days following such notification whether it would like to (i) proceed to the Transmission Cluster Study Process or (ii) withdraw the Interconnection Request. Applicant may request one extension of no more than twenty (20) Business Days to respond. If Applicant fails to notify Distribution Provider within twenty (20) Business Days of receiving the Screen Q results, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 64
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS

a. Detailed Study Track Selection Process (Cont'd.)

If Applicant elects to proceed to the Distribution Group Study Process, the Interconnection Request will be processed in accordance with Section F.3.b below.

If Applicant elects to proceed to the Transmission Cluster Study Process, Interconnection Request will be processed in accordance with Section F.3.c below.

~~d~~b. ~~Independent~~ Distribution Group Study Process

i) Initiation of Distribution ~~Study Processi)~~ Group

To be eligible for inclusion in a Distribution Study Group, Applicant must submit all materials required to complete their Interconnection Request no later than 10 business days after the close of the relevant Distibution Group Study window. This includes notification from Applicant that they want to proceed with the Distribution Group Study Process, if applicable.

Distribution Provider shall perform an Electric Independence Test for the group within twenty (20) Business Days of the close of the window, using the best available information about projects that have entered the group study process under Rule 21 and the WDT.

If the group fails Screen Q, the Distribution Provider will deem the projects withdrawn from Rule 21 and notify Applicants. Applicants may elect to proceed with the Transmission Cluster Study Process, pursuant to Section F.3.c.

In order to be eligible to participate in the DGS Phase I Interconnection Study, Scoping Meeting must be complete and the Applicant must execute the Detailed Study Agreement prior to the start date of the DGS Phase I Interconnection Study. (N)

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ELECTRIC RULE NO. 21 Sheet 65
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)

~~Study Process~~ii) Scoping Meeting

Within five (5) Business Days after Distribution Provider ~~notifies~~performs the Electrical Indepenence Test, it will ~~notifies~~contact the Applicant ~~to~~ to notify them that the Interconnection Request has passed Screen~~s~~ Q and failed Screen R and is thus eligible for the ~~Independent~~ Distribution Group Study Process, ~~Distribution Provider shall contact Applicant to~~ and establish a date agreeable to Applicant and Distribution Provider for a scoping meeting.

The Distribution Provider, in coordination with the CAISO, if applicable, shall determine whether the Interconnection Request is at or near the boundary of an Affected System(s) so as to potentially impact such Affected System(s). If a determination of potential impact is made, the Distribution Provider shall invite the Affected System Operator(s) to the Scoping Meeting by informing them of the time and place of the scheduled Scoping Meeting as soon as practicable.

~~b. Distribution Group Study Process (Cont'd.)~~The purpose of the scoping meeting shall be: (i) to discuss reasonable Commercial Operation Dates and alternative interconnection options; (ii) to exchange information, including any transmission data that would reasonably be expected to impact Applicant's interconnection options; (iii) to analyze such information; ~~and~~ (iv) to determine feasible Points of Interconnection and eliminate alternatives given resources and available information; and (v) to advise Applicant of the expected start date of the ~~next applicable Distribution Group Study~~DGS Phase I Interconnection Study. (N)

~~F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~

~~3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)~~

(Continued)

ELECTRIC RULE NO. 21 Sheet 65
GENERATING FACILITY INTERCONNECTIONS

~~a. Detailed Study Track Selection Process (Cont'd.)~~

~~If Applicant passes Screen Q, but fails Screen R, Distribution Provider shall provide the data and analysis supporting the Screen R results in writing and provide Applicant the option to proceed to the Distribution Group Study Process.~~

(Continued)

ELECTRIC RULE NO. 21 Sheet 66
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)

ii) Scoping Meeting (Cont'd.)

~~F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~

~~21 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)~~

Distribution Provider will bring to the scoping meeting, as reasonably necessary to accomplish its purpose, such already available technical data, including, but not limited to: (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues.

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Applicant will bring to the scoping meeting, in addition to the technical data in Attachment A of the Rule 21 Exporting Generating Facility Interconnection Request form, any system studies previously performed. Distribution Provider, the CAISO, if applicable, and Applicant will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting.

During the meeting, Applicant shall designate its Point of Interconnection. The duration of the meeting shall be only what is sufficient to accomplish its purpose. (N)

Within fifteen (15) Business Days after the scoping meeting, Distribution Provider shall provide Applicant with an ~~Independent~~ Detailed ~~Study Process~~ Study Agreement, which shall contain an outline of the scope of the DGS Phase I Interconnection ~~System Impact~~ Study and DGS Phase II Interconnection ~~Facilities~~ Study, contain a non-binding good faith estimate of the cost to perform such studies, and shall specify that Applicant is responsible for the actual cost of the Interconnection Studies, including reasonable

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ELECTRIC RULE NO. 21 Sheet 66
GENERATING FACILITY INTERCONNECTIONS

administrative costs. Applicant shall execute and deliver to Distribution Provider the Detailed Study Agreement no later than thirty (30) Business Days after the scoping meeting start date of the DGS Phase I Interconnection Study, or the Interconnection Request shall be deemed withdrawn.

~~i. If Applicant fails Screen R because there is only one (1) earlier-queued interconnection request with which Applicant is electrically interdependent and that is currently undergoing an independent study process, Distribution Provider shall notify Applicant at the same time that it provides the Screen R results of the expected completion date for the earlier-queued interconnection request. Distribution Provider shall provide Applicant the option of (1) waiting until the earlier-queued interconnection request has completed the independent study process and then initiating the Independent Study Process at that time, or (2) proceeding directly to the Transmission Cluster Study Process pursuant to Section F.3.c. If Applicant chooses option 1, the timeline for completing Applicant's Independent Study Process will not begin until the earlier-queued interconnection request has completed the independent study process.~~

~~ii. At Distribution Provider's option, it may offer to study any Applicant that qualifies under this Section F.3.b under the Independent Study Process; provided that Applicant and Distribution Provider agree on a revised study timeline.~~

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ELECTRIC RULE NO. 21 Sheet 67
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)~~(Cont'd.)~~

iii) Grouping of Interconnection Requests for a Distribution Group Study

The results of Screen R will determine the Interconnection Requests to be grouped together for each Distribution Group Study. An Interconnection Request that failed Screen R will be grouped with other projects that are determined to be electrically interdependent through the application of Screen R. No later than the date a DGS Phase I Interconnection Study begins, Distribution Provider will send to each Applicant in a Distribution Group Study a list of the Interconnection Requests in its Distribution Group Study.

At the Distribution Provider's option, an Interconnection Request received during a particular Distribution Group Study Application window may be studied individually (Independent Study Process) or in a Distribution Group Study for the purpose of conducting one or more of the analyses forming the Interconnection Studies. For each Interconnection Study received within the same Distribution Group Study Application window, the Distribution Provider may develop one or more Distribution Study Groups.

(N)

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ELECTRIC RULE NO. 21 Sheet 68
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

b. Distribution Group Study Process (Cont'd.)

iv) Timing of the the DGS Phase I Interconnection Study.

Absent extraordinary circumstances, Distribution Provider shall complete and issue a final DGS Phase I Interconnection Study report within sixty (60) Business Days from the start of the study. If the DGS Phase I Interconnection Study indicates a need for Network Upgrades, Distribution Provider will share applicable study results with the CAISO for review and comment and will incorporate comments into the final DGS Phase I Interconnection Study report.

~~System Impact~~ At any time Distribution Provider determines that it will not meet the required time frame for completing the DGS Phase I Interconnection ~~System Impact~~ Study, Distribution Provider shall notify all

Applicants in the Distribution Study Group as to the status of the DGS Phase I Interconnection ~~System Impact~~ Study and provide an estimated completion date with an explanation of the reasons why additional time is required.

Upon request, Distribution Provider shall provide any Applicant in the Distribution Study Group all relevant supporting documentation, workpapers and pre-Interconnection Request and post-Interconnection Request power flow, short circuit and dynamic/stability databases, and currently planned Distribution Upgrades relevant to the Interconnection Request for the DGS Phase I Interconnection Study. Applicant may be required to sign a non-disclosure agreement with terms consistent with Section D.7 regarding Confidentiality.

If applicable, Distribution Provider will share the applicable study results with the CAISO for review and comment, and will incorporate CAISO comments, if any, into the study report prior to issuing a final DGS Phase I Interconnection Study report to Applicants in the Distribution Study Group. (N)

~~(Cont'd.)Applicant shall execute and deliver to Distribution Provider the Independent Study Process Study Agreement no later than thirty (30) Business Days after the scoping meeting, or the Interconnection Request shall be deemed withdrawn.~~

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~~On the basis of the meeting, Applicant shall designate its Point of Interconnection. The duration of the meeting shall be only what is sufficient to accomplish its purpose.~~ (N)

~~F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~

~~3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)~~

~~d. Independent Study Process (Cont'd.)~~

~~ii) ii)~~

~~ii) Timing of the Interconnection System Impact Study Results.~~

~~Absent extraordinary circumstances, Distribution Provider shall complete and issue a final Interconnection System Impact Study report within(60) Business Days after the execution of an Independent Study Process Study Agreement.study If the System ImpactStudy indicates a need for Network Upgrades, Distribution Provider will share applicable study results with the CAISO for review and comment and will incorporate comments into the final Interconnection System Impact Study report.~~

~~F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~

~~3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)~~

~~d. Independent Study Process (Cont'd.)~~

~~ii) Timing of the Interconnection~~ F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

b. Distribution Group Study Process (Cont'd.)

~~iii~~v) DGS Phase I Interconnection ~~System Impact~~ Study Results Meeting.

If requested by an Applicant in a Distribution Study Group, a results meeting shall be held among Distribution Provider, the CAISO, if applicable, and the Applicant to discuss the results of

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the DGS Phase I Interconnection ~~System Impact~~ Study, including assigned cost responsibility. Within five (5) Business Days of such request, Distribution Provider shall contact Applicant to establish a date agreeable to Applicant, Distribution Provider and the CAISO, if applicable, for the results meeting. If Applicant wants to have a meeting, it must be completed within thirty (30) Calendar Days of the final DGS Phase I Interconnection Study, unless mutually agreed upon by the Distribution Provider and Applicant. I (N)

At the Phase I Interconnection Study results meeting, the Applicant shall provide a schedule outlining key milestones including environmental survey start date, expected environmental permitting submittal date, expected procurement date of project equipment, back-feed date for project construction, and expected project construction date. This will assist the parties in determining if proposed Commercial Operation Dates are reasonable. If large-scale Distribution Provider's Interconnection Facilities or Distribution Upgrades for the Generating Facility have been identified in the DGS Phase I Interconnection Study, such as telecommunications equipment to support a possible special protection system (SPS), distribution feeders to support back feed, a new substation, and/or expanded substation work, permitting and material procurement lead times may result in the need to alter the proposed Commercial Operation Date, the Applicant and Distribution Provider may agree to a new Commercial Operation Date. In addition, where an Applicant intends to establish Commercial Operation separately for different Electric Generating Units or project phases at its Generating Facility, it may only do so in accordance with an implementation plan agreed to in advance by the Distribution Provider and the CAISO, if applicable, which agreement shall not be unreasonably withheld.

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ELECTRIC RULE NO. 21 Sheet 70
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)

~~iv)~~
~~iii~~v) DGS Phase I Interconnection ~~System Impact~~ Study Results Meeting (Cont'd.)

Where the parties cannot agree to a revised Commercial Operation Date, the Commercial Operation Date determined reasonable by the Distribution Provider will be used for the DGS Phase II Interconnection Study where the revised Commercial Operation Date is needed to accommodate the anticipated completion, assuming Reasonable Efforts by the Distribution Provider of necessary Distribution Upgrades and/or Distribution Provider's Interconnection Facilities, pending the outcome of any relief sought by the Applicant under Sections F.1.d. or K. The Applicant must notify the Distribution Provider within five (5) Business Days following the Results Meeting if it is initiating dispute procedures under Sections F.1.d. or K.

Distribution Provider and the Applicant shall hold a results meeting to discuss the results of the DGS Phase I Interconnection Study, including assigned cost responsibility.

Within five (5) Business Days following the DGS Phase I ~~D~~ Interconnection Study results meeting, the Applicant shall submit to the Distribution Provider all requested information.

vi) Initial Posting of Interconnection Financial Security.

Each Applicant in a Distribution Study Group shall make its initial posting of Interconnection Financial Security in accordance with the requirements of Section F.4.b, within sixty (60) Calendar Days after being provided with the final DGS Phase I ~~D~~Interconnection Study report, or its Interconnection Request shall be deemed withdrawn. The initial posting of Interconnection Financial (N)

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GENERATING FACILITY INTERCONNECTIONS

Security will be based on the cost responsibility for Network Upgrades, Distribution Upgrades, and Distribution Provider's Interconnection Facilities set forth in the final DGS Phase I ~~D~~Interconnection Study report.~~iv) Initial Posting of Interconnection Financial Security.~~

~~Applicant shall make its initial posting of Interconnection Financial Security in accordance with the requirements of Section F.4.b, within sixty (60) Calendar Days after being provided with the final Interconnection System Impact Study report, or its Interconnection Request shall be deemed withdrawn. The initial posting of Interconnection Financial Security will be based on the cost responsibility for Network Upgrades, Distribution Upgrades, and Distribution Provider's Interconnection Facilities set forth in the final Interconnection System Impact Study repo~~

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ELECTRIC RULE NO. 21 Sheet 71
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)

v~~i~~) Modifications

At any time during the course of the Interconnection Studies, Applicant, Distribution Provider, or the CAISO, as applicable, may identify changes to the planned Interconnection that may improve the costs and benefits (including reliability) of the Interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes are acceptable to Distribution Provider, the CAISO, as applicable, and Applicant, such acceptance not to be unreasonably withheld, Distribution Provider shall modify the Point of Interconnection and/or configuration in accordance with such changes without altering the Interconnection Request's eligibility for participating in Interconnection Studies.

At the DGS Phase I Interconnection ~~System Impact~~ Study results meeting, Applicant should be prepared to discuss any desired modifications to the Interconnection Request. After the publication of the final DGS Phase I Interconnection ~~System Impact~~ Study report, but no later than five (5) Business Days following the DGS Phase I Interconnection ~~System Impact~~ Study results meeting, Applicant shall submit to Distribution Provider, in writing, modifications to any information provided in the Interconnection Request. Distribution Provider will forward Applicant's request for modification to the CAISO, if applicable, within two (2) Business Days of receipt.

If no DGS Phase I Interconnection ~~System Impact~~ Study results meeting is held, Applicant shall submit to Distribution Provider any requested modifications within ~~twenty five~~thirty (~~25~~30) ~~Business~~ Calendar Days of the receipt of the final Phase I Interconnection ~~System Impact~~ Study report. (N)

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ELECTRIC RULE NO. 21 Sheet 72
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)

v~~i~~) Modifications (Cont'd.)

Modifications permitted under this Section F.3.~~d~~b.v shall include specifically: (a) a decrease in the electrical output (MW) of the proposed Generating Facility; (b) modifying the technical parameters associated with the Generating Facility technology or the Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. Distribution Provider, in coordination with CAISO, if applicable, will evaluate whether the proposed modification to the Interconnection Request constitutes a Material Modification. Distribution Provider will inform Applicant in writing whether the modifications would constitute a Material Modification within 10 Business Days of receipt of the proposed request for modification. Any change to the Point of Interconnection, except for that specified by Distribution Provider in an Interconnection Study or otherwise allowed under this Section F.3.~~d~~b.v, shall constitute a Material Modification.

If the proposed modification is determined to be a Material Modification, Applicant may either withdraw the proposed modification or proceed with a new Interconnection Request for such modification. Applicant shall make such determination within ten (10) Business Days after being provided the Material Modification determination results.

Proposed modifications determined not to be Material Modifications may still necessitate the need to re-evaluate the ~~System Impact~~ DGS Phase I Interconnection Study to determine modifications to the Interconnection Facilities and Distribution Upgrades. Such re-evaluation will occur during the DGS Phase II Interconnection Study~~Distribution Provider will provide Applicant an estimate of time to complete the re-evaluation and the associated incremental cost required to complete the re-evaluation~~. ~~Applicant may either accept the~~ (N)

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ELECTRIC RULE NO. 21 Sheet 73
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)

~~v) Modifications (Cont'd.)~~

~~additional time and cost to complete the re-evaluation, withdraw the proposed modification request, or proceed with a new Interconnection Request for such modification. Applicant shall make such determination within ten (10) Business Days after being provided the Material Modification results.~~

vii) Scope and Purpose of the ~~Interconnection Facilities~~DGS Phase II Interconnection Study and Study Deposit.

Within either (i) five (5) Business Days following the DGS Phase I Interconnection Study results meeting, or (ii) within ~~twenty five (25) Business~~thirty (30) Calendar Days of the receipt of the final DGS Phase I Interconnection ~~System Impact~~ Study report if no DGS Phase I Interconnection ~~System Impact~~ Study results meeting is held, whichever is earlier, Applicant shall submit to Distribution Provider the data required by Distribution Provider. At that time, for Generating Facilities 5 MW or less, Applicant shall also submit the ~~Facilities Study~~DGS Phase II Interconnection Study deposit, as set out in Section E.3.a~~, unless the Facilities Study will be waived in accordance with Section F.3.d.vii. Facilities Study and move directly to a Generator Interconnection Agreement, Applicant must agree in writing to be responsible for all actual costs of all required facilities deemed necessary by Distribution Provider. Applicant is responsible for all costs associated with Parallel Operation to support the safe and reliable operation of the Distribution and Transmission System as set forth in Section E.4. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.~~ ~~viii)~~

viii) DGS Phase II Interconnection Study Procedures

~~i) vii) Waiver of the Interconnection Facilities Study~~

~~The Facilities Study may be waived if Distribution Provider and Applicant mutually agree to such waiver. Within thirty (30) Calendar Days after Distribution Provider provides the final Interconnection System Impact Study report to Applicant (if the Interconnection Facilities Study is waived), Distribution Provider shall tender a draft Generator~~ (N)

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ELECTRIC RULE NO. 21 Sheet 73
GENERATING FACILITY INTERCONNECTIONS

~~Interconnection Agreement, together with draft appendices. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement. If Applicant chooses to forgo the~~

Distribution Provider shall utilize existing studies to the extent practicable in conducting the DGS Phase II Interconnection Study. The Distribution Provider shall use Reasonable Efforts to commence the DGS Phase II Interconnection Study within sixty (60) Calendar Days ~~within sixty (60) Calendar Days of the~~ of the issuance of the final DGS Phase I Interconnection Study report.~~report.~~

Distribution Provider shall use Reasonable Efforts to complete and distribute to Applicants the DGS Phase II Interconnection Study reports within sixty (60) Business Days after the commencement of each DGS Phase II Interconnection Study. The Distribution Provider will issue a final DGS Phase II Interconnection Study report to Applicant.

At the request of Applicant or at any time Distribution Provider determines that it will not meet the required time frame for completing the DGS Phase II Interconnection Study, Distribution Provider shall notify Applicant as to the schedule status of the DGS Phase II Interconnection Study and provide an estimated completion date. If the Distribution Provider is unable to complete the DGS Phase II Interconnection Study, such notice shall provide an explanation of the reasons why additional time is required.

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ELECTRIC RULE NO. 21 Sheet 74
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

~~1~~ 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~Distribution Group Study Process (Cont'd.)

~~viii) vii) Waiver of the Interconnection Facilities Study. (Cont'd.)~~

viii) ~~Facilities Study and move directly to a Generator Interconnection Agreement, Applicant must agree in writing to be responsible for all actual costs of all required facilities deemed necessary by Distribution Provider. Applicant is responsible for all costs associated with Parallel Operation to support the safe and reliable operation of the Distribution and Transmission System as set forth in Section E.4. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.~~ ~~viii)~~DGS Phase II Interconnection Study Procedures (Cont'd)

Upon request of the Applicant, Distribution Provider shall provide Applicant all supporting documentation, work papers, and relevant pre-Interconnection Request and post-Interconnection Request power, short circuit and stability databases for the DGS Phase II Interconnection Study, subject to confidentiality arrangements consistent with Section D.7.

The Distribution Provider will conduct a DGS Phase II Interconnection Study that will incorporate eligible Interconnection Requests from the previous DGS Phase I Interconnection Study. The DGS Phase II Interconnection Study shall (i) update, as necessary, analyses performed in the DGS Phase I Interconnection Study to account for the withdrawal of Interconnection Requests or other projects in the Interconnection Study Process, (ii) identify Distribution Upgrades needed to physically interconnect the Generating Facility, (iii) assign cost responsibility for the Distribution Upgrades, (iv) identify for each Interconnection Request a final Point of Interconnection and Distribution Provider's Interconnection Facilities, (v) provide an estimate for each Interconnection Request of the Distribution Provider's Interconnection Facilities, and (vi) optimize in-service timing requirements based on operational studies in order to maximize achievement of the Commercial Operation Dates of the Generating Facilities, as applicable. (N)

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ELECTRIC RULE NO. 21 Sheet 74
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21 Sheet 75
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.) (N)

ix) DGS Phase II Interconnection Study Results Meeting

If requested by an Applicant in a Distribution Study Group, a results meeting shall be held among Distribution Provider, the CAISO, if applicable, and the Applicant to discuss the results of the DGS Phase II Interconnection Study, including selection of the final Commercial Operation Date and assigned cost responsibility. Within five (5) Business Days of such request, Distribution Provider shall contact Applicant to establish a date agreeable to Applicant, Distribution Provider and the CAISO, if applicable, for the results meeting. If Applicant wants to have a meeting, it must be completed within thirty (30) Calendar Days of the final DGS Phase II Interconnection Study, unless mutually agreed upon by the Distribution Provider and Applicant.

x) Re-Evaluation of Distribution Upgrades Following DGS Phase II Interconnection Study

If an assessment following the issuance of the final DGS Phase II Interconnection Study is required to re-evaluate an Applicant's required Distribution Upgrades due to a project withdrawal, Distribution Provider shall so notify the Applicant in writing. Such re-evaluation shall take no longer than sixty (60) Calendar Days from the date of notice. Any cost of the re-evaluation shall be borne by the Applicant being re-evaluated.

~~viii~~ix) Timing of the DGS Phase II Interconnection Facilities Study.

Distribution Provider shall tender a draft Generator Interconnection Agreement pursuant to F.3.e.i. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.

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ELECTRIC RULE NO. 21 Sheet 76
GENERATING FACILITY INTERCONNECTIONS

. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)

ix) Timing of the DGS Phase II Interconnection Facilities Study (Cont'd.)

At any time Distribution Provider determines that it will not meet the required time frame for completing the Interconnection Facilities Study, Distribution Provider shall notify each Applicant in the Distribution Study Group in writing as to the status of the Interconnection Facilities Study and provide an estimated completion date with an explanation of the reasons why additional time is required.

~~ix) viii) Timing of the Interconnection Facilities Study. (Cont'd.)~~

~~Within thirty (30) Calendar Days after~~ Second and Third Postings of Interconnection Financial Security

Each Applicant in a Distribution Study Group will post its second posting prior to 120 Calendar Days after publication of the final DGS Phase II Interconnection Study report, and third postings of Interconnection Financial Security on or before the start of construction activities, as set forth in Sections F.4.c and F.4.d based on the cost responsibility for Network Upgrades, Distribution Upgrades, and Distribution Provider's Interconnection Facilities set forth in the final DGS Phase II Interconnection ~~Facilities~~ Study, ~~or the final Interconnection System Impact Study if the Interconnection Facilities Study is waived in accordance with Section F.3.d.vii~~.

xi) Withdrawal and Reallocation of Cost to Interconnection Requests in a Distribution Study Group

If at any time, an Interconnection Request is withdrawn or a Generator Interconnection Agreement is terminated, the upgrades identified in the Interconnection Studies will be revaluated to determine if they are still needed. If the ~~Distribution Provider provides the final Interconnection Facilities Study report to Applicant, or~~ determines that a restudy is needed, it will be conducted pursuant to Section F.3.b.xii. Any costs, identified in the Distribution Group Study not already funded by (N)

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ELECTRIC RULE NO. 21 Sheet 76
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Interconnection Financial Security that has been posted by the withdrawing Applicant, will be the responsibility of remaining Applicants in the Distribution Group and will be reallocated in accordance with E.4.e.

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ELECTRIC RULE NO. 21 Sheet 76
GENERATING FACILITY INTERCONNECTIONS

~~d~~b. ~~Independent~~ Distribution Group ~~Study Process (Cont'd.)~~ ~~(N)~~

~~x~~i) ~~Second and Third Postings of Interconnection Financial Security~~

Each ~~Applicant~~ in a Distribution Study Group ~~will post its second and third postings of Interconnection Financial Security as set forth in Sections F.4.c and F.4.d based on the cost responsibility for Network Upgrades, Distribution Upgrades, and Distribution Provider's Interconnection Facilities set forth in the final~~ DGS Phase II ~~Interconnection Facilities Study, or the final Interconnection System Impact Study if the Interconnection Facilities Study is waived in accordance with Section F.3.d.vii.~~

xii) Withdrawal and Reallocation of Cost to Interconnection Requests in a Distribution Study Group

If at any time, an Interconnection Request is withdrawn or a Generator Interconnection Agreement is terminated, the upgrades identified in the Interconnection Studies will be revaluated to determine if they are still needed. If the Distribution Provider determines that a restudy is needed, it will be conducted pursuant to Section F.3.b.xii. Any costs, identified in the Distribution Group Study not already funded by Interconnection Financial Security that has been posted by the withdrawing Applicant, will be the responsibility of remaining Applicants in the Distribution Group and will be reallocated in accordance with E.4.e.

xii) Restudy

The Restudy report shall be completed and provided to each Applicant remaining in the Distribution Group within sixty (60) Calendar Days of the withdrawal of the Interconnection Request that caused the Restudy. The Applicants remaining in the Distribution Group will be responsible for the cost of the restudy.

~~(N)~~

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

b. Distribution Group Study Process (Cont'd.)

xiii) Automatic Timing Extension

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ELECTRIC RULE NO. 21 Sheet 76
GENERATING FACILITY INTERCONNECTIONS

If during any six month period, the the number of Interconnection Requests exceeds by fifty (50) percent the number of active Interconnection Request in the preceding six month period, the study timelines for Distribution Group Studies begun during the next twelve (12) months will automatically increase as follows. The time to complete the DG Phase I Interconnection Study pursuant to Section F.3.b.ii will increase from sixty (60) Business Days to one hundred twenty (120) Business Days. The time to complete the DG Phase II Interconnection Study pursuant to Section F.3.b.viii will increase from sixty (60) Business Days to one hundred twenty (120) Calendar Days. The time to tender a draft Generator Interconnection Agreement pursuant to F.3.e.i will increase from thirty (30) Calendar Days to forty-five (45) Calendar Days and from forty-five (45) Calendar Days to sixty-seven (67) Calendar Days.

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

The Distribution Provider, in coordination with the CAISO, if

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ELECTRIC RULE NO. 21 Sheet 76
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applicable, shall determine whether the Interconnection Request is at or near the boundary of an Affected System(s) so as to potentially impact such Affected System(s). If a determination of potential impact is made, the Distribution Provider shall invite the Affected System Operator(s) to the Scoping Meeting by informing them of the time and place of the scheduled Scoping Meeting as soon as practicable.

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~~,~~ or in the case of a Distribution Group Study the final DG Phase II Interconnection Study report to each Applicant in the Distribution Study Group ~~or ii) the Interconnection Facilities Study results meeting,~~ or in the case of a Distribution Group Study the DG Phase II Interconnection Study ~~-~~but in no event later than forty-five (45) Calendar Days after Distribution Provider provides the final DG Phase II Interconnection Study report.

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ELECTRIC RULE NO. 21 Sheet 76
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21 Sheet 77
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

~~d~~b. ~~Independent~~ Distribution Group Study Process (Cont'd.)

xii) Restudy

The Restudy report shall be completed and provided to each Applicant remaining in the Distribution Study Group within ~~thirty (30~~~~ninety~~sixty (690) Calendar Days of withdrawal of the Interconnection ~~Facilities Study results meeting, if requested,~~Request that caused the Restudy. The Applicants remaining in the Distribution Study ~~Provider shall~~Group will be responsible for the cost of the restudy.

xiii) Automatic Timing Extension

If during any six month period, the the number of Interconnection Requests exceeds by fifty (50) percent the number of active Interconnection Request in the preceding six month period, the study timelines for Distribution Group Studies begun during the next twelve (12) months will automatically increase as follows. The time to complete the DG Phase I Interconnection Study pursuant to Section F.3.b.ii will increase from sixty (60) Business Days to one hundred twenty (120) Business Days. The time to complete the DG Phase II Interconnection Study pursuant to Section F.3.b.viii will increase from sixty (60) Business Days to one hundred twenty (120) Calendar Days. The time to tender a draft Generator Interconnection Agreement pursuant to F.3.e.i, ~~together with draft appendices, unless Applicant requests an Interconnection Facilities Study results meeting. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement~~ will increase from thirty (30) Calendar Days to forty-five (45) Calendar Days and from forty-five (45) Calendar Days to sixty-seven (67) Calendar Days.

c. Transmission Cluster Study Process

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If Applicant's Interconnection Request fails Screen Q or elects to be studied under the Transmission Cluster Study Process, Applicant shall have the option of applying for Interconnection under the Transmission Cluster Study Process of the Wholesale Distribution Tariff in accordance with its provisions. If Applicant fails Screen Q, Applicant's Interconnection Request shall be deemed withdrawn under this Rule regardless of whether Applicant applies for Interconnection under the WDT.

(Continued)

ELECTRIC RULE NO. 21 Sheet 78
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

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c. Transmission Cluster Study Process

An Applicant that chooses to apply under the Transmission Cluster Study Process of the WDT must file a valid Interconnection Request and post the applicable study deposit as set out in Distribution Provider's WDT. If Applicant chooses to apply under the WDT, then Applicant's Interconnection Request will be subject to the terms of Distribution Provider's WDT applicable to the Transmission Cluster Study Process, including those provisions establishing cost responsibility. Upon completion of the Transmission Cluster Study Process under the WDT, Applicants that are eligible for a State-jurisdictional Interconnection can, in accordance with the WDT, either execute the applicable Commission-approved Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities or the WDT Generator Interconnection Agreement. Such Commission-approved Generator Interconnection Agreement for Exporting Generating Facilities will include the cost responsibility established in the Transmission Cluster Study.

If and when an Applicant submits a new interconnection request under the WDT, Applicant is under the jurisdiction of FERC. On the date the applicable Commission-approved Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities is executed by Applicant, or Producer where those are different entities, and Distribution Provider, jurisdiction over the Interconnection reverts back to the Commission.

d. Independent Study Process

i) Scoping Meeting

Within five (5) Business Days after Distribution Provider notifies Applicant that the Interconnection Request has passed Screens Q and R and is thus eligible for the Independent Study Process, Distribution Provider shall contact Applicant to establish a date agreeable to Applicant and Distribution Provider for a scoping meeting.

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ELECTRIC RULE NO. 21 Sheet 79
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Independent Study Process (Cont'd.)

i) Scoping Meeting (Cont'd.)

The purpose of the scoping meeting shall be: (i) to discuss reasonable Commercial Operation Dates and alternative interconnection options; (ii) to exchange information, including any transmission data that would reasonably be expected to impact Applicant's interconnection options; (iii) to analyze such information; and (iv) to determine feasible Points of Interconnection and eliminate alternatives given resources and available information.

Distribution Provider will bring to the scoping meeting, as reasonably necessary to accomplish its purpose, such already available technical data, including, but not limited to; (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues.

Applicant will bring to the scoping meeting, in addition to the technical data in Attachment A of the Rule 21 Exporting Generating Facility Interconnection Request form, any system studies previously performed. Distribution Provider, the CAISO, if applicable, and Applicant will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Applicant shall designate its Point of Interconnection. The duration of the meeting shall be only what is sufficient to accomplish its purpose.

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ELECTRIC RULE NO. 21 Sheet 80
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Independent Study Process (Cont'd.)

i) Scoping Meeting (Cont'd.)

Within fifteen (15) Business Days after the scoping meeting, Distribution Provider shall provide Applicant with a~~n~~ Detailed Study Agreement with provisions for an Independent Study Process Study Agreement, which shall contain an outline of the scope of the Interconnection System Impact Study and Interconnection Facilities Study, contain a non-binding good faith estimate of the cost to perform such studies, and shall specify that Applicant is responsible for the actual cost of the Interconnection Studies, including reasonable administrative costs.

~~F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~

~~3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)~~

~~d. Independent Study Process (Cont'd.)~~

~~i) Scoping Meeting (Cont'd.)~~

Applicant shall execute and deliver to Distribution Provider the Independent Study Process Study Agreement no later than thirty (30) Business Days after the scoping meeting, or the Interconnection Request shall be deemed withdrawn.

ii) Timing of the Interconnection System Impact Study Results.

Absent extraordinary circumstances, Distribution Provider shall complete and issue a final Interconnection System Impact Study report within sixty (60) Business Days after the execution of an Independent Study Process Study Agreement. If the System Impact Study indicates a need for Network Upgrades, Distribution Provider will share applicable study results with the CAISO for review and comment and will incorporate comments into the final Interconnection System Impact Study report.

At any time Distribution Provider determines that it will not meet the required time frame for completing the Interconnection System Impact Study, Distribution Provider shall notify Applicant

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ELECTRIC RULE NO. 21 Sheet 80
GENERATING FACILITY INTERCONNECTIONS

in writing as to the status of the Interconnection System Impact Study and provide an estimated completion date with an explanation of the reasons why additional time is required.

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ELECTRIC RULE NO. 21 Sheet 81
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Independent Study Process (Cont'd.)

ii) Scoping Meeting (Cont'd.)

Upon request, Distribution Provider shall provide Applicant all relevant supporting documentation, workpapers and pre-Interconnection Request and post-Interconnection Request power flow, short circuit and stability databases, and currently planned Distribution Upgrades relevant to the Interconnection Request for the Interconnection System Impact Study. Applicant may be required to sign a non-disclosure agreement with terms consistent with Section D.7 regarding Confidentiality.

iii) Interconnection System Impact Study Results Meeting

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~~F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~

~~3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)~~

~~d. Independent Study Process (Cont'd.)~~

~~iii) Interconnection System Impact Study Results Meeting.~~

If requested by ~~a~~n Applicant, a results meeting shall be held among Distribution Provider, the CAISO, if applicable, and Applicant to discuss the results of the Interconnection Facilities ~~System Impact~~ Study, including assigned cost responsibility. Within five (5) Business Days of the~~such~~ request, Distribution Provider shall contact Applicant to establish a date agreeable to Applicant, Distribution Provider and the CAISO, if applicable, for the results meeting.

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ELECTRIC RULE NO. 21 Sheet 81
GENERATING FACILITY INTERCONNECTIONS

iv) Initial Posting of Interconnection Financial Security.

Applicant shall make its initial posting of Interconnection Financial Security in accordance with the requirements of Section F.4.b, within sixty (60) Calendar Days after being provided with the final Interconnection System Impact Study report, or its Interconnection Request shall be deemed withdrawn. The initial posting of Interconnection Financial Security will be based on the cost responsibility for Network Upgrades, Distribution Upgrades, and Distribution Provider's Interconnection Facilities set forth in the final Interconnection System Impact Study report.

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ELECTRIC RULE NO. 21 Sheet 82
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Independent Study Process (Cont'd.)

v) Modifications

At any time during the course of the Interconnection Studies, Applicant, Distribution Provider, or the CAISO, as applicable, may identify changes to the planned Interconnection that may improve the costs and benefits (including reliability) of the Interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes are acceptable to Distribution Provider, the CAISO, as applicable, and Applicant, such acceptance not to be unreasonably withheld, Distribution Provider shall modify the Point of Interconnection and/or configuration in accordance with such changes without altering the Interconnection Request's eligibility for participating in Interconnection Studies.

At the Interconnection System Impact Study results meeting, Applicant should be prepared to discuss any desired modifications to the Interconnection Request. After the publication of the final Interconnection System Impact Study report, but no later than five (5) Business Days following the Interconnection System Impact Study results meeting, Applicant shall submit to Distribution Provider, in writing, modifications to any information provided in the Interconnection Request. Distribution Provider will forward Applicant's request for modification to the CAISO, if applicable, within two (2) Business Days of receipt. If no Interconnection System Impact Study results meeting is held, Applicant shall submit to Distribution Provider any requested modifications within twenty-five (25) Business Days of the receipt of the final Interconnection System Impact Study report.

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ELECTRIC RULE NO. 21 Sheet 83
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Independent Study Process (Cont'd.)

v) Modifications (Cont'd)

Modifications permitted under this Section F.3.d.v shall include specifically: (a) a decrease in the electrical output (MW) of the proposed Generating Facility; (b) modifying the technical parameters associated with the Generating Facility technology or the Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. Distribution Provider, in coordination with CAISO, if applicable, will evaluate whether the proposed modification to the Interconnection Request constitutes a Material Modification. Distribution Provider will inform Applicant in writing whether the modifications would constitute a Material Modification within 10 Business Days of receipt of the proposed request for modification. Any change to the Point of Interconnection, except for that specified by Distribution Provider in an Interconnection Study or otherwise allowed under this Section F.3.d.v, shall constitute a Material Modification.

If the proposed modification is determined to be a Material Modification, Applicant may either withdraw the proposed modification or proceed with a new Interconnection Request for such modification. Applicant shall make such determination within ten (10) Business Days after being provided the Material Modification determination results.

Proposed modifications determined not to be Material Modifications may still necessitate the need to re-evaluate the System Impact Study to determine modifications to the Interconnection Facilities and Distribution Upgrades. Distribution Provider will provide Applicant an estimate of time to complete the re-evaluation and the associated incremental cost required to complete the re-evaluation. Applicant may either accept the additional time and cost to complete the re-evaluation, withdraw the proposed modification request, or proceed with a new Interconnection Request for such modification. Applicant shall make such determination within ten (10) Business Days after being provided the Material Modification results.

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ELECTRIC RULE NO. 21 Sheet 84
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Independent Study Process (Cont'd.)

vi) Scope and Purpose of the Interconnection Facilities Study and Study Deposit.

Within either (i) five (5) Business Days following the results meeting, or (ii) within twenty-five (25) Business Days of the receipt of the final Interconnection System Impact Study report if no Interconnection System Impact Study results meeting is held, Applicant shall submit to Distribution Provider the data required by Distribution Provider. At that time, for Generating Facilities 5 MW or less, Applicant shall also submit the Facilities Study deposit, as set out in Section E.3.a, unless the Facilities Study will be waived in accordance with Section F.3.d.vii.

vii) Waiver of the Interconnection Facilities Study

The Facilities Study may be waived if Distribution Provider and Applicant mutually agree to such waiver. Within thirty (30) Calendar Days after Distribution Provider provides the final Interconnection System Impact Study report to Applicant (if the Interconnection Facilities Study results meeting, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, to Applicant. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement. If Applicant chooses to forgo the Facilities Study and move directly to a Generator Interconnection Agreement, Applicant must agree in writing to be responsible for all actual costs of all required facilities deemed necessary by Distribution Provider. Applicant is responsible for all costs associated with Parallel Operation to support the safe and reliable operation of the Distribution and Transmission System as set forth in Section E.4. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.

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ELECTRIC RULE NO. 21 Sheet 85
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Independent Study Process (Cont'd.)

viii) Timing of the Interconnection Facilities Study.

The Interconnection Facilities Study shall be completed and provided to Applicant within sixty (60) Business Days after Applicant posts the initial Interconnection Financial Security in accordance with Section F.4.b where Distribution Upgrades or Network Upgrades are identified and, for Generating Facilities with a Gross Nameplate Rating of 5 MW or less, Applicant submits the Facilities Study deposit in accordance with Section E.3.a and F.3.d.vi. In cases where no Distribution Upgrades and/or Network Upgrades are identified and the required facilities are limited to Distribution Provider's Interconnection Facilities only, the Interconnection Facilities Study shall be completed within forty-five (45) Business Days after Applicant posts the initial Interconnection Financial Security and, for Generating Facilities with a Gross Nameplate Rating of 5 MW or less, Applicant submits the Facilities Study deposit.

If applicable, Distribution Provider will share the applicable study results with the CAISO for review and comment, and will incorporate CAISO comments, if any, into the study report prior to issuing a final Interconnection Facilities Study report to Applicant.

Within thirty (30) Calendar Days after Distribution Provider provides the final Interconnection Facilities Study report to Applicant, or within thirty (30) Calendar Days of an Interconnection Facilities Study results meeting, if requested, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, unless Applicant requests an Interconnection Facilities Study results meeting. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.

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ELECTRIC RULE NO. 21 Sheet 86
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

d. Independent Study Process (Cont'd.)

viii) Timing of the Interconnection Facilities Study.

At any time Distribution Provider determines that it will not meet the required time frame for completing the Interconnection Facilities Study, Distribution Provider shall notify Applicant in writing as to the status of the Interconnection Facilities Study and provide an estimated completion date with an explanation of the reasons why additional time is required.

ix) Interconnection Facilities Study Results Meeting.

If requested by Applicant, a results meeting shall be held among Distribution Provider, the CAISO, if applicable, and Applicant to discuss the results of the Interconnection Facilities Study, including assigned cost responsibility. Within five (5) Business Days of the request, Distribution Provider shall contact Applicant to establish a date agreeable to Applicant, Distribution Provider and the CAISO, if applicable, for the results meeting.

Within thirty (30) Calendar Days after the Interconnection Facilities Study results meeting, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, to Applicant. ~~Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.~~

x) Second and Third Postings of Interconnection Financial Security

Applicant will post its second and third postings of Interconnection Financial Security as set forth in Sections F.4.c and F.4.d based on the cost responsibility for Network Upgrades, Distribution Upgrades, and Distribution Provider's Interconnection Facilities set forth in the final Interconnection Facilities Study, or the final Interconnection System Impact Study if the Interconnection Facilities Study is waived in accordance with Section F.3.d.vii.

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ELECTRIC RULE NO. 21 Sheet 87
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

e. Generator Interconnection Agreement

i) Tender

The Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, within thirty (30) Calendar Days of the following:

i) Provision of the final Interconnection Facilities Study report (or results meeting, if held) to Applicant,

ii) Provision of the final Interconnection System Impact Study report (or results meeting, if held) to Applicant,

iii) Provision of the final DGS Phase II Interconnection Study report to each Applicant in the Distribution Study Group (or results meeting, if held).

Applicant(s) shall provide written comments, or notification of no comments, to the draft appendices within thirty (30) Calendar Days.

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ELECTRIC RULE NO. 21 Sheet 88
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

e. Generator Interconnection Agreement (Cont'd.)

ii) Negotiation

Notwithstanding Section F.3.e.i, at the request of Applicant, Distribution Provider shall begin negotiations with Applicant concerning the appendices to the Generator Interconnection Agreement at any time after Distribution Provider provides Applicant with the final Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived) or final DGS Phase II Interconnection Study report in the case of the Distribution Group Study Process. Distribution Provider and Applicant shall negotiate concerning any disputed provisions of the appendices to the draft Generator Interconnection Agreement for not more than ninety (90) Calendar Days after Distribution Provider provides Applicant with the final DGS Phase II Interconnection Study report in the case of the Distribution Group Study Process or the final Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived) in the case of the Independent Study Process. Producers whose Interconnection Request were studied in a Distribution Group Study Process will be required to fund upgrades triggered by more than one Interconnection Request in accordance with a payment schedule that allows such upgrades to be completed in time for the earliest COD of such Interconnection requests. Producer is responsible for all costs associated with Parallel Operation to support the safe and reliable operation of the Distribution System and Transmission System as set forth in Section E.4.

(N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 89
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

e. Generator Interconnection Agreement (Cont'd.)

ii) Negotiation (Cont'd.)

~~—~~If Applicant determines that negotiations are at an impasse, it may request termination of the negotiations at any time after tender of the draft Generator Interconnection Agreement pursuant to Section F.3.e.i and initiate Dispute Resolution procedures pursuant to Section K. Unless otherwise agreed by the Parties, if Applicant or Producer, where those are different entities, has not executed the Generator Interconnection Agreement, or initiated Dispute Resolution procedures pursuant to Section K, within ninety (90) Calendar Days after issuance of the final DGS Phase II Interconnection Study report in the case of the Distribution Group Study Process or Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived) in the case of the Independent Study Process, it shall be deemed to have withdrawn its Interconnection Request. Distribution Provider shall provide to Producer a final Generator Interconnection Agreement within fifteen (15) Business Days after the completion of the negotiation process.

iii) Extensions of Commercial Operation Date.

~~Extensions of t~The Commercial Operation Date will be agreed upon in the executed Generator Interconnection Agreement. Reasonable Commercial Operation Dates will be discussed at the Interconnection Facilities Study results meeting or the System Impact Study results meeting if the Facilities Study is waived. ~~Interconnection Requests under the Independent Study Process will not be granted extensions except in circumstances beyond the control of Producer.~~ A request for an extension of Commercial Operation date after the Generator Interconnection Agreement is executed will be agreed to provided that, the producer is still responsible for funding ant Distribution Upgrades and Network Upgrades as specified in the Generator Interconnection Agreement and under the same payment schedule agreed upon in the Generator Interconnection Agreement. This provision has no impact on any power purchase agreement terms.

(Continued)

ELECTRIC RULE NO. 21 Sheet 90
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

f. Engineering & Procurement (E&P) Agreement

Prior to executing a Generator Interconnection Agreement, in order to advance the implementation of its interconnection, an Applicant may request, and Distribution Provider shall offer, an E&P Agreement that authorizes Distribution Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, Distribution Provider shall not be obligated to offer an E&P Agreement if Applicant is in Dispute Resolution as a result of an allegation that Applicant has failed to meet any milestones or comply with any prerequisites specified in other parts of this Rule. The E&P Agreement is an optional procedure. The E&P Agreement shall provide for Applicant to pay the cost of all activities authorized by Applicant and to make advance payments or provide other satisfactory security for such costs. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 91
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)

f. Engineering & Procurement (E&P) Agreement (Cont'd.)

Applicant shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its interconnection, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. If Applicant withdraws its Interconnection Request, or either Applicant or Distribution Provider terminates the E&P Agreement, to the extent the equipment ordered can be canceled under reasonable terms, Applicant shall be obligated to pay the associated cancellation costs. To the extent that the equipment cannot be reasonably canceled, Distribution Provider may elect: (i) to take title to the equipment, in which event Distribution Provider shall refund Applicant any amounts paid by Applicant for such equipment and shall pay the cost of delivery of such equipment, or (ii) to transfer title to and deliver such equipment to Applicant, in which event Applicant shall pay any unpaid balance and cost of delivery of such equipment.

4. INTERCONNECTION FINANCIAL SECURITY

a. Types of Interconnection Financial Security.

The Interconnection Financial Security posted by an Applicant may be any combination of the following types of Interconnection Financial Security provided in favor of Distribution Provider:

(a) an irrevocable and unconditional letter of credit issued by a bank or financial institution that has a credit rating of A or better by Standard and Poor's or A2 or better by Moody's;

(b) an unconditional and irrevocable guaranty issued by a company that has a credit rating of A or better by Standard and Poor's or A2 or better by Moody's; (N)

(c) a cash deposit standing to the credit of Distribution Provider and in an interest-bearing escrow account maintained at a bank or financial institution that is reasonably acceptable to Distribution Provider;

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(Continued)

ELECTRIC RULE NO. 21 Sheet 92
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

a. Types of Interconnection Financial Security (Cont'd.)

Interconnection Financial Security instruments as listed above shall be in such form as Distribution Provider may reasonably require from time to time by notice to Applicants, or in such other form as has been evaluated and approved as reasonably acceptable by Distribution Provider.

Distribution Provider shall require the use of standardized forms of Interconnection Financial Security to the greatest extent possible. If at any time the guarantor of the Interconnection Financial Security fails to maintain the credit rating required by this Section F.4.a, Applicant shall provide to Distribution Provider replacement Interconnection Financial Security meeting the requirements of this Section F.4.a within five (5) Business Days of the change in credit rating.

Interest on a cash deposit standing to the credit of Distribution Provider in an interest-bearing escrow account under subpart (d) of this Section F.4.a will accrue to Applicant's benefit.

b. Initial Posting of Interconnection Financial Security

On or before sixty (60) Calendar Days after publication of the final Interconnection System Impact Study report, Applicant must post, with notice to Distribution Provider, two separate Interconnection Financial Security instruments.

First, Applicant proposing to interconnect a Large Generating Facility shall post an Interconnection Financial Security instrument in an amount equal to the lesser of (i) fifteen percent (15%) of the total cost responsibility assigned to Applicant in the final Interconnection System Impact Study or final DGS Phase I Interconnection Study in the case of the Distribution Group Study Process for Network Upgrades, (ii) $20,000 per MW of electrical output of the Large Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by Applicant in its Interconnection Request, including any requested modifications thereto, or (iii) $7,500,000. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 93
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

b. Initial Posting of Interconnection Financial Security (Cont'd.)

Applicant proposing to interconnect a Small Generating Facility shall post an Interconnection Financial Security instrument in an amount equal to the lesser of (i) fifteen percent (15%) of the total cost responsibility assigned to Applicant in the final Interconnection System Impact Study or final DGS Phase I Interconnection Study in the case of the Distribution Group Study Process for Network Upgrades, or (ii) $20,000 per MW of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by Applicant in its Interconnection Request.

Second, Applicant shall also post an Interconnection Financial Security instrument in the amount of twenty percent (20%) of the total estimated cost responsibility assigned to Applicant in the final Interconnection System Impact Study DGS Phase I Interconnection Study in the case of the Distribution Group Study Process for Distribution Provider's Interconnection Facilities and Distribution Upgrades.

The failure by an Applicant to timely post the Interconnection Financial Security required by this Section F.4.b shall result in the Interconnection Request being deemed withdrawn subject to Section F.6.

Applicant shall provide Distribution Provider with written notice that it has posted the required Interconnection Financial Security no later than the applicable final day for posting.

Applicant shall provide Distribution Provider with written notice that it has posted the required Interconnection Financial Security no later than the applicable final day for posting.

(N)

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ELECTRIC RULE NO. 21 Sheet 94
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

c. Second Posting of Interconnection Financial Security

On or before one hundred twenty (120) Calendar Days after publication of the final DGS Phase II Interconnection Study report or final Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived in the case of the Independent Study Process), Applicant shall post two separate Interconnection Financial Security instruments.

First, Applicant proposing to interconnect a Large Generating Facility shall post an Interconnection Financial Security instrument such that the total Interconnection Financial Security posted by Applicant for Network Upgrades equals the lesser of (i) $15 million, or (ii) thirty percent (30%) of the total cost responsibility assigned to Applicant for Network Upgrades in either the final Interconnection System Impact Study (final DGS Phase I Interconnection Study in the case on the Distribution Group Study Process) or final Interconnection Facilities Study (final DGS Phase II Interconnection Study in the case of the Distribution Group Study Process), whichever is lower.

Applicant proposing to interconnect a Small Generating Facility shall post an Interconnection Financial Security instrument such that the total Interconnection Financial Security posted by Applicant for Network Upgrades equals the lesser of (i) $1 million, or (ii) thirty percent (30%) of the total cost responsibility assigned to Applicant for Network Upgrades in either the final Interconnection System Impact Study or final Interconnection Facilities Study,(final DGS Phase I or final DGS Phase II Interconnection Studies, respectively, for the Distribution Group Study Process) whichever is lower.

Second, Applicant shall also post an Interconnection Financial Security instrument such that the total Interconnection Financial Security posted by Applicant for Distribution Provider's Interconnection Facilities and Distribution Upgrades equals thirty percent (30%) of the total cost responsibility assigned to Applicant in the final DGS Phase II Interconnection Study or final Interconnection Facilities Study~~,~~; or final Interconnection System Impact Study in the case of the Independent Study Process if the Interconnection Facilities Study is waived, for Distribution Provider's Interconnection Facilities and Distribution Upgrades. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 95
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

2 4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

c. Second Posting of Interconnection Financial Security (Cont'd.)

If the start date for Construction Activities of Network Upgrades, Distribution Provider's Interconnection Facilities and Distribution Upgrades on behalf of Applicant is prior to one hundred twenty (120) Calendar Days after publication of the final DGS Phase II Interconnection Study report or final Interconnection Facilities Study report (or final Interconnection System Impact Study report in the case of the Independent Study Process if the Interconnection Facilities Study is waived), that start date must be set forth in Applicant's Generator Interconnection Agreement and Applicant shall make its second posting of Interconnection Financial Security pursuant to Section F.4.d rather than Section F.4.c.

The failure by an Applicant to timely post the Interconnection Financial Security required by this Section F.4.c shall result in the Interconnection Request being deemed withdrawn and subject to Section F.6 or, if applicable, shall constitute grounds for termination of the Generator Interconnection Agreement.

d. Third Posting of Interconnection Financial Security.

On or before the start of Construction Activities for Network Upgrades or Distribution Provider's Interconnection Facilities or Distribution Upgrades on behalf of Applicant, whichever is earlier, Applicant shall modify the two separate Interconnection Financial Security instruments posted as follows.

With respect to the Interconnection Financial Security instrument for Network Upgrades, Applicant shall modify this instrument so that it equals one hundred percent (100%) of the total cost responsibility assigned to Applicant for Network Upgrades in the final DGS Phase II Interconnection Study or final Interconnection Facilities Study, or the final Interconnection System Impact Study in the case of the Independent Study Process if the Interconnection Facilities Study is waived. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 96
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

d. Third Posting of Interconnection Financial Security. (Cont'd.)

With respect to the Interconnection Financial Security instrument for Distribution Provider's Interconnection Facilities or Distribution Upgrades, Applicant shall modify this instrument so that it equals one hundred percent (100%) of the total cost responsibility assigned to Applicant for Distribution Provider's Interconnection Facilities in the final DGS Phase II Interconnection Study or final Interconnection Facilities Study, or the final Interconnection System Impact Study in the case of the Independent System Process if the Interconnection Facilities Study is waived.

The failure by an Applicant to timely post the Interconnection Financial Security required by this Section F.4.d shall constitute grounds for termination of the Generator Interconnection Agreement.

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security for Projects Studied Under the Independent Study Process.

Except as set forth in Section F.4.e.i, withdrawal of an Interconnection Request or termination of a Generator Interconnection Agreement shall allow Distribution Provider to liquidate the Interconnection Financial Security, or balance thereof, posted by Applicant for Network Upgrades at the time of withdrawal. To the extent the amount of the liquidated Interconnection Financial Security plus capital, if any, separately provided by Applicant to satisfy its obligation to finance Network Upgrades in accordance with Section E.4 exceeds the total cost responsibility for Network Upgrades assigned to Applicant by the final Interconnection Facilities Study, or the final Interconnection System Impact Study if the Interconnection Facilities Study is waived, Distribution Provider shall remit to Applicant the excess amount. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 97
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security for Projects Studied Under the Independent Study Process. (Cont'd.)

Withdrawal of an Interconnection Request or termination of a Generator Interconnection Agreement shall result in the release to Applicant of any Interconnection Financial Security posted by Applicant for Distribution Provider's Interconnection Facilities and Distribution Upgrades, except with respect to any amounts necessary to pay for costs incurred or irrevocably committed by Distribution Provider on behalf of Applicant for Distribution Provider's Interconnection Facilities and Distribution Upgrades and for which Distribution Provider has not been reimbursed.

i) Conditions for Partial Recovery of Interconnection Financial Security Upon Withdrawal of Interconnection Request or Termination of Generator Interconnection Agreement.

A portion of the Interconnection Financial Security shall be released to Applicant, consistent with Section F.4.e.ii, if the withdrawal of the Interconnection Request or termination of the Generator Interconnection Agreement occurs for any of the following reasons:

(1) Failure to Secure a Power Purchase Agreement.

At the time of withdrawal of the Interconnection Request or termination of the Generator Interconnection Agreement, Applicant demonstrates to Distribution Provider that it has failed to secure an acceptable power purchase agreement for the energy or capacity of the Generating Facility after a good faith effort to do so. A good faith effort can be established by demonstrating participation in a competitive solicitation process or bilateral negotiations with an entity other than an Affiliate that progressed, at minimum, to the mutual exchange by all counter-parties of proposed term sheets. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 98
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

5 4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security for Projects Studied Under the Independent Study Process. (Cont'd.)

i) Conditions for Partial Recovery of Interconnection Financial Security Upon Withdrawal of Interconnection Request or Termination of Generator Interconnection Agreement. (Cont'd.)

(2) Failure to Secure a Necessary Permit.

At the time of withdrawal of the Interconnection Request or termination of the Generator Interconnection Agreement, Applicant demonstrates to Distribution Provider that it has received a final denial from the primary issuing Governmental Authority of any permit or other authorization necessary for the construction or operation of the Generating Facility.

(3) Increase in the Cost of Distribution Provider's Interconnection Facilities or Distribution Upgrades.

Applicant withdraws the Interconnection Request or terminates the Generator Interconnection Agreement based on an increase of: (i) more than 30% or $300,000, whichever is greater, in the estimated cost of Distribution Provider's Interconnection Facilities; or (ii) more than 30% or $300,000, whichever is greater, in the estimated cost of Distribution Upgrades allocated to Applicant from the Interconnection System Impact Study to the Interconnection Facilities Study. This Section F.4.e.i.(3) shall not apply if the cause of the cost increase under (i) or (ii) above is the result of a change requested by Applicant pursuant to Section F.3.d.v. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 99
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security. (Cont'd.)

i) Conditions for Partial Recovery of Interconnection Financial Security Upon Withdrawal of Interconnection Request or Termination of Generator Interconnection Agreement. (Cont'd.)

(4) Material Change in Applicant's Interconnection Facilities Created by Distribution Provider's Change in the Point of Interconnection.

Applicant withdraws the Interconnection Request or terminates the Generator Interconnection Agreement based on a material change from the Interconnection System Impact Study in the Point of Interconnection for the Generating Facility mandated by Distribution Provider and included in the final Interconnection Facilities Study. A material change in the Point of Interconnection shall be where the Point of Interconnection has moved to (i) a different substation, (ii) a different line on a different right of way, or (iii) a materially different location than previously identified on the same line.

ii) Schedule for Determining Non-Refundable Portion of the Interconnection Financial Security for Network Upgrades.

(1) Up to One Hundred Twenty (120) Calendar Days ~~After~~ after the ~~Final~~ final Interconnection Facilities Study ~~Report~~ report (or ~~Final~~ final Interconnection System Impact Study ~~Report~~ report if the Interconnection Facilities Study is Waived).

If, at any time after the initial posting of the Interconnection Financial Security for Network Upgrades under Section F.4.b and on or before one hundred twenty (120) Calendar Days (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 100
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security. (Cont'd.)

ii) Schedule for Determining Non-Refundable Portion of the Interconnection Financial Security for Network Upgrades (Cont'd.)

(1) Up to One Hundred Twenty (120) Calendar Days After the Final Interconnection Facilities Study Report (or Final Interconnection System Impact Study Report if the Interconnection Facilities Study is Waived). (Cont'd.)

after the date of issuance of the final Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived), Applicant withdraws the Interconnection Request or terminates the Generator Interconnection Agreement, as applicable, in accordance with Section F.4.e.i, Distribution Provider shall liquidate the Interconnection Financial Security for Network Upgrades under Section F.4.b and reimburse Applicant in an amount of (i) any posted amount less fifty percent (50%) of the value of the posted Interconnection Financial Security for Network Upgrades (with a maximum of $10,000 per requested and approved MW value of the Generating Facility Capacity at the time of withdrawal being retained by Distribution Provider), or (ii) if the Interconnection Financial Security has been drawn down to finance Pre-Construction Activities for Network Upgrades on behalf of Applicant, the lesser of the remaining balance of the Interconnection Financial Security or the amount calculated under (i) above. If Applicant has separately provided capital apart from the Interconnection Financial Security to finance Pre-Construction Activities for Network Upgrades, Distribution Provider will credit the capital provided as if drawn from the Interconnection Financial Security and apply (ii) above. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 101
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security. (Cont'd.)

ii) Schedule for Determining Non-Refundable Portion of the Interconnection Financial Security for Network Upgrades. (Cont'd.)

(2) Between One Hundred Twenty-One (121) Calendar Days and After Final Interconnection Facilities Study Report and the Commencement of Construction Activities.

If, at any time between one hundred twenty-one (121) Calendar Days and after the date of issuance of the final Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived), and the commencement of Construction Activities for either Network Upgrades or Distribution Provider's Interconnection Facilities or Distribution Upgrades, Applicant withdraws the Interconnection Request or terminates the Generator Interconnection Agreement, as applicable, in accordance with Section F.4.e.i, Distribution Provider shall liquidate the Interconnection Financial Security for Network Upgrades under Section F.4.c and reimburse Applicant in an amount of (i) any posted amounts less fifty percent (50%) of the value of the posted Interconnection Financial Security for Network Upgrades (with a maximum of $20,000 per requested and approved MW value of the Generating Facility Capacity at the time of withdrawal being retained by Distribution Provider), or, (ii) if the Interconnection Financial Security has been drawn down to finance Pre-Construction Activities for Network Upgrades on behalf of Applicant, the lesser of the remaining balance of the Interconnection Financial Security or the amount calculated under (i) above. If Applicant has separately provided capital apart from the Interconnection Financial Security to finance Pre-Construction Activities for Network Upgrades, Distribution Provider will credit the capital provided as if drawn from the Interconnection Financial Security and apply (ii) above. (N)

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ELECTRIC RULE NO. 21 Sheet 102
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security. (Cont'd.)

ii) Schedule for Determining Non-Refundable Portion of the Interconnection Financial Security for Network Upgrades. (Cont'd.)

(3) After Commencement of Construction Activities.

Once Construction Activities on Network Upgrades on behalf of Applicant commence, any withdrawal of the Interconnection Request or termination of the Generator Interconnection Agreement by Applicant will be treated in accordance with this Section F.4.e.

(4) Notification and Accounting by Distribution Provider.

Distribution Provider will notify Applicant within three (3) Business Days of liquidating any Interconnection Financial Security. Within seventy-five (75) Calendar Days of any liquidating event, Distribution Provider will provide Applicant with an accounting of the disposition of the proceeds of the liquidated Interconnection Financial Security and all proceeds not otherwise reimbursed to Applicant or applied to costs incurred or irrevocably committed by Distribution Provider on behalf of Applicant in accordance with this Section F.4.e shall be applied as directed by the Commission. Where an Applicant with remaining proceeds from Interconnection Financial Security cannot be located, such remaining proceeds shall escheat to the State pursuant to the Unclaimed Property Law commencing with the California Code of Civil Procedure § 1500. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 103
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security for Projects Studied Under the Independent Study Process. (Cont'd.)

ii) Schedule for Determining Non-Refundable Portion of the Interconnection Financial Security for Network Upgrades. (Cont'd.)

~~f. F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)~~

General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security for Interconnection Requests Studied Under the Distribution Group Study.

Withdrawal of an Interconnection Request or termination of a Generator Interconnection Agreement shall allow Distribution Provider to liquidate the Interconnection Financial Security, or balance thereof, posted by Applicant for Network Upgrades or Distribution Upgrades at the time of withdrawal. To the extent the amount of the liquidated Interconnection Financial Security plus capital, if any, separately provided by Applicant to satisfy its obligation to finance Network Upgrades or Distribution Upgrades in accordance with Section E.4 exceeds the total cost responsibility for Network Upgrades or Distribution Upgrades assigned to Applicant by the final Interconnection Facilities Study, or the final Interconnection System Impact Study if the Interconnection Facilities Study is waived, Distribution Provider shall remit to Applicant the excess amount.

Withdrawal of an Interconnection Request or termination of a Generator Interconnection Agreement shall result in the release to Applicant of any Interconnection Financial Security posted by Applicant for Distribution Provider's Interconnection Facilities, except with respect to any amounts necessary to pay for costs incurred or irrevocably committed by Distribution Provider on behalf of Applicant for Distribution Provider's Interconnection Facilities and for which Distribution Provider has not been reimbursed. (N)

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ELECTRIC RULE NO. 21 Sheet 103
GENERATING FACILITY INTERCONNECTIONS

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ELECTRIC RULE NO. 21 Sheet 104
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.)

5. COMMISSIONING TESTING AND PARALLEL OPERATION

a. Commissioning Testing

Producer Arranges for and Completes Commissioning Testing of Generating Facility and Producer's Interconnection Facilities: Producer is responsible for testing new Generating Facilities and associated Interconnection Facilities according to Section L.5 to ensure compliance with the safety and reliability provisions of this Rule prior to being operated in parallel with Distribution Provider's Distribution or Transmission System. For non-Certified Equipment, Producer shall develop a written testing plan to be submitted to Distribution Provider for its review and acceptance. Alternatively, Producer and Distribution Provider may agree to have Distribution Provider conduct the required testing at Producer's expense. Where applicable, the test plan shall include the installation test procedures published by the manufacturer of the Generating Facility or Interconnection Facilities. Facility testing shall be conducted at a mutually agreeable time, and depending on who conducts the test, Distribution Provider or Producer shall be given the opportunity to witness the tests.

b. Parallel Operation or Momentary Parallel Operation

Producer shall not commence Parallel Operation of its Generating Facility with Distribution Provider's system unless it has received Distribution Provider's express written permission to do so. Distribution Provider shall authorize Producer's Generating Facility for Parallel Operation or Momentary Parallel Operation with Distribution Provider's Distribution or Transmission System, in writing, within five (5) Calendar Days of satisfactory compliance with the terms of all applicable agreements. Compliance may include, but not be limited to, provision of any required documentation and satisfactorily completing any required inspections or tests as described herein or in the agreements formed between Producer and Distribution Provider.

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ELECTRIC RULE NO. 21 Sheet 105
GENERATING FACILITY INTERCONNECTIONS

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)

6. WITHDRAWAL

Applicant may withdraw its Interconnection Request at any time by written notice of such withdrawal to Distribution Provider. In addition, after receipt of the Interconnection Request, if Applicant fails to adhere to the requirements and timelines of this tariff, except as provided in Section K (Disputes), Distribution Provider shall deem the Interconnection Request to be withdrawn and shall provide written notice to Applicant of the deemed withdrawal within five (5) Business Days and an explanation of the reasons for such deemed withdrawal. Upon receipt of such written notice, Applicant shall have five (5) Business Days in which to either respond with information or action that either cures the deficiency or supports its position that the deemed withdrawal was erroneous and notifies Distribution Provider of its intent to pursue Dispute Resolution. If Applicant cures the deficiency or supports its position that the deemed withdrawal was erroneous, Applicant shall not lose its queue position established pursuant to Section E.5.

Withdrawal shall result in the removal of the Interconnection Request from the Interconnection Study process. If Applicant disputes the withdrawal and removal from the Interconnection Study process and has elected to pursue Dispute Resolution as set forth in Section K, Applicant's Interconnection Request will not be considered in any ongoing Interconnection Study during the Dispute Resolution process.

In the event of such withdrawal, Distribution Provider, subject to the provisions in Section D.7 and Sections E.3.a, as applicable, shall provide, at Applicant's request, all information that Distribution Provider developed for any completed study conducted up to the date of withdrawal of the Interconnection Request. (N)

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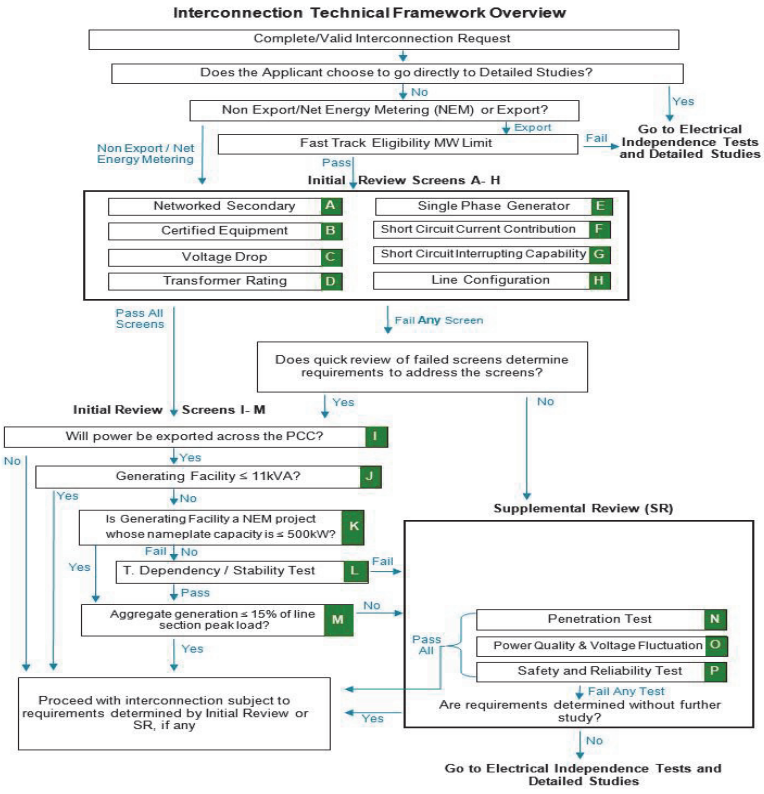
ELECTRIC RULE NO. 21 Sheet 106
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (N)



(N)

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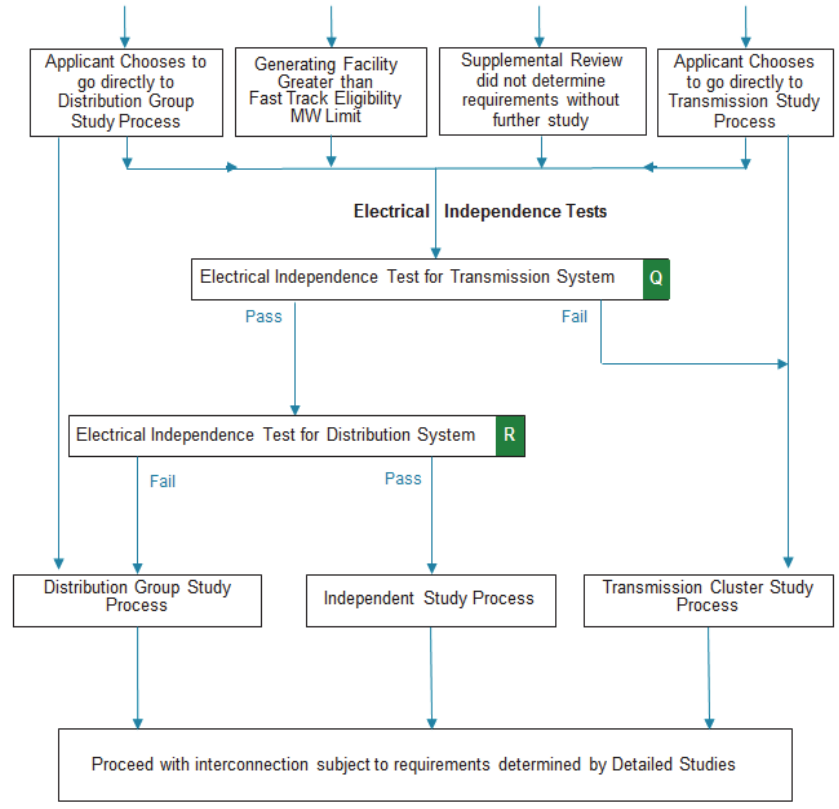
ELECTRIC RULE NO. 21 Sheet 107
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

Interconnection Technical Framework- Overview



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ELECTRIC RULE NO. 21 Sheet 108
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS

The Initial Review consists of Screens A through M. If any of the Screens A through H are not passed, a quick review of the failed Screen(s) may determine the requirements to address the failure(s). Otherwise, Supplemental Review is required.

Some examples of solutions that may be available to mitigate the impact of a failed Screen A through H are:

1. Replace an overloaded distribution transformer with a larger transformer.
2. Replace overloaded secondary conductors with larger conductor.
3. Determine if phase balancing on the transformer is possible with minimal review.
4. If possible without further study check if the Generating Facility will actually overstress equipment.

a. Screen A: Is the PCC on a Networked Secondary System?

- If Yes (fail), must go to Supplemental Review except if the Generating Facility is on a Spot Network and meets the following criteria. If the Generating Facility meets the following criteria, continue to Screen B pursuant to Section G.1.

  The proposed Generating Facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of 5 % of a Spot Network's maximum load or 50 kW. Under no condition shall the interconnection of a Generating Facility result in a backfeed of a Spot Network or cause unnecessary operation of any Spot Network protectors. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 109
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

a. Screen A: Is the PCC on a Networked Secondary System? (Cont'd.)

- If No (pass), continue to Screen B.

Significance: Special considerations must be given to Generating Facilities proposed to be installed on Networked Secondary Systems because of the design and operational aspects of network protectors. There are no such considerations for radial distribution systems.

b. Screen B: Is Certified Equipment used?

Does the Interconnection Request propose to use Certified Equipment as set out in Section L or does the equipment have interim Distribution Provider approval?

- If Yes (pass), continue to Screen C.
- If No (fail) continue to Screen C pursuant to Section G.1.

Interim approval allows Distribution Provider to treat equipment that has not completed this Rule's Certification requirements as having met the intent of this screen. Interim approval is granted at Distribution Provider's discretion on case by case bases, and approval for one Generating Facility does not guarantee approval for any other Generating Facility.

Significance: If the Generating and/or Interconnection Facility has been Certified or previously approved by Distribution Provider, Distribution Provider does not need to repeat its full review and/or test of the Generating and/or Interconnection Facility's Protective Functions. Site Commissioning Testing may still be required to ensure that the Protective Functions are working properly.

Certification indicates that the criteria in Section L, as appropriate, have been tested and verified. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 110
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

c. Screen C: Is the Starting Voltage Drop within acceptable limits?

- If Yes (pass), continue to Screen D.
- If No (fail), continue to Screen D pursuant to Section G.1.

Note: This Screen only applies to Generating Facilities that start by motoring the Generator(s).

Distribution Provider has two options in determining whether Starting Voltage Drop is acceptable. The option to be used is at Distribution Provider's discretion.

Option 1: Distribution Provider may determine that the Generating Facility's starting In-rush Current is equal to or less than the continuous ampere rating of the Customer's service equipment.

Option 2: Distribution Provider may determine the impedances of the service distribution transformer (if present) and the secondary conductors to Customer's service equipment and perform a voltage drop calculation. Alternatively, Distribution Provider may use tables or nomographs to determine the voltage drop. Voltage drops caused by starting a Generator must be less than 2.5% for primary Interconnections and 5% for secondary Interconnections.

Significance:

1. This Screen addresses potential voltage fluctuation problems that may be caused by Generators that start by motoring.
2. When starting, Generating Facilities should have minimal impact on the service voltage to other Distribution Provider Customers.
3. Passing this Screen does not relieve Producer from ensuring that its Generating Facility complies with the flicker requirements of this Rule, Section H.2.d. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 111
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

d. Screen D: Is the transformer or secondary conductor rating exceeded?

Do the maximum aggregated Gross Ratings for all the Generating Facilities connected to a secondary distribution transformer exceed the transformer or secondary conductor rating, modified per established Distribution Provider practice, absent any Generating Facilities?

- If Yes (fail), continue to Screen E pursuant to Section G.1.
- If No (pass), continue to screen E.

Significance: This screen addresses potential secondary transformer or secondary conductor overloads. When Distribution Provider's analysis determines a transformer or conductor change is required, Distribution Provider will furnish Applicant with an explanation of why the change is needed.

e. Screen E: Does the Single-Phase Generator cause unacceptable imbalance?

If the proposed Generating Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, does it cause unacceptable imbalance between the two phases of the 240 volt service?

- If Yes (fail), continue to Screen F pursuant to Section G.1.
- If No (pass), continue to screen F. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 112
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

e. Screen E: Does the Single-Phase Generator cause unacceptable imbalance? (Cont'd.)

Significance: Generating Facilities connected to a single-phase transformer with 120/240 V secondary voltage must be installed such that the aggregated gross output is as balanced as practicable between the two phases of the 240 volt service. When Distribution Provider's analysis determines a transformer change is required. Distribution Provider will furnish the customer with an explanation of why the change is needed.

f. Screen F: Is the Short Circuit Current Contribution Ratio within acceptable limits?

- If Yes (pass), continue to Screen G.
- If No (fail), continue to Screen G pursuant to Section G.1.

Note: This Screen does not apply to Generating Facilities with a Gross Rating of 11 kVA or less.

When measured at primary side (high side) of the Dedicated Distribution Transformer serving a Generating Facility, the sum of the Short Circuit Contribution Ratios of all Generating Facilities connected to Distribution Provider's Distribution System circuit that serves the Generating Facility must be less than or equal to 0.1.

Significance: If the Generating Facility passes this Screen, it can be expected that it will have no significant impact on Distribution Provider's Distribution System's short circuit duty, fault detection sensitivity, relay coordination or fuse-saving schemes. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 113
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

g. Screen G: Is the Short Circuit Interrupting Capability Exceeded?

Does the proposed Generating Facility, in aggregate with other Generating Facilities on the distribution circuit, cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Request equipment on the system to exceed 87.5 % of the short circuit interrupting capability; or is the Interconnection proposed for a circuit that already exceeds 87.5 % of the short circuit interrupting capability?

- If Yes (fail) continue to Screen H pursuant to Section G.1.
- If No (pass), continue to Screen H

Note: This Screen does not apply to Generating Facilities with a Gross Rating of 11 kVA or less.

Significance: If the Generating Facility passes this screen, it can be expected that it will not cause any of Distribution Provider's equipment to be overstressed. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 114
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

h. Screen H: Is the line configuration compatible with the Interconnection type?

- If Yes (pass), continue to Screen I.
- If No (fail), continue to Screen I pursuant to Section G.1.

Note: This Screen does not apply to Generating Facilities with a Gross Rating of 11 kVA or less

Line Configuration Screen: Identify primary distribution line configuration that will serve the Generating Facility. Based on the type of Interconnection to be used for the Generating Facility, determine from Table G.1 if the proposed Generating Facility passes the Screen.

Table G-1
Type of Interconnection

Primary Distribution Line Type Configuration	Type of Interconnection to be made to Primary Distribution Line	Result/Criteria
Three-phase, three-wire	Any type	Pass Screen
Three-phase, four-wire	Single-phase, line-to-neutral	Pass Screen
Three-phase, four-wire (For any line that has such a section OR mixed three-wire & four-wire)	All others	To pass, aggregate Generating Facility nameplate rating must be less than or equal to 10% of Line Section peak load

(N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 115
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

h. Screen H: Is the line configuration compatible with the Interconnection type? (Cont'd.)

Significance: If the primary distribution line serving the Generating Facility is of a "three-wire" configuration, or if the Generating Facility's distribution transformer is single-phase and connected in a line-to-neutral configuration, then there is no concern about overvoltages to Distribution Provider's, or other Customer's equipment caused by loss of system neutral grounding during the operating time of the Non-Islanding Protective Function.

i. Screen I: Will power be exported across the PCC?

- If Yes, Continue to Screen J.
- If No, then to ensure that the Generating Facility does not export across the PCC, the Generating Facility must incorporate one of the following five options. Following that selection, Initial Review is complete.

Option 1 ("Reverse Power Protection"): To ensure power is never exported across the PCC, a reverse power Protective Function may be provided. The default setting for this Protective Function shall be 0.1% (export) of the service transformer's rating, with a maximum 2.0 second time delay. For multiple tariff interconnections refer to Section J.8. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 116
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

i. Screen I: Will power be exported across the PCC? (Cont'd.)

Option 2 ("Minimum Power Protection"): To ensure at least a minimum amount of power is imported across the PCC at all times (and, therefore, that power is not exported), an under-power Protective Function may be provided. The default setting for this Protective Function shall be 5% (import) of Generating Facility's total Gross Rating, with a maximum 2.0 second time delay.

Option 3 (Certified Non-Islanding Protection): To ensure the incidental export of power is limited to acceptable levels, this option requires that all of the following conditions be met: a) the total Gross Capacity of the Generating Facility must be no more than 25% of the nominal ampere rating of Producer's service equipment; b) the total Gross Capacity of the Generating Facility must be no more than 50% of Producer's service transformer capacity rating (this capacity requirement does not apply to Customers taking primary service without an intervening transformer); and c) the Generating Facility must be Certified as Non-Islanding.

The ampere rating of the Customer's service equipment to be used in this evaluation will be that rating for which the customer's utility service was originally sized or for which an upgrade has been approved. It is not the intent of this provision to allow increased export simply by increasing the size of the customer's service panel, without separate approval for the resize. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 117
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

i. Screen I: Will power be exported across the PCC? (Cont'd.)

Option 4 (Relative Generating Facility Rating): This option, when used, requires the Net Rating of the Generating Facility to be so small in comparison to its host facility's minimum load, that the use of additional Protective Functions is not required to ensure that power will not be exported to Distribution Provider's Distribution or Transmission System. This option requires the Generating Facility capacity to be no greater than 50% of Producer's verifiable minimum Host Load over the past 12 months.

Option 5: Inadvertent Export as described in Appendix One.

Significance:

1. If it can be assured that the Generating Facility will not export power, Distribution Provider's Distribution or Transmission System does not need to be studied for load-carrying capability or Generating Facility power flow effects on Distribution Provider voltage regulators.

2. This Screen permits the use of reverse-power or minimum-power relaying as a Non-Islanding Protective Function (Option 1, 2, and 3).

3. This Screen allows, under certain defined conditions, for Generating Facilities that incorporate Certified Non-Islanding protection to qualify for interconnection through the Fast Track process without implementing reverse power or minimum power Protective Functions (Option 3). (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 118
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

j. Screen J: Is the Gross Rating of the Generating Facility 11 kVA or less?

- If Yes (pass), skip Screens K, L~~.~~ and M; ~~and~~ Initial Review is complete.
- If No (fail), continue to Screen K.

Significance: The Generating Facility will have a minimal impact on fault current levels and any potential line overvoltages from loss of Distribution Provider's Distribution System neutral grounding.

k. Screen K: Is the Generating Facility a Net Energy Metering (NEM) Generating Facility with nameplate capacity less than or equal to 500 kW?

- If Yes (pass), skip screen L and continue to screen M.
- If No (fail), continue to screen L.

Significance: The purpose of this Screen is solely to facilitate interconnection of NEM facilities below this size threshold by allowing such facilities to bypass Screen M. The use of nameplate capacity expedites the Initial Review analysis. In Supplemental Review, the net export will be analyzed. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 119
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

l. Screen L: Transmission Dependency and Transmission Stability Test

Is the Interconnection Request for an area where: (i) there are known, or posted, transient/dynamic stability limitations, or (ii) the proposed Generating Facility has interdependencies, known to Distribution Provider, with earlier-queued Transmission System interconnection requests. Where (i) or (ii) above are met, the impacts of this Interconnection Request to the Transmission System may require Detailed Study.

- If Yes (fail), Supplemental Review is required.
- If No (pass), continue to Screen M.

Significance: Special consideration must be given to those areas identified as having current or future (due to currently-queued interconnection requests) grid stability concerns.

m. Screen M: Is the aggregate Generating Facility capacity on the Line Section less than 15% of Line Section peak load for all line sections bounded by automatic sectionalizing devices?

- If Yes (pass), Initial Review is complete.
- If No (fail), Supplemental Review is required.

Significance:

1. Low penetration of Generating Facility capacity will have a minimal impact on the operation and load restoration efforts of Distribution Provider's Distribution System. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 120
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

1. INITIAL REVIEW SCREENS (Cont'd.)

m. Screen M: Is the aggregate Generating Facility capacity on the Line Section less than 15% of Line Section peak load for all line sections bounded by automatic sectionalizing devices? (Cont'd.)

2. The operating requirements for a high penetration of Generating Facility capacity may be different since the impact on Distribution Provider's Distribution System will no longer be minimal, therefore requiring additional study or controls.

The purpose of this Screen is solely to identify if the Generating Facility needs additional study and is not intended as justification for limiting the penetration of generation on a line section.

2. SUPPLEMENTAL REVIEW SCREENS

The Supplemental Review consists of Screens N through P. If any of the Screens are not passed, a quick review of the failed Screen(s) will determine the requirements to address the failure(s) or that Detailed Studies are required. In certain instances, Distribution Provider may be able to identify the necessary solution and determine that Detailed Studies are unnecessary. Some examples of solutions that may be available to mitigate the impact of a failed Screen are:

1. Replacing a fixed capacitor bank with a switched capacitor bank.

2. Adjustment of line regulation settings.

3. Simple reconfiguration of the distribution circuit. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 121
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

a. Screen N: Penetration Test

Where 12 months of line section minimum load data is available, can be calculated, can be estimated from existing data, or determined from a power flow model, is the aggregate Generating Facility capacity on the Line Section less than 100% of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the Generating Facility?

- If yes (pass), continue to Screen O.
- If no (fail), a quick review of the failure may determine the requirements to address the failure; otherwise Electrical Independence Tests and Detailed Studies are required. Continue to Screen O. (Note: If Electrical Independence tests and Detailed Studies are required, Applicants will continue to the Electrical Independence Tests and Detailed Studies after review of the remaining Supplemental Review Screens, if Applicant elects to proceed.)

Note 1: If none of the above options are available, this screen defaults to Screen N.

Note 2: The type of Generating Facility technology will be taken into account when calculating, estimating, or determining circuit or Line Section minimum load relevant for the application of this screen. For solar Generating Facilities with no battery storage, daytime minimum load will be used (i.e., 10 am to 4 pm for fixed panel solar Generating Facilities and 8 am to 6 pm for solar Generating Facilities utilizing tracking systems), while absolute minimum load will be used for all other Generating Facility technologies.

Note 3: When this screen is being applied to a NEM Generating Facility, the net export in kW, if known, ~~that~~ which may flow across the Point of Common Coupling into Distribution Provider's Distribution System will be considered as part of the aggregate generation. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 122
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

a. Screen N: Penetration Test (Cont'd.)

Note 4: Distribution Provider will not consider as part of the aggregate Generating Facility capacity for purposes of this screen Generating Facility capacity known to be already reflected in the minimum load data.

Note 5: NEM Generating Facilities with net export less than or equal to 500 kW that may flow across the Point of Common Coupling into Distribution Provider's Distribution or Transmission System will not be studied in the Transmission Cluster Study Process, but may be studied under the Independent Study Process.

Significance: Penetration of Generating Facility capacity that does not result in power flow from the circuit back toward the substation will have a minimal impact on equipment loading, operation, and protection of the Distribution System.

b. Screen O: Power Quality and Voltage Tests

In aggregate with existing Generating Facility capacity on the Line Section, distribution circuit, and/or substation.

a) Can it be determined within the Supplemental Review that the voltage regulation on the line section can be maintained in compliance with Commission Rule 2 and/or Conservation Voltage Regulation voltage requirements under all system conditions?

b) Can it be determined within the Supplemental Review that the voltage fluctuation is within acceptable limits as defined by IEEE 1453 or utility practice similar to IEEE1453? (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 123
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

b. Screen O: Power Quality and Voltage Tests

In aggregate with existing generation on the line section (Cont'd.)

c) Can it be determined within the Supplemental Review that the harmonic levels meet IEEE 519 limits at the Point of Common Coupling (PCC)?

- If yes to all of the above (pass), continue to Screen P.
- If no to any of the above (fail), a quick review of the failure may determine the requirements to address the failure; otherwise Electrical Independence Tests and Detailed Studies are required. Continue to Screen P. (Note: If Electrical Independence tests and Detailed Studies are required, Applicants will continue to the Electrical Independence Tests and Detailed Studies after review of the remaining Supplemental Review Screens.)

Significance: Adverse voltages and undesirable interference may be experienced by other Customers on Distribution Provider's Distribution System caused by operation of the Generating Facility(ies).

c. Screen P: Safety and Reliability Tests

Does the location of the proposed Generating Facility or the aggregate generation capacity on the Line Section create impacts to safety or reliability that cannot be adequately addressed without Detailed Study?

- If yes (fail), review of the failure may determine the requirements to address the failure; otherwise Electrical Independence Tests and Detailed Studies are required. Continue to Section G.3.
- If no (pass), Supplemental Review is complete. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 124
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

c. Screen P: Safety and Reliability Tests (Cont'd.)

Significance: In the safety and reliability test, there are several factors that may affect the nature and performance of an Interconnection. These include, but are not limited to:

1. Generating Facility energy source
2. Modes of synchronization
3. Unique system topology
4. Possible impacts to critical load customers
5. Possible safety impacts

The specific combination of these factors will determine if any system study requirements are needed. The following are some examples of the items that may be considered under this screen:

1. Does the Line Section have significant minimum loading levels dominated by a small number of customers (i.e. several large commercial customers)?
2. Is there an even or uneven distribution of loading along the feeder?
3. Is the proposed Generating Facility located in close proximity to the substation (i.e. <2.5 electrical line miles), and is the distribution line from the substation to the customer composed of large conductor/cable (i.e. 600A class cable)? (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 125
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

c. Screen P: Safety and Reliability Tests (Cont'd.)

4. Does the Generating Facility incorporate a time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time?

5. Is operational flexibility reduced by the proposed Generating Facility, such that transfer of the line section(s) of the Generating Facility to a neighboring distribution circuit/substation may trigger overloads or voltage issues?

6. Does the Generating Facility utilize Certified anti-islanding functions and equipment?

3. DETAILED STUDY SCREENS

a. Screen Q: Is the Interconnection Request electrically Independent of the Transmission System?

Distribution Provider, in consultation with the CAISO, will determine, based on knowledge of the interdependencies with earlier-queued interconnection requests under any tariff, whether the Interconnection Request to the Distribution System is of sufficient MW size and located at a point of interconnection such that it is reasonably anticipated to require or contribute to the need for Network Upgrades. If Distribution Provider determines that no interdependencies exist as described above, then the Interconnection Request will be deemed to have passed Distribution Provider's Determination of Electrical Independence for the CAISO Controlled Grid. If Distribution Provider determines that interdependencies exist as described above, then Applicant may be studied under the Transmission Cluster Study Process as set forth in Section F.3.c. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 126
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

3. DETAILED STUDY SCREENS (Cont'd.)

a. Screen Q: Is the Interconnection Request electrically Independent of the Transmission System? (Cont'd.)

Distribution Provider will coordinate with the CAISO if necessary to conduct the Determination of Electrical Independence for the CAISO Controlled Grid as set forth in Section 4.2 of Appendix Y to the CAISO Tariff. The results of the incremental power flow, aggregate power flow, and short-circuit current contribution tests set out in Section 4.2 of Appendix Y to the CAISO Tariff will determine whether the Interconnection Request is electrically independent from the CAISO Controlled Grid.

- If Yes (pass), continue to Screen R.
- If No (fail), proceed to Section F.3.c.

Note 1: NEM Generating Facilities with net export less than or equal to 500 kW that may flow across the Point of Common Coupling will not be studied in the Transmission Cluster Study Process, but may be studied under the Independent Study Process.

Significance: Generating Facilities that are electrically interdependent with the Transmission System must be studied with other interconnection requests that have Transmission System interdependencies. It is possible to pass this Screen Q (i.e., be found to have no electrical interdependencies with earlier-queued Distribution System and/or Transmission System interconnection requests as set out above), be studied under the Independent Study Process, and still trigger a Reliability Network Upgrade. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 127
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

3. DETAILED STUDY SCREENS (Cont'd.)

b. Screen R: Is the Interconnection Request independent of other earlier-queued and yet to be studied interconnection requests interconnecting to the Distribution System?

For Interconnection Requests that are electrically independent from the CAISO Controlled Grid, Distribution Provider will evaluate each Interconnection Request for known or reasonably anticipated relationships between the Interconnection Request and any earlier-queued interconnection requests in the Distribution Group Study Process, the Independent Study Process, or interconnection requests studied under predecessor interconnection procedures that have yet to complete their respective interconnection studies. Distribution Provider may conduct incremental power flow, aggregate power flow, and/or short-circuit duty tests using existing interconnection studies, Base Case data, overall system knowledge, and engineering judgment to determine whether an Interconnection Request can be studied independently of earlier-queued interconnection requests. If the Interconnection Request being evaluated for electrical independence on the Distribution System may be electrically related to earlier-queued interconnection requests that have yet to complete interconnection studies, then it fails the evaluation of electrical independence for the Distribution System.

- If Yes (pass), continue to Independent Study Process
- If No (fail), continue to the Distribution Group Study Process

Significance: Interconnection Requests that are electrically related to earlier-queued interconnection requests that have not yet been studied do not qualify for independent study. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 128
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

3. DETAILED STUDY SCREENS (Cont'd.)

c. Independent Study Process and Distribution Group Study Process Interconnection Studies

The Interconnection Studies shall consist of an Interconnection System Impact Study and an Interconnection Facilities Study, referred to as DGS Phase I Interconnection Study and DGS Phase II Interconnection Study, respectively, for the Distribution Group Study Process. The Interconnection Studies will identify Interconnection Facilities, Distribution Upgrades and Reliability Network Upgrades necessary to mitigate thermal overloads and voltage violations, and address short circuit, dynamic/-stability and reliability issues associated with the requested Interconnection Service. If Distribution Provider anticipates that Reliability Network Upgrades will be required, or the Interconnection Studies identify the need for Reliability Network Upgrades, then Distribution Provider will coordinate with the CAISO during the study process as set forth in Sections F.3.b or F.3.d above.

The estimated costs of short circuit related upgrades and shared interconnection facilities, if any, identified through a Distribuion Group Study shall be assigned to all Interconnection Requests in that Study Group pro rata on the basis of the short circuit duty contribution of each Generating Facility. The estimated costs of all other upgrades and shared interconnection facilities, if any, identified through a Group Study shall be assigned to all Interconnection Requests in that Study Group pro rata on the basis of the maximum megawatt electrical output of each proposed new Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by the Interconnection Customer in its Interconnection Request.

(N)

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ELECTRIC RULE NO. 21 Sheet 129
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.)

3. DETAILED STUDY SCREENS (Cont'd.)

c. Independent Study Process and Distribution Group Study Process Interconnection Studies (Cont'd)

i) Interconnection System Impact and DGS Phase I Interconnection Study.

(1) Scope of the Interconnection System Impact and DGS Phase I Interconnection Study.

The Interconnection System Impact Study or DGS Phase I Interconnection Study in the case of the Distribution Group Study Process may consist of a localized short circuit analysis, a stability/dynamic analysis, a power flow analysis, and any other studies that are deemed necessary. The localized short circuit analysis will evaluate impacts to the Distribution and Transmission System only with any local short circuit-duty related Reliability Network Upgrades allocated to the Generating Facility or Generating Facilities that requires the upgrades. Short circuit duty impacts to the CAISO Controlled Grid are appropriately evaluated only in the Transmission Cluster Study Process as set forth in Section F.3.c. The short circuit duty contribution of any Interconnection Requests studied in the Independent Study Process or Distribution Group Study Process that are subsequently identified in the Transmission Cluster Study Process will be allocated ~~its~~ their pro rata share of the short circuit duty-related Reliability Network Upgrades on the basis of the short circuit duty contribution of each Generating Facility.

(Continued)

ELECTRIC RULE NO. 21 Sheet 130
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.) (N)

3. DETAILED STUDY SCREENS (Cont'd.)

c. Independent Study Process and Distribution Group Study Process Interconnection Studies (Cont'd.)

i) Interconnection System Impact Study and DGS Phase I Interconnection Study. (Cont'd.)

(1) Scope of the Interconnection System Impact Study and DGS Phase I Interconnection Study. (Cont'd.)

The Interconnection System Impact Study or DGS Phase I Interconnection Study in the case of the Distribution Group Study Process, shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested Interconnection Service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the Interconnection.

The Interconnection System Impact Study or DGS Phase I Interconnection Study shall provide a list of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Reliability Network Upgrades that are required as a result of the Interconnection Request along with a non-binding good faith estimate of cost responsibility and the amount of construction time required. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 131
GENERATING FACILITY INTERCONNECTIONS

G. ENGINEERING REVIEW DETAILS (Cont'd.)

3. DETAILED STUDY SCREENS (Cont'd.)

c. Independent Study Process and Distribution Group Study Process Interconnection Studies (Cont'd.)

ii) Interconnection Facilities Study and DGS Phase II Interconnection Study.

(1) Scope and Purpose of the Interconnection Facilities and DGS Phase II Interconnection Study. (Cont'd)

If at any time the Distribution Provider determines that it will not meet the required time frame for completing the DGS Phase I Interconnection Study due to the large number of Interconnection Requests in the Distribution Group Study Application Window, study complexity, or unavailability of resources on a reasonable basis to perform the study in the required time frame, the Distribution Provider shall notify the Interconnection Customer(s) within the Distribution Group Study as to the schedule status of the DGS Phase I Interconnection Study and provide an estimated completion date with an explanation of the reasons why additional time is required.

Upon request, the Distribution Provider shall provide the Applicant(s) all supporting documentation, work papers and relevant pre-Interconnection Request and post-Interconnection Request power flow, short circuit and stability databases for the DGS Phase I Interconnection Study, subject to confidentiality arrangements as outlined in Section D.7.

(Continued)

ELECTRIC RULE NO. 21 Sheet 132
GENERATING FACILITY INTERCONNECTIONS

The Interconnection Facilities Study or DGS Phase II Interconnection Study in the case of the Distribution Group Study Process shall specify and estimate the cost of the equipment, engineering, procurement, and construction work (including overheads) needed to implement the conclusions of the Interconnection System Impact Study or DGS Phase I Interconnection Study technical analyses in accordance with Good Utility Practice to physically and electrically connect the Generating Facility to the Distribution or Transmission System. The Interconnection Facilities Study or DGS Phase II Interconnection Study shall also identify (i) the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities. The Interconnection Facilities Study or DGS Phase II Interconnection Study in the case of the Distribution Group Study Process will update, as necessary, analyses performed in the Interconnection System Impact Study or DGS Phase I Interconnection Study in the case of the Distribution Group Study Process, to account for withdrawal of interconnection requests in the interconnection queue.

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS

This section is consistent with the requirements of ANSI/IEEE 1547-2003 Standard for Interconnecting Distributed Resources with Electric Power Systems (IEEE 1547). Exceptions are taken to IEEE 1547 Clauses 4.1.4.2 Distribution Secondary Spot Networks and Clauses 4.1.8.1 or 5.1.3.1, which address Protection from Electromagnetic Interference. These are being studied for inclusion in a subsequent version of this Rule. Also, Rule 21 does not adopt the Generating Facility power limitation of 10 MW incorporated in IEEE 1547.

(Continued)

ELECTRIC RULE NO. 21 Sheet 133
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS

The Protective Functions and requirements of this Rule are designed to protect Distribution Provider's Distribution and Transmission System and not the Generating Facility. A Producer shall be solely responsible for providing adequate protection for its Generating Facility and Interconnection Facilities. Producer's Protective Functions shall not impact the operation of other Protective Functions on Distribution Provider's Distribution and Transmission System in a manner that would affect Distribution Provider's capability of providing reliable service to its customers.

a. Protective Functions Required

Generating Facilities operating in parallel with Distribution Provider's Distribution or Transmission System shall be equipped with the following Protective Functions to sense abnormal conditions on Distribution Provider's Distribution or Transmission System and cause the Generating Facility to be automatically disconnected from Distribution Provider's Distribution or Transmission System or to prevent the Generating Facility from being connected to Distribution Provider's Distribution or Transmission System inappropriately:

(1) Over and under voltage trip functions and over and under frequency trip functions;

(2) A voltage and frequency sensing and time-delay function to prevent the Generating Facility from energizing a de-energized Distribution or Transmission System circuit and to prevent the Generating Facility from reconnecting with Distribution Provider's Distribution or Transmission System unless Distribution Provider's Distribution System service voltage and frequency is within the ANSI C84.1-1995 Table 1 Range B voltage Range of 106 volts to 127 volts (on a 120 volt basis), inclusive, and a frequency range of 59.3 Hz to 60.5 Hz, inclusive, and are stable for at least 60 seconds; and (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 134
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)

a. Protective Functions Required (Cont'd.)

(3) A function to prevent the Generating Facility from contributing to the formation of an Unintended Island, and cease to energize Distribution Provider's Distribution System within two seconds of the formation of an Unintended Island.

The Generating Facility shall cease to energize Distribution Provider's Distribution System for faults on Distribution Provider's Distribution System circuit to which it is connected (IEEE 1547-4.2.1). The Generating Facility shall cease to energize Distribution Provider's Distribution circuit prior to re-closure by Distribution Provider's Distribution System equipment (IEEE 1547-4.2.2).

b. Momentary Paralleling Generating Facilities

With Distribution Provider's approval, the transfer switch or scheme used to transfer Producer's loads from Distribution Provider's Distribution or Transmission System to Producer's Generating Facility may be used in lieu of the Protective Functions required for Parallel Operation. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 135
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)

c. Suitable Equipment Required

Circuit breakers or other interrupting equipment located at the Point of Common Coupling (PCC) must be Certified or "Listed" (as defined in Article 100, the Definitions Section of the National Electrical Code) as suitable for their intended application. This includes being capable of interrupting the maximum available fault current expected at their location. Producer's Generating Facility and Interconnection Facilities shall be designed so that the failure of any single device or component shall not potentially compromise the safety and reliability of Distribution Provider's Distribution and Transmission System. The Generating Facility paralleling-device shall be capable of withstanding 220% of the Interconnection Facility rated voltage (IEEE 1547-4.1.8.3). The Interconnection Facility shall have the capability to withstand voltage and current surges in accordance with the environments defined in IEEE Std C62.41.2-2002 or IEEE Std C37.90.1-2002 as applicable and as described in L.3.e (IEEE 1547-4.1.8.2).

d. Visible Disconnect Required

When required by Distribution Provider's operating practices, Producer shall furnish and install a ganged, manually-operated isolating switch (or a comparable device mutually agreed upon by Distribution Provider and Producer) near the Point of Interconnection to isolate the Generating Facility from Distribution Provider's Distribution or Transmission System. The device does not have to be rated for load break nor provide over-current protection. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 136
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)

d. Visible Disconnect Required (Cont'd.)

The device must:

(1) allow visible verification that separation has been accomplished. (This requirement may be met by opening the enclosure to observe contact separation.)

(2) include markings or signage that clearly indicates open and closed positions.

(3) a) for Emergency purposes be capable of being reached quickly and conveniently 24 hours a day by Distribution Provider personnel for construction, operation, maintenance, inspection, testing or to isolate the Generating Facility from Distribution Provider's Distribution or Transmission System without obstacles or requiring those seeking access to obtain keys, special permission, or security clearances.

(3) b) for Non-Emergency purposes be capable of being reached during normal business hours. Distribution Provider, where possible, will provide notice to Customer for gaining access to Customer's premises.

(4) be capable of being locked in the open position (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 137
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)

d. Visible Disconnect Required (Cont'd.)

(5) be clearly marked on the submitted single line diagram and its type and location approved by Distribution Provider prior to installation. If the device is not adjacent to the PCC, permanent signage must be installed at a Distribution Provider approved location providing a clear description of the location of the device. If the switch is not accessible outside the locked premises, signage with contact information and a Distribution Provider approved locking device for the premises shall be installed.

Generating Facilities with Non-Islanding inverters totaling one (1) kilovolt-ampere (kVA) or less are exempt from this requirement.

e. Drawings Required

Prior to Parallel Operation or Momentary Parallel Operation of the Generating Facility, Distribution Provider shall approve Producer's Protective Function and control diagrams. Generating Facilities equipped with Protective Functions and a control scheme previously approved by Distribution Provider for system-wide application or only Certified Equipment may satisfy this requirement by reference to previously approved drawings and diagrams.

f. Generating Facility Conditions Not Identified

In the event this Rule does not address the Interconnection conditions for a particular Generating Facility, Distribution Provider and Producer may agree upon other arrangements. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 138
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE

Producer shall not operate Generating or Interconnection Facilities that superimpose a voltage or current upon Distribution Provider's Distribution or Transmission System that interferes with Distribution Provider operations, service to Distribution Provider Customers, or communication facilities. If such interference occurs, Producer must diligently pursue and take corrective action at its own expense after being given notice and reasonable time to do so by Distribution Provider. If Producer does not take corrective action in a timely manner, or continues to operate the facilities causing interference without restriction or limit, Distribution Provider may, without liability, disconnect Producer's facilities from Distribution Provider's Distribution or Transmission System, in accordance with Section D.9 of this Rule. To eliminate undesirable interference caused by its operation, each Generating Facility shall meet the following criteria:

a. Voltage Regulation

The Generating Facility shall not actively regulate the voltage at the PCC while in parallel with Distribution Provider's Distribution System. The Generating Facility shall not cause the service voltage at other customers to go outside the requirements of ANSI C84.1-1995, Range A (IEEE 1547-4.1.1). (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 139
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

b. Voltage Trip Setting

The voltage ranges in Table H.1 define protective trip limits for the Protective Function and are not intended to define or imply a voltage regulation Function. Generating Facilities shall cease to energize Distribution Provider's Distribution System within the prescribed trip time whenever the voltage at the PCC deviates from the allowable voltage operating range. The Protection Function shall detect and respond to voltage on all phases to which the Generating Facility is connected.

i) Generating Facilities (30 kVA or less)

Generating Facilities with a Gross Rating of 30 kVA or less shall be capable of operating within the voltage range normally experienced on Distribution Provider's Distribution System from plus to minus 5% of the nominal voltage (e.g. 114 volts to 126 volts, on a 120 volt base), at the service panel or PCC. The trip settings at the generator terminals may be selected in a manner that minimizes nuisance tripping between 106 volts and 132 volts on a 120-volt base (88%-110% of nominal voltage) to compensate for voltage drop between the generator terminals and the PCC. Voltage may be detected at either the PCC or the Point of Interconnection. However, the voltage range at the PCC, with the generator on-line, shall stay within +/-5% of nominal. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 140
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

b. Voltage Trip Setting (Cont'd.)

ii) Generating Facilities (greater than 30 kVA)

Distribution Provider may have specific operating voltage ranges for Generating Facilities with Gross Ratings greater than 30 kVA, and may require adjustable operating voltage settings. In the absence of such requirements, the Generating Facility shall be capable of operating at a range between 88% and 110% of the applicable interconnection voltage. Voltage shall be detected at either the PCC or the Point of Interconnection, with settings compensated to account for the voltage at the PCC. However, the voltage range at the PCC, with the generator on-line, shall stay within +/-5% of nominal.

iii) Voltage Disturbances

Whenever Distribution Provider's Distribution System voltage at the PCC varies from and remains outside normal (Nominally 120 volts) for the predetermined parameters set forth in Table H-1, the Generating Facility's Protective Functions shall cause the Generator(s) to become isolated from Distribution Provider's Distribution System: (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 141
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

b. Voltage Trip Setting (Cont'd.)

iii) Voltage Disturbances (Cont'd.)

Table H.1: Voltage Trip Settings for Generating Facilities*			
Voltage at Point of Common Coupling (the ranges below are used to trip the generator during abnormal distribution system conditions)		Maximum Trip Time**	
Assuming 120 Volt Base	% of Nominal Voltage	# of Cycles (Assuming 60 Hz Nominal)	Seconds
Less than 60 volts	Less than 50%	10 Cycles	0.16 Seconds
Greater than or equal to 60 volts but less than 106 volts	Greater than or equal to 50% but less than 88%	120 Cycles	2 Seconds
Greater than 132 volts but less than or equal to 144 volts	Greater than 110% but less than or equal to 120%	60 Cycles	1 Second
Greater than 144 volts	Greater than 120%	10 Cycles	0.16 Seconds

**For Generating Facilities with a Rating greater than 30 kVA, set points shall be field adjustable and different voltage set points and trip times from those in Table H.1 may be negotiated with Distribution Provider*

*** "Maximum Trip Time" refers to the time between the onset of the abnormal condition and the Generating Facility ceasing to energize Distribution Provider's Distribution System. Protective Function equipment and circuits may remain connected to Distribution Provider's Distribution System to allow sensing of electrical conditions for use by the "reconnect" feature. The purpose of the allowed time delay is to allow for a Generating Facility to minimize tripping during short term system disturbances. Set points shall not be user adjustable for generating facilities less than 30 kW.*

(N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 142
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

c. Paralleling

The Generating Facility shall parallel with Distribution Provider's Distribution or Transmission System without causing a voltage fluctuation at the PCC greater than plus/minus 5% of the prevailing voltage level of Distribution Provider's Distribution or Transmission System at the PCC, and meet the flicker requirements of Section H.2.d. Section L, Certification and Testing Criteria, provides technology-specific tests for evaluating the paralleling Function. (IEEE 1547-4.1.3)

d. Flicker

The Generating Facility shall not create objectionable flicker for other customers on Distribution Provider's Distribution or Transmission System. To minimize the adverse voltage effects experienced by other customers (IEEE 1547-4.3.2), flicker at the PCC caused by the Generating Facility should not exceed the limits defined by the "Maximum Borderline of Irritation Curve" identified in IEEE 519-1992 (IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems, IEEE STD 519-1992). This requirement is necessary to minimize the adverse voltage affects experienced by other Customers on Distribution Provider's Distribution or Transmission System. Generators may be connected and brought up to synchronous speed (as an induction motor) provided these flicker limits are not exceeded. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 143
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

e. Integration with Distribution Provider's Distribution System Grounding

The grounding scheme of the Generating Facility shall not cause over-voltages that exceed the rating of the equipment connected to Distribution Provider's Distribution System and shall not disrupt the coordination of the ground fault protection on Distribution Provider's Distribution System (IEEE 1547-4.1.2) (See Section G.1.i, line configuration).

f. Frequency

Distribution Provider controls system frequency, and the Generating Facility shall operate in synchronism with Distribution Provider's Distribution or Transmission System. Whenever Distribution Provider's Distribution or Transmission System frequency at the PCC varies from and remains outside normal (nominally 60 Hz) by the predetermined amounts set forth in Table H.2, the Generating Facility's Protective Functions shall cease to energize Distribution Provider's Distribution or Transmission System within the stated maximum trip time. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 144
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

f. Frequency (Cont'd.)

Table H.2
Frequency Trip Settings

Generating Facility Rating	Frequency Range (Assuming 60Hz Nominal)	Maximum Trip Time *[1]* (Assuming 60 Cycles per Second)
Less or equal to 30kW	Less than 59.3 Hz	10 Cycles
	Greater than 60.5 Hz	10 Cycles
Greater than 30 kW	Less than 57.0 Hz	10 Cycles
	Less than an adjustable value between 59.8 Hz and 57 Hz but greater than 57 Hz. *[2]*	Adjustable between 10 and 18,000 Cycles. *[2, 3]*
	Greater than 60.5 Hz.	10 Cycles

[1] – "Maximum Trip time" refers to the time between the onset of the abnormal condition and the Generating Facility ceasing to energize Distribution Provider's Distribution or Transmission System. Protective Function sensing equipment and circuits may remain connected to Distribution Provider's Distribution or Transmission System to allow sensing of electrical conditions for use by the "reconnect" feature. The purpose of the allowed time delay is to allow a Generating Facility to "ride through" short-term disturbances to avoid nuisance tripping. Set points shall not be user adjustable (though they may be field adjustable by qualified personnel). For Generating Facilities with a Gross Rating greater than 30 kVA, set points shall be field adjustable and different voltage set points and trip times from those in Table H.2 may be negotiated with Distribution Provider.

[2] – Unless otherwise required by Distribution Provider, a trip frequency of 59.3 Hz and a maximum trip time of 10 cycles shall be used.

[3] – When a 10 cycle Maximum trip time is used, a second under frequency trip setting is not required. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 145
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

g. Harmonics

When the Generating Facility is serving balanced linear loads, harmonic current injection into Distribution Provider's Distribution or Transmission System at the PCC shall not exceed the limits stated in Table H.3. The harmonic current injections shall be exclusive of any harmonic currents due to harmonic voltage distortion present in Distribution Provider's Distribution or Transmission System without the Generating Facility connected (IEEE 1547-4.3.3.). The harmonic distortion of a Generating Facility shall be evaluated using the same criteria as for the Host Loads.

Table H.3

Maximum harmonic current distortion in percent of current (I) [1,2]

Individual harmonic order, h (odd harmonics) [3]	h<11	11≤ h<17	17≤ h<23	23≤ h<35	35≤ h	Total demand distortion
Max Distortion (%)	4.0	2.0	1.5	0.6	0.3	5.0

[1] – IEEE1547-4.3.3
[2] – I = the greater of the maximum Host Load current average demand over 15 or 30 minutes without the GF, or the GF rated current capacity (transformed to the PCC when a transformer exists between the GF and the PCC).
[3] – Even harmonics are limited to 25% of the odd harmonic limits above. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 146
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

h. Direct Current Injection

Generating Facilities should not inject direct current greater than 0.5% of rated output current into Distribution Provider's Distribution or Transmission System.

i. Power Factor

Producer shall provide adequate reactive power compensation on site to maintain the Generating Facility power factor near unity at rated output or a Distribution Provider specified power factor within a power factor range from 0.9 leading to 0.9 lagging, based on local system conditions. While not required, for generators that do not have inherent reactive power control capability Distribution Provider at its option may offer reactive power support in the form of power factor correction capacitors on its Distribution or Transmission System, under a Generator Interconnection Agreement or an Added Facilities or Special Facilities agreement, as described in Rule 2.H, as applicable. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 147
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

3. TECHNOLOGY SPECIFIC REQUIREMENTS

a. Technology Specific Requirements

Three-Phase Synchronous Generators: For three phase Generators, the Generating Facility circuit breakers shall be three-phase devices with electronic or electromechanical control. Producer shall be responsible for properly synchronizing its Generating Facility with Distribution Provider's Distribution or Transmission System by means of either manual or automatic synchronous equipment. Automatic synchronizing is required for all synchronous Generators that have a Short Circuit Contribution Ratio (SCCR) exceeding 0.05. Loss of synchronism protection is not required except as may be necessary to meet Section H.2.d (Flicker) (IEEE1547-4.2.5). Unless otherwise agreed upon by Producer and Distribution Provider, synchronous Generators shall automatically regulate power factor, not voltage, while operating in parallel with Distribution Provider's Distribution System. A power system stabilization Function is specifically not required for Generating Facilities under 10 MW Net Rating.

b. Induction Generators

Induction Generators (except self-excited Induction Generators) do not require a synchronizing Function. Starting or rapid load fluctuations on induction Generators can adversely impact Distribution Provider's Distribution or Transmission System voltage. Corrective step-switched capacitors or other techniques may be necessary and may cause undesirable ferro-resonance. When these counter measures (e.g. additional capacitors) are installed on Producer's side of the PCC, Distribution Provider must review these measures. Additional equipment may be required as determined in a Supplemental Review or an Interconnection Study. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 148
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

3. TECHNOLOGY SPECIFIC REQUIREMENTS (Cont'd.)

c. Inverters

Grid-interactive inverters do not require separate synchronizing equipment. Non-grid-interactive or "stand-alone" inverters shall not be used for Parallel Operation with Distribution Provider's Distribution or Transmission System.

4. SUPPLEMENTAL GENERATING FACILITY REQUIREMENTS

a. Fault Detection

A Generating Facility with an SCCR exceeding 0.1 or one that does not cease to energize Distribution Provider's Distribution or Transmission System within two seconds of the formation of an Unintended Island shall be equipped with Protective Functions designed to detect Distribution or Transmission System faults, both line-to-line and line-to-ground, and cease to energize Distribution Provider's Distribution or Transmission System within two seconds of the initiation of a fault.

b. Transfer Trip

For a Generating Facility that cannot detect Distribution or Transmission System faults (both line-to-line and line-to-ground) or the formation of an Unintended Island, and cease to energize Distribution Provider's Distribution or Transmission System within two seconds, Distribution Provider may require a Transfer Trip system or an equivalent Protective Function. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 149
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

4. SUPPLEMENTAL GENERATING FACILITY REQUIREMENTS (Cont'd.)

c. Reclose Blocking

Where the aggregate Generating Facility capacity exceeds 15% of the peak load on any automatic reclosing device, Distribution Provider may require additional Protective Functions, including, but not limited to recluse-blocking on some of the automatic reclosing devices.

I. THIRD-PARTY INSTALLATIONS, RESERVATION OF UNUSED FACILITIES, AND REFUND OF SALVAGE VALUE

1. INTERCONNECTION FACILITIES AND DISTRIBUTION UPGRADES

Except as provided for in the Generator Interconnection Agreement of this Rule, Interconnection Facilities connected to Distribution Provider's side of the PCC and Distribution Upgrades shall be provided, installed, owned, and maintained by Distribution Provider at Producer's expense.

2. THIRD-PARTY INSTALLATIONS

Subject to the approval of Distribution Provider, a Producer may, at its option, employ a qualified contractor to provide and install Interconnection Facilities or Distribution Upgrades, to be owned and operated by Distribution Provider, on Distribution Provider's side of the PCC. Such Interconnection Facilities and Distribution Upgrades shall be installed in accordance with Distribution Provider's design and specifications. Upon final inspection and acceptance by Distribution Provider, Producer shall transfer ownership of such Producer installed Interconnection Facilities or Distribution Upgrades to Distribution Provider and such facilities shall thereafter be owned and maintained by Distribution Provider at Producer's expense. Producer shall pay Distribution Provider's reasonable cost of design, administration, and monitoring of the installation for such facilities to ensure compliance with Distribution Provider's requirements. Producer shall also be responsible for all costs, including any income tax liability, associated with the transfer of Producer installed Interconnection Facilities and Distribution Upgrades to Distribution Provider. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 150
GENERATING FACILITY INTERCONNECTIONS

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.) (N)

3. RESERVATION OF UNUSED FACILITIES

When a Producer wishes to reserve Distribution Provider-owned Interconnection Facilities or Distribution Upgrades installed and operated as Added Facilities for Producer at Producer's expense, but idled by a change in the operation of Producer's Generating Facility or otherwise, Producer may elect to abandon or reserve such facilities consistent with the terms of its agreement with Distribution Provider. If Producer elects to reserve idle Interconnection Facilities or Distribution Upgrades, Distribution Provider shall be entitled to continue to charge Producer for the costs related to the ongoing operation and maintenance of the Added Facilities.

4. REFUND OF SALVAGE VALUE

When a Producer elects to abandon the Special Facilities or Added Facilities for which it has either advanced the installed costs or constructed and transferred to Distribution Provider, Producer shall, at a minimum, receive from Distribution Provider a credit for the net salvage value of the Added Facilities.

J. METERING, MONITORING AND TELEMETERING

1. GENERAL REQUIREMENTS

All Generating Facilities shall be metered in accordance with this Section J and shall meet all applicable standards of Distribution Provider contained in Distribution Provider's applicable tariffs and published Distribution Provider manuals dealing with Metering specifications.

2. METERING BY NON-DISTRIBUTION PROVIDER PARTIES

The ownership, installation, operation, reading, and testing of revenue Metering Equipment for Generating Facilities shall be by Distribution Provider except to the extent that the Commission authorizes any or all these services be performed by others. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 151
GENERATING FACILITY INTERCONNECTIONS

J. METERING, MONITORING AND TELEMETERING (Cont'd.) (N)

3. NET GENERATION OUTPUT METERING

Generating Facility customers may be required to install Net Generation Output Metering for evaluation, monitoring, and verification purposes and to determine applicable standby and non-bypassable charges as defined in Distribution Provider's tariffs, to satisfy applicable California Independent System Operator (CAISO) reliability requirements, and for Distribution System planning and operations.

However, Generating Facility customers do not need to install Net Generation Output Metering where less intrusive and/or more cost effective options, for Producer/Customer, are available for providing generator data to Distribution Provider. These Generating Facilities may opt to have Distribution Provider estimate load data in accordance with Distribution Provider's applicable tariffs to determine or meet applicable standby and non-bypassable and other applicable charges and tariff requirements. However, if a Generating Facility customer objects to Distribution Provider's estimate of the Generator(s) output, the customer may elect to install the Net Generation Output Metering, or have Distribution Provider install Net Generation Output Metering at the customer's expense.

(a) All metering options available to the customer must conform to the requirements set forth in Distribution Provider's Rule 22. If Distribution Provider does not receive meter data in accordance with Rule 22, Distribution Provider shall have the right to install Distribution Provider-owned Net Generation Output Metering at the customer's expense. The relevant factors in determining the need for Net Generation Output Metering are as listed below:

(a) Data requirements in proportion to need for information;

(b) Producer's election to install equipment that adequately addresses Distribution Provider's operational requirements; (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 152
GENERATING FACILITY INTERCONNECTIONS

J. METERING, MONITORING AND TELEMETERING (Cont'd.) (N)

3. NET GENERATION OUTPUT METERING (Cont'd.)

(c) Accuracy and type of required Metering consistent with purposes of collecting data;

(d) Cost of Metering relative to the need for and accuracy of the data;

(e) The Generating Facility's size relative to the cost of the Metering/monitoring;

(f) Other means of obtaining the data (e.g. Generating Facility logs, proxy data, etc.);

(g) Requirements under any Generator Interconnection Agreement with Producer.

The requirements in this Section may not apply to Metering of Generating Facilities operating under Distribution Provider's Net Energy Metering tariff pursuant to California PUC section 2827, et seq. Nothing in this Section J.3 supersedes Section D.4, Compliance with Laws, Rules and Tariff Schedules.

Distribution Provider will report to the Commission or designated authority, on a quarterly basis, the rationale for requiring Net Generation Output Metering equipment in each instance along with the size and location of the facility.

4. POINT OF COMMON COUPLING (PCC) METERING

For purposes of assessing Distribution Provider's charges for retail service, Producer's PCC Metering shall be reviewed by Distribution Provider, and if required, replaced to ensure that it will appropriately measure electric power according to the provisions of the Customer's electric service Tariff. Where required, the Customer's existing meter may be replaced with a bi-directional meter so that power deliveries to and from Producer's site can be separately recorded. Alternately, (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 153
GENERATING FACILITY INTERCONNECTIONS

J. METERING, MONITORING AND TELEMETERING (Cont'd.) (N)

4. POINT OF COMMON COUPLING (PCC) METERING (Cont'd.)

Producer may, at its sole option and cost, require Distribution Provider to install multi-metering equipment to separately record power deliveries to Distribution Provider's Distribution System and retail purchases from Distribution Provider. Where necessary, such PCC Metering shall be designed to prevent reverse registration.

Generating Facilities for Net Energy Metering under PUC sections 2827, et seq. shall have metering provided pursuant to the terms of the applicable Net Energy Metering Tariff Schedule.

5. TELEMETERING

If the nameplate rating of the Generating Facility is 1 MW or greater, Telemetering equipment at the Net Generation Output Metering location may be required at Producer's expense. If the Generating Facility is Interconnected to a portion of Distribution Provider's Distribution System operating at a voltage below 10 kV, then Telemetering equipment may be required on Generating Facilities 250 kW or greater. -Distribution Provider shall only require Telemetering to the extent that less intrusive and/or more cost effective options for providing the necessary data in real time are not available. Distribution Provider will report to the Commission or designated authority, on a quarterly basis, the rationale for requiring Telemetering equipment in each instance along with the size and location of the facility.

6. LOCATION

Where Distribution Provider-owned Metering is located on Producer's premises, Producer shall provide, at no expense to Distribution Provider, a suitable location for all such Metering Equipment. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 154
GENERATING FACILITY INTERCONNECTIONS

J. METERING, MONITORING AND TELEMETERING (Cont'd.) (N)

7. COSTS OF METERING

Producer will bear all costs of the Metering required by this Rule, including the incremental costs of operating and maintaining the Metering Equipment.

8. MULTIPLE TARIFF METERING

The requirements of Section J.3 may not apply where a Generating Facility includes multiple generators eligible for service under more than one Net Energy Metering (NEM) tariff schedule (e.g. NEM, BG-NEM, FC-NEM), or where a Generating Facility consists of one or more NEM-eligible generators in combination with one or more non-NEM eligible generators without Non-Export relays ("Reverse Power Protection"). To ensure proper tariff administration, metering will be required at the PCC and at each of the NEM eligible generator groups eligible for service under the same NEM tariff schedule. For combinations of multiple NEM eligible generators under different tariffs, billing administration and metering requirements will be as specified in the appropriate NEM tariff schedule.

Where a Generating Facility consists of one or more NEM eligible generator groups in combination with one or more non-NEM generators, metering of the non-NEM generators is not required, except as specified in Section J.3. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 155
GENERATING FACILITY INTERCONNECTIONS

K. DISPUTE RESOLUTION PROCESS (N)

In addition to the informal procedures for timeline-related disputes set out in Section F.1.d, the following procedures will apply for disputes arising from this Rule:

1. SCOPE

The Commission shall have initial jurisdiction to interpret, add, delete or modify any provision of this Rule or of any agreements entered into between Distribution Provider and Applicant or Producer to implement this tariff ("Implementing Agreements") and to resolve disputes regarding Distribution Provider's performance of its obligations under Commission-jurisdictional tariffs, the applicable agreements, and requirements related to the interconnection of Applicant's or Producer's Generating Facility or Interconnection Facilities pursuant to this Rule.

2. PROCEDURES

Any dispute arising between Distribution Provider and Producer (individually referred to in Section K as "Party" and collectively "the Parties") regarding Distribution Provider's or Producer's performance of its obligations under its tariffs, the Implementing Agreements, and requirements related to the interconnection of Producer's Facilities pursuant to this Rule shall be resolved according to the following procedures:

a. The dispute shall be documented in a written notice ("notice") by the aggrieved Party to the other Party containing the relevant known facts pertaining to the dispute, the specific dispute and the relief sought, and express notice by the aggrieved Party that it is invoking the procedures under this Section. The notice shall be sent to the Party's email address and physical address set forth in the Generator Interconnection Agreement or Interconnection Request, if there is no Generator Interconnection Agreement. A copy of the notice shall also be sent to the Energy Division, Office of the Director, at the Commission. The receiving Party shall acknowledge the notice within five (5) Calendar Days of its receipt. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 156
GENERATING FACILITY INTERCONNECTIONS

K. DISPUTE RESOLUTION PROCESS (Cont'd.) (N)

2. PROCEDURES (Cont'd.)

a Upon the aggrieved Party notifying the other Party of the dispute, each Party must designate a representative with the authority to make decisions for its respective Party to review the dispute within seven (7) Calendar Days. In addition, upon receipt of the notice, Distribution Provider shall provide the aggrieved Party with all relevant regulatory and/or technical details and analysis regarding any Distribution Provider interconnection requirements under dispute within twenty-one (21) Calendar Days.

Within forty-five (45) Calendar Days of the date of the notice, the Parties' authorized representatives will be required to meet and confer to try to resolve the dispute. Parties are expected to operate in good faith and use best efforts to resolve the dispute.

b. If a resolution is not reached in forty-five (45) Calendar Days from the date of the notice, either 1) a Party may request to continue negotiations for an additional forty-five (45) Calendar Days or 2) the Parties may by mutual agreement make a written request for mediation to the ADR Coordinator in the Commission's ALJ Division. The request may be submitted by electronic mail to adr_program@cpuc.ca.gov. Alternatively, both Parties by mutual agreement may request mediation from an outside third-party mediator with costs to be shared equally between the Parties.

c. At any time, either Party may file a formal complaint before the Commission pursuant to California PUC section 1702 and Article 4 of the Commission's Rules of Practice and Procedure.

Nothing in this section shall be construed to limit the rights of any Party to exercise rights and remedies under Commission law. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 157
GENERATING FACILITY INTERCONNECTIONS

K. DISPUTE RESOLUTION PROCESS (Cont'd.) (N)

3. PERFORMANCE DURING DISPUTE

Pending resolution of any dispute under this Section, the Parties shall proceed diligently with the performance of their respective obligations under this Rule except as described in Section F.6 and the Implementing Agreements, unless the Implementing Agreements have been terminated. Disputes as to the Interconnection Request and implementation of this Section shall be subject to resolution pursuant to the procedures set forth in this Section.

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L. CERTIFICATION AND TESTING CRITERIA

1. INTRODUCTION

This Section describes the test procedures and requirements for equipment used for the Interconnection of Generating Facilities to Distribution Provider's Distribution or Transmission System. Included are Type Testing, Production Testing, Commissioning Testing, and Periodic Testing. The procedures listed rely heavily on those described in appropriate Underwriters Laboratory (UL), Institute of Electrical and Electronic Engineers (IEEE), and International Electrotechnical Commission (IEC) documents—most notably UL 1741 and IEEE 929 as well as the testing described in *May 1999 New York State Public Service Commission's Interconnection Requirements*. As noted in Section B, this Rule has been revised to be consistent with ANSI/IEEE 1547-2003 Standard for Interconnecting Distribution Resources with Electric Power Systems. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 158
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

1. INTRODUCTION (Cont'd.)

The tests described here, together with the technical requirements in Section H of this Rule, are intended to provide assurance that the Generating Facility's equipment will not adversely affect Distribution Provider's Distribution or Transmission System and that a Generating Facility will cease providing power to Distribution Provider's Distribution or Transmission System under abnormal conditions. The tests were developed assuming a low level of Generating Facility penetration or number of connections to Distribution Provider's Distribution or Transmission System. At high levels of Generating Facility penetration, additional requirements and corresponding test procedures may need to be defined.

Section L also provides criteria for "Certifying" Generators or inverters. Once a Generator or inverter has been Certified per this Rule, it may be considered suitable for Interconnection with Distribution Provider's Distribution or Transmission System. Subject to the exceptions described in Section L, Distribution Provider will not repeat the design review or require retesting of such Certified Equipment. It should be noted that the Certification process is intended to facilitate Generating Facilities Interconnections. Certification is not a prerequisite to interconnect a Generating Facility.

The revisions made to this Rule relative to IEEE 1547-2003 has resulted in changes in set points, test criteria, test procedures, and other requirements that will impact previously certified or listed equipment as well as equipment currently under evaluation. These changes were made to provide consistency with IEEE 1547. Equipment that is certified or that has been submitted to a NRTL for testing prior to the adoption of the revised Underwriters Laboratories (UL) 1741 standard titled "Inverters, Converters, Controllers and Interconnection Systems Equipment for use with Distributed Energy Resources" and that subsequently meets the previous Rule 21 certification requirements will continue to be accepted as Certified Equipment for Interconnection Requests submitted through May 7, 2007, the effective date of the revised "UL 1741." (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 159
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

2. CERTIFIED AND NON-CERTIFIED INTERCONNECTION EQUIPMENT

a. Certified Equipment

Equipment tested and approved (i.e. "Listed") by an accredited NRTL as having met both the Type Testing and Production Testing requirements described in this document is considered to be Certified Equipment for purposes of Interconnection with Distribution Provider's Distribution or Transmission System. Certification may apply to either a pre-packaged system or an assembly of components that address the necessary functions. Type Testing may be done in the manufacturer's factory or test laboratory, or in the field. At the discretion of the testing laboratory, field-certification may apply only to the particular installation tested. In such cases, some or all of the tests may need to be repeated at other installations.

When equipment is Certified by a NRTL, the NRTL shall provide to the manufacturer, at a minimum, a Certificate with the following information for each device:

Administrative:

(1) The effective date of Certification or applicable serial number (range or first in series), and/or other proof that certification is current;

(2) Equipment model number(s) of the Certified equipment;

(3) The software version utilized in the equipment, if applicable;

(4) Test procedures specified (including date or revision number); and

(5) Laboratory accreditation (by whom and to what standard). (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 160
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

2. CERTIFIED AND NON-CERTIFIED INTERCONNECTION EQUIPMENT (Cont'd.)

a. Certified Equipment (Cont'd.)

Technical (As appropriate):

(1) Device ratings (kW, kV, Volts, amps, etc.);

(2) Maximum available fault current in amps;

(3) In-rush Current in amps;

(4) Trip points, if factory set (trip value and timing);

(5) Trip point and timing ranges for adjustable settings;

(6) Nominal power factor or range if adjustable;

(7) If the equipment is Certified as Non-Exporting and the method used (reverse power or underpower); and

(8) If the equipment is Certified as Non-Islanding

It is the responsibility of the equipment manufacturer to ensure that Certification information is made publicly available by the manufacturer, the testing laboratory, or by a third party.

b. Non-Certified Equipment

For non-Certified equipment, some or all of the tests described in this Rule may be required by Distribution Provider for each Generating and/or Interconnection Facility. The manufacturer or a laboratory acceptable to Distribution Provider may perform these tests. Test results for non-Certified equipment must be submitted to Distribution Provider for the Supplemental Review. Approval by Distribution Provider for equipment used in a particular Generating and/or Interconnection Facility does not guarantee Distribution Provider's approval for use in other Generating and/or Interconnection Facilities. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 161
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

3. TYPE TESTING

a. Type Tests and Criteria for Interconnection Equipment Certification

Type testing provides a basis for determining that equipment meets the specifications for being designated as Certified equipment under this Rule. The requirements described in this Section cover only issues related to Interconnection and are not intended to address device safety or other issues.

Table L.1 defines the test criteria by Generator or inverter technology. While UL 1741(1) was written specifically for inverters, the requirements are readily adaptable to synchronous Generators, induction Generators, as well as single/multi-function controllers and protection relays. Until a universal test standard is developed, Distribution Provider or NRTL shall adapt the procedures referenced in Table L.1 as appropriate and necessary for a Generating Facility and/or Interconnection Facilities or associated equipment performance and its control and Protection Functions. These tests shall be performed in the sequence shown in Table JL.2 on the next page. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 162
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

3. TYPE TESTING (Cont'd.)

a. Type Tests and Criteria for Interconnection Equipment Certification (Cont'd.)

Table L.1

Type Test and Requirements for Interconnection Equipment Certification

Type Test	Reference (1)	Inverter	Synchronous Generator	Induction Generator
Distribution Provider Interaction	UL 1741 – 39	X	X	X
DC Isolation	UL 1741 – 40.1	X	—	—
Simulated PV Array (Input) Requirements	UL 1741 – 41.2	X	—	—
Dielectric Voltage Withstand	UL 1741 – 44	X	X	X
Power Factor	UL 1741 – 45.2.2	X	X	X
Harmonic Distortion	UL 1741 – 45.4	X	X	X
DC Injection	UL 1741 – 45.5	X	—	—
Distribution Provider Voltage and Frequency Variation	UL 1741 – 46.2	X	X	X
Reset Delay	UL 1741 – 46.2.3	X	X	X
Loss of Control Circuit	UL 1741 – 46.4	X	X	X
Short Circuit	UL 1741 – 47.3	X	X	X
Load Transfer	UL 1741 – 47.7	X	X	X
Surge Withstand Capability	[L.3.e	X	X	X
Anti-Islanding	L.3.b	(2)	(2)	(2)
Non-Export	L.3.c	(3)	(3)	(3)
In-rush Current	-L.3.d	—	—	(4)
Synchronization	L.3.f]	(5)	X	(5)

Table Notes: (1) References are to section numbers in either UL 1741 (Inverters, Converters and Charge Controllers for Use in Independent Power Systems) or this Rule. References in UL 1741 to "photovoltaics" or "inverter" may have to be adapted to the other technologies by the testing laboratory to appropriately apply in the tests to other technologies.
(2) Required only if Non-Islanding designation
(3) Required only if Non-Export designation is desired.
(4) Required for Generators that use Distribution Provider power to motor to speed.
(5) Required for all self-excited induction Generators as well as Inverters that operate as voltage sources when connected to Distribution Provider's Distribution or Transmission System.
X = Required
- = Not Required (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 163
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

3. TYPE TESTING (Cont'd.)

a. Type Tests and Criteria for Interconnection Equipment Certification (Cont'd.)

Table L.2 Type Tests Sequence for Interconnection Equipment Certification

Test No.	Type Test
1	Distribution Provider Voltage and Frequency Variation
2	Synchronization
3	Surge Withstand Capability
4	Distribution Provider Voltage and Frequency Variation
5	Synchronization
6	Other Required and Optional Tests

Tests 1, 2, and 3 must be done first and in the order shown. Tests 4 and on follow in order convenient to the test agency.

b. Anti-Islanding Test

Devices that pass the Anti-Islanding test procedure described in UL 1741 Section 46.3 will be considered Non-Islanding for the purposes of these Interconnection requirements. The test is required only for devices for which a Certified Non-Islanding designation is desired.

c. Non-Export Test

Equipment that passes the Non-Export test procedure described in Section L.7.a will be considered Non-Exporting for the purposes of these Interconnection requirements. This test is required only for devices for which a Certified Non-Export designation is desired. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 164
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

3. TYPE TESTING (Cont'd.)

d. In-rush Current Test

Generation equipment that utilizes Distribution Provider power to motor up to speed will be tested using the procedure defined in Section L.7.b to determine the maximum current drawn during this startup process. The resulting In-rush Current is used to estimate the Starting Voltage Drop.

e. Surge Withstand Capability Test

The interconnection equipment shall be tested for the surge withstand requirement in Section H.1.c in all normal operating modes in accordance with IEEE Std C62.45-2002 for equipment rates less than 1000 V to confirm that the surge withstand capability is met by using the selected test level(s) from IEEE Std C62.41.2-2002. Interconnection equipment rated greater than 1000 V shall be tested in accordance with manufacturer or system integrator designated applicable standards. For interconnection equipment signal and control circuits, use IEEE Std C37.90.1-2002. These tests shall confirm the equipment did not fail, did not misoperate, and did not provide misinformation (IEEE 1547-5.1.3.2).

The location/exposure category for which the equipment has been tested shall be clearly marked on the equipment label or in the equipment documentation. External surge protection may be used to protect the equipment in harsher location/exposure categories. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 165
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

3. TYPE TESTING (Cont'd.)

f. Synchronization Test

This test is applied to synchronous Generators, self-excited induction generators, and inverters capable of operating as voltage-source while connected to Distribution Provider's Distribution or Transmission System. The test is also applied to the resynchronization Function (transition from stand-alone to parallel operation) on equipment that provides such functionality. This test may not need to be performed on both the synchronization and re-synchronization functions if the manufacturers can verify to the satisfaction of the testing organization that monitoring and controls hardware and software are common to both functions. This test is not necessary for induction generators or current-source inverters. Instead, the In-rush Current test Section L.3.d shall be applied to those generators.

This test shall demonstrate that at the moment of the paralleling-device closure, all three synchronization parameters in Table L.3 are within the stated limits. This test shall also demonstrate that if any of the parameters are outside of the limits stated in the table, the paralleling-device shall not close (IEEE 1547-5.1.2A). The test will start with only one of the three parameters: (1) voltage difference between Generating Facility and Distribution Provider's Distribution or Transmission System; (2) frequency difference; or (3) phase angle outside of the synchronization specification. Verify that the Generating Facility is brought within specification prior to synchronization. Repeat the test five times for each of the three parameters. For manual synchronization with synch check or manual control with auto synchronization, the test must verify that paralleling does not occur until the parameters are brought within specifications. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 166
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

3. TYPE TESTING (Cont'd.)

f. Synchronization Test (Cont'd.)

Table L.3
***Synchronization Parameter Limits* [1]**

Aggregate Rating of Generator Units (kVA)	Frequency Difference (Δf, Hz)	Voltage Difference (ΔV, %)	Phase Angle Difference (ΔΦ,°)
0-500	0.3	10	20
> 500-1,500	0.2	5	15
> 1,500-10,000	0.1	3	10

[1] – IEEE 1547-5.1.1B

g. Paralleling Device Withstand Test

The di-electric voltage withstand test specified in Section L.1 shall be performed on the paralleling device to ensure compliance with those requirements specified in Section H.1.c (IEEE 1547-5.1.3.3).

4. PRODUCTION TESTING

At a minimum, each interconnection system shall be subjected to Distribution Provider Voltage and Frequency Variation Test procedure described in UL1741 under Manufacturing and Production Tests, Section 68 and the Synchronization test specified in Section L.3.f. Interconnection systems with adjustable set points shall be tested at a single set of set points as specified by the manufacturer. This test may be performed in the factory or as part of a Commissioning Test (Section L.5). (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 167
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

5. COMMISSIONING TESTING

a. Commissioning Testing

Commissioning Testing, where required, will be performed on-site to verify protective settings and functionality. Upon initial Parallel Operation of a Generating Facility, or any time interface hardware or software is changed that may affect the functions listed below~~,~~ a Commissioning Test must be performed. An individual qualified in testing protective equipment (professional engineer, factory–certified technician, or licensed electrician with experience in testing protective equipment) must perform Commissioning Testing in accordance with the manufacturer's recommended test procedure to verify the settings and requirements per this Rule.

Distribution Provider may require written Commissioning test procedure be submitted to Distribution Provider at least 10 working days prior to the performance of the Commissioning Test. Distribution Provider has the right to witness Commissioning Test. Distribution Provider may also require written certification by the installer describing which tests were performed and their results. Protective Functions to be tested during commissioning, particularly with respect to non-Certified equipment, may consist of the following:

(1) Over and under voltage

(2) Over and under frequency

(3) Anti-Islanding function (if applicable)

(4) Non-Exporting function (if applicable)

(5) Inability to energize dead line (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 168
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

5. COMMISSIONING TESTING (Cont'd.)

a. Commissioning Testing (Cont'd.)

(6) Time delay on restart after Distribution Provider source is stable

(7) Distribution Provider system fault detection (if used)

(8) Synchronizing controls (if applicable)

(9) Other Interconnection Protective Functions that may be required as part of the Generator Interconnection Agreement

Commissioning Test shall include visual inspections of the interconnection equipment and protective settings to confirm compliance with the interconnection requirements.

b. Review, Study, and Additional Commissioning Test Verification Costs

A Producer shall be responsible for the reasonably incurred costs of the reviews, studies and additional Commissioning Test verifications conducted pursuant to Section E of this Rule. If the initial Commissioning Test verification is not successful through no fault of Distribution Provider, Distribution Provider may impose upon Producer a cost based charge for subsequent Commissioning Test verifications. All Costs for additional Commissioning Test verifications shall be paid by Producer within thirty days of receipt of Distribution Provider's invoice. The invoice provided by Distribution Provider shall consist of the hourly rate multiplied by the hours incurred by Distribution Provider and will separately specify the amount of time spent on-site from that spent in roundtrip travel to the Commissioning Test site. Additional cost, if any, will be specified on the invoice. If the initial Commissioning Test verification is not successful through the fault of Distribution Provider, that visit will not be considered the initial Commissioning Test verification. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 169
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

5. COMMISSIONING TESTING (Cont'd.)

c. Other Checks and Tests

Other checks and tests that may need to be performed include:

(1) Verifying final Protective Function settings

(2) Trip test (L.5.g)

(3) In-service tests (L.5.h)

d. Certified Equipment

Generating Facilities qualifying for interconnection through the Fast Track process incorporate Certified Equipment that have, at a minimum, passed the Type Tests and Production Tests described in this Rule and are judged to have little or no potential impact on Distribution Provider's Distribution or Transmission System. For such Generating Facilities, it is necessary to perform only the following tests:

(1) Protective Function settings that have been changed after Production Testing will require field verification. Tests shall be performed using injected secondary frequencies, voltages and currents, applied waveforms, at a test connection using a Generator to simulate abnormal Distribution Provider voltage or frequency, or varying the set points to show that the device trips at the measured (actual) Distribution Provider voltage or frequency.

(2) The Non-Islanding function shall be checked by operating a load break disconnect switch to verify the Interconnection equipment ceases to energize Distribution Provider's Distribution or Transmission System and does not re-energize it for the required time delay after the switch is closed. (N)

(3) The Non-Exporting function shall be checked using secondary injection techniques. This function may also be tested by adjusting the Generating Facility output and local loads to verify that the applicable Non-Exporting criteria (i.e., reverse power or underpower) are met.

(Continued)

ELECTRIC RULE NO. 21 Sheet 170
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

5. COMMISSIONING TESTING (Cont'd.)

d. Certified Equipment (Cont'd.)

The Supplemental Review or an Interconnection Study may impose additional components or additional testing.

e. Non-Certified Equipment

Non-certified Equipment shall be subjected to the appropriate tests described in Type Testing (Section L.3) as well as those described in Certified Equipment Commissioning Tests (Section L.5.d). With Distribution Provider's approval, these tests may be performed in the factory, in the field as part of commissioning, or a combination of both. Distribution Provider, at its discretion, may also approve a reduced set of tests for a particular Generating Facility or, for example, if it determines it has sufficient experience with the equipment.

f. Verification of Settings

At the completion of Commission testing, Producer shall confirm all devices are set to Distribution Provider-approved settings. Verification shall be documented in the Commissioning Test Certification.

g. Trip Tests

Interconnection Protective Functions and devices (e.g. reverse power relays) that have not previously been tested as part of the Interconnection Facilities with their associated interrupting devices (e.g. contactor or circuit breaker) shall be trip tested during commissioning. The trip test shall be adequate to prove that the associated interrupting devices open when the protective devices operate. Interlocking circuits between Protective Function devices or between interrupting devices shall be similarly tested unless they are part of a system that has been tested and approved during manufacturing.

(N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 171
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

5. COMMISSIONING TESTING (Cont'd.)

g. Trip Tests

Interconnection Protective Functions and devices (e.g. reverse power relays) that have not previously been tested as part of the Interconnection Facilities with their associated interrupting devices (e.g. contactor or circuit breaker) shall be trip tested during commissioning. The trip test shall be adequate to prove that the associated interrupting devices open when the protective devices operate. Interlocking circuits between Protective Function devices or between interrupting devices shall be similarly tested unless they are part of a system that has been tested and approved during manufacturing.

h. In-service Tests

Interconnection Protective Functions and devices that have not previously been tested as part of the Interconnection Facilities with their associated instrument transformers or that are wired in the field shall be given an in-service test during commissioning. This test will verify proper wiring, polarity, CT/PT ratios, and proper operation of the measuring circuits. The in-service test shall be made with the power system energized and carrying a known level of current. A measurement shall be made of the magnitude and phase angle of each Alternating Current (AC) voltage and current connected to the protective device and the results compared to expected values. For protective devices with built-in Metering Functions that report current and voltage magnitudes and phase angles, or magnitudes of current, voltage, and real and reactive power, the metered values may be used for in-service testing. Otherwise, portable ammeters, voltmeters, and phase-angle meters shall be used. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 172
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

6. PERIODIC TESTING

Periodic Testing of Interconnection-related Protective Functions shall be performed as specified by the manufacturer, or at least every four years. All Periodic Tests prescribed by the manufacturer shall be performed. Producer shall maintain Periodic Test reports or a log for inspection by Distribution Provider. Periodic Testing conforming to Distribution Provider test intervals for the particular Line Section may be specified by Distribution Provider under special circumstances, such as high fire hazard areas. Batteries used to activate any Protective Function shall be checked and logged once per month for proper voltage. Once every four years, the battery must be either replaced or a discharge test performed.

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS

This Section describes the additional Type Tests necessary to qualify a device as Certified under this Rule. These Type Tests are not contained in Underwriters Laboratories UL 1741 Standard *Inverters, Converters and Controllers for Use in Independent Power Systems,* or other referenced standards.

a. Non-Exporting Test Procedures

The Non-Exporting test is intended to verify the operation of relays, controllers and inverters designed to limit the export of power and certify the equipment as meeting the requirements of Screen I, Options 1 and 2, of the review process. Tests are provided for discrete relay packages and for controllers and inverters with the intended Functions integrated. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 173
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

a. Non-Exporting Test Procedures (Cont'd.)

i) Discrete Reverse Power Relay Test

This version of the Non-Exporting test procedure is intended for discrete reverse power and underpower relay packages provided to meet the requirements of Options 1 and 2 of Screen I. It should be understood that in the reverse power application, the relay will provide a trip output with power flowing in the export (toward Distribution Provider's Distribution or Transmission System) direction.

Step 1: Power Flow Test at Minimum, Midpoint and Maximum Pickup Level Settings

Determine the corresponding secondary pickup current for the desired export power flow of 0.5 secondary watts (the minimum pickup setting, assumes 5 amp and 120V CT/PT secondary). Apply nominal voltage with minimum current setting at zero (0) degrees phase angle in the trip direction. Increase the current to pickup level. Observe the relay's (LCD or computer display) indication of power values. Note the indicated power level at which the relay trips. The power indication should be within 2% of the expected power. For relays with adjustable settings, repeat this test at the midpoint, and maximum settings. Repeat at phase angles of 90, 180 and 270 degrees and verify that the relay does not operate (measured watts will be zero or negative). (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 174
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

a. Non-Exporting Test Procedures (Cont'd.)

i) Discrete Reverse Power Relay Test (Cont'd.)

Step 2: Leading Power Factor Test

Apply rated voltage with a minimum pickup current setting (calculated value for system application) and apply a leading power factor load current in the non-trip direction (current lagging voltage by 135 degrees). Increase the current to relay rated current and verify that the relay does not operate. For relays with adjustable settings, this test should be repeated at the minimum, midpoint, and maximum settings.

Step 3: Minimum Power Factor Test

At nominal voltage and with the minimum pickup (or ranges) determined in Step 1, adjust the current phase angle to 84 or 276 degrees. Increase the current level to pickup (about 10 times higher than at 0 degrees) and verify that the relay operates. Repeat for phase angles of 90, 180 and 270 degrees and verify that the relay does not operate.

Step 4: Negative Sequence Voltage Test

Using the pickup settings determined in Step 1, apply rated relay voltage and current at 180 degrees from tripping direction, to simulate normal load conditions (for three-phase relays, use Ia at 180, Ib at 60 and Ic at 300 degrees). Remove phase-1 voltage and observe that the relay does not operate. Repeat for phases-2 and 3. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 175
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

a. Non-Exporting Test Procedures (Cont'd.)

i) Discrete Reverse Power Relay Test (Cont'd.)

Step 5: Load Current Test

Using the pickup settings determined in Step 1, apply rated voltage and current at 180 degrees from the tripping direction, to simulate normal load conditions (use Ia at 180, Ib at 300 and Ic at 60 degrees). Observe that the relay does not operate.

Step 6: Unbalanced Fault Test

Using the pickup settings determined in Step 1, apply rated voltage and 2 times rated current, to simulate an unbalanced fault in the non-trip direction (use Va at 0 degrees, Vb and Vc at 180 degrees, Ia at 180 degrees, Ib at 0 degrees, and Ic at 180 degrees). Observe that the relay, especially single phase, does operate properly.

Step 7: Time Delay Settings Test

Apply Step 1 settings and set time delay to minimum setting. Adjust the current source to the appropriate level to determine operating time, and compare against calculated values. Verify that the timer stops when the relay trips. Repeat at midpoint and maximum delay settings. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 176
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

a. Non-Exporting Test Procedures (Cont'd.)

i) Discrete Reverse Power Relay Test (Cont'd.)

Step 8: Dielectric Test

Perform the test described in IEC 414 using 2 kV RMS for 1 minute.

Step 9: Surge Withstand Test

Perform the surge withstand test described in IEEE C37.90.1.1989 or the surge withstand capability test described in L.3.e.

ii) Discrete Underpower Relay Test

This version of the Non-Exporting test procedure is intended for discrete underpower relay packages and meets the requirements of Option 2 of Screen I. A trip output will be provided when import power (toward Producer's load) drops below the specified level.

Note: For an underpower relay, pickup is defined as the highest power level at which the relay indicates that the power is less than the set level. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 177
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

a. Non-Exporting Test Procedures (Cont'd.)

ii) Discrete Underpower Relay Test (Cont'd.)

Step 1: Power Flow Test at Minimum, Midpoint and Maximum Pickup Level Settings

Determine the corresponding secondary pickup current for the desired power flow pickup level of 5% of peak load minimum pickup setting. Apply rated voltage and current at 0 (zero) degrees phase angle in the direction of normal load current.

Decrease the current to pickup level. Observe the relay's (LCD or computer display) indication of power values. Note the indicated power level at which the relay trips. The power indication should be within 2% of the expected power. For relays with adjustable settings, repeat the test at the midpoint, and maximum settings. Repeat at phase angles of 90, 180 and 270 degrees and verify that the relay operates (measured watts will be zero or negative).

Step 2: Leading Power Factor Test

Using the pickup current setting determined in Step 1, apply rated voltage and rated leading power factor load current in the normal load direction (current leading voltage by 45 degrees). Decrease the current to 145% of the pickup level determined in Step 1 and verify that the relay does not operate. For relays with adjustable settings, repeat the test at the minimum, midpoint, and maximum settings. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 178
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

a. Non-Exporting Test Procedures (Cont'd.)

ii) Discrete Underpower Relay Test (Cont'd.)

Step 3: Minimum Power Factor Test

At nominal voltage and with the minimum pickup (or ranges) determined in Step 1, adjust the current phase angle to 84 or 276 degrees. Decrease the current level to pickup (about 10% of the value at 0 degrees) and verify that the relay operates. Repeat for phase angles 90, 180 and 270 degrees and verify that the relay operates for any current less than rated current.

Step 4: Negative Sequence Voltage Test

Using the pickup settings determined in Step 1, apply rated relay voltage and 25% of rated current in the normal load direction, to simulate light load conditions. Remove phase 1 voltage and observe that the relay does not operate. Repeat for Phases-2 and 3.

Step 5: Unbalanced Fault Test

Using the pickup settings determined in Step 1, apply rated voltage and two times rated current, to simulate an unbalanced fault in the normal load direction (use Va at 0 degrees, Vb and Vc at 180 degrees, Ia at 0 degrees, Ib at 180 degrees, and Ic at 0 degrees). Observe that the relay (especially single-phase types) operates properly.

Step 6: Time Delay Settings Test

Apply Step 1 settings and set time delay to minimum setting. Adjust the current source to the appropriate level to determine operating time, and compare against calculated values. Verify that the timer stops when the relay trips. Repeat at midpoint and maximum delay settings. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 179
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

a. Non-Exporting Test Procedures (Cont'd.)

ii) Discrete Underpower Relay Test (Cont'd.)

Step 7: Dielectric Test

Perform the test described in IEC 414 using 2 kV RMS for 1 minute.

Step 8: Surge Withstand Test

Perform the surge withstand test described in IEEE C37.90.1.1989 or the surge withstand test described in Section L.3.e.

iii) Tests for Inverters and Controllers with Integrated Functions

Inverters and controllers designed to provide reverse or underpower functions shall be tested to certify the intended operation of this function. Two methods are acceptable:

Method 1: If the inverter or controller utilizes external current/voltage measurement to determine the reverse or underpower condition, then the inverter or controller shall be functionally tested by application of appropriate secondary currents and potentials as described in the Discrete Reverse Power Relay Test, Section L.7.a.i of this Rule. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 180
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

a. Non-Exporting Test Procedures (Cont'd.)

iii) Tests for Inverters and Controllers with Integrated Functions (Cont'd.)

Inverters and controllers designed to provide reverse or underpower functions shall be tested to certify the intended operation of this function. Two methods are acceptable:

Method 1: If the inverter or controller utilizes external current/voltage measurement to determine the reverse or underpower condition, then the inverter or controller shall be functionally tested by application of appropriate secondary currents and potentials as described in the Discrete Reverse Power Relay Test, Section L.7.a.i of this Rule.

Method 2: If external secondary current or voltage signals are not used, then unit-specific tests must be conducted to verify that power cannot be exported across the PCC for a period exceeding two seconds. These may be factory tests, if the measurement and control points are integral to the unit, or they may be performed in the field.

b. In-rush Current Test Procedures

This test will determine the maximum In-rush Current drawn by the Generator.

(1) Locked-Rotor Method

Use the test procedure defined in NEMA MG-1 (manufacturer's data is acceptable if available). (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 181
GENERATING FACILITY INTERCONNECTIONS

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (N)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS (Cont'd.)

b. In-rush Current Test Procedures (Cont'd.)

(2) Start-up Method

Install and setup the Generating Facility equipment as specified by the manufacturer. Using a calibrated oscilloscope or data acquisition equipment with appropriate speed and accuracy, measure the current draw at the Point of Interconnection as the Generating Facility starts up and parallels with Distribution Provider's Distribution or Transmission System. Startup shall follow the normal, manufacturer-specified procedure. Sufficient time and current resolution and accuracy shall be used to capture the maximum current draw within 5%. In-rush Current is defined as the maximum current draw from Distribution Provider during the startup process, using a 10-cycle moving average. During the test, Distribution Provider source, real or simulated, must be capable of maintaining voltage within +/- 5% of rated at the connection to the unit under test. Repeat this test five times. Report the highest 10-cycle current as the In-rush Current. A graphical representation of the time-current characteristic along with the certified In-rush Current must be included in the test report and made available to Distribution Provider. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 182
GENERATING FACILITY INTERCONNECTIONS

M. APPENDIX ONE (N)

Inadvertent Export

Inadvertent Export: "The unscheduled and uncompensated export of real power from a Generating Facility (GF) for a duration exceeding two seconds but less than 60 seconds."

Under certain operating conditions, an Applicant may choose to completely offset their facility load by installing generation systems which are optimally sized to meet their peak demand with load following functionality on the Generator controls to ensure conditional export of electrical power from the Generating Facility to Distribution Provider's Distribution or Transmission System. In situations where the loading changes rapidly and/or the Generator cannot ramp down quickly enough, the Generating Facility may need to export small amounts of power for limited duration. The event of exporting uncompensated power for a short time is referred to as Inadvertent Export.

It is proposed that the following criteria be the minimum requirements for Inadvertent Export systems. It should be understood that other factors relevant to the interconnection study process (15% screen results, short circuit current ratio, etc.) may necessitate additional technical requirements (e.g. reclose block, transfer trip, ground bank, etc.) that are not explicitly noted here. Also, it should be noted that Inadvertent Export may not be available for interconnections to Networked Secondary Systems.

1) If a Generating Facility is proposed with Inadvertent Export, additional Protective Functions and equipment to detect Distribution or Transmission System faults (per Distribution Provider's standard practices) may be required over and above the basic Protective Functions and equipment associated with the four options in the Export Screen. Protective Functions may include, but are not limited to, directional overcurrent/voltage-restraint overcurrent Protective Functions for line-to-line fault detection and overcurrent/overvoltage Protective Functions for line-to-ground detection. The addition of a ground bank or ground detector may also be necessary. (N)

(Continued)

ELECTRIC RULE NO. 21 Sheet 183
GENERATING FACILITY INTERCONNECTIONS

M. APPENDIX ONE (Cont'd.) (N)

2) The effect on equipment ratings can be mitigated by limiting the amount of inadvertent export allowed. To a large degree, Voltage Regulation may be similarly handled. The amount of Inadvertent Export is dependent on specific Distribution Provider requirements and should be limited to the lesser of the following values:

   a. 50% of the Generating Facility Capacity, or

   b. 10% of the continuous conductor rating in watts at 0.9 power factor for the lowest rated feeder conductor upstream of the GF (i.e. 200kW @ 12kV), or

   c. 110% of the largest load block in the facility, or

   d. 500kW or some other maximum level indicated by Distribution Provider

   To govern this quantity, a reverse power Protective Function will be provided to trip the connected Generator(s) within two seconds if the proposed amount of Inadvertent Export is exceeded.

3) Similarly, to ensure limited impact to the Distribution or Transmission System, the expected frequency of Inadvertent Export occurrences should be less than two occurrences per 24-hour period. Additionally, a separate reverse power or underpower Protective Function will be required (in addition to the reverse power Protective Function described in 2) above) to trip the connected Generator(s) if the duration of reverse power or underpower (i.e. ANY export) exceeds 60 seconds. (N)

(Continued)