

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 9, 2014

Advice Letter: 4437-E

Brian Cherry
Vice President, Regulation and Rates
Pacific Gas and Electric Company
P.O. Box 770000
San Francisco, CA 94177

**SUBJECT: REVISIONS TO INCORPORATE A DISTRIBUTION GROUP STUDY PROCESS INTO
ELECTRIC RULE 21 IN COMPLIANCE WITH DECISION 14-04-003**

Dear Mr. Cherry:

Advice Letter 4437-E is effective as of July 9, 2014.

Sincerely,

A handwritten signature in cursive script that reads "Edward Randolph".

Edward Randolph
Director, Energy Division

June 9, 2014

Advice 4437-E

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Revisions to Incorporate a Distribution Group Study Process into
Electric Rule 21 in Compliance with Decision 14-04-003**

Purpose

Pacific Gas and Electric Company (PG&E) submits this advice letter to revise Electric Rule 21 to adopt a Distribution Group Study Process and to adopt Rule 21 Standardized Agreement Forms in compliance with Ordering Paragraphs (OP) 1 and 5 of Decision (D.) 14-04-003¹. The affected tariff sheets and forms are provided in the enclosed Attachment 1.

The tariff changes would not increase any current rate or charge, cause the withdrawal of service, or conflict with any rate schedule or rule.

Background

Rule 21 describes the interconnection requirements and cost allocation for generating facilities to be connected to the utilities' distribution and transmission systems over which the California Public Utilities Commission (Commission or CPUC) has jurisdiction.

In Rulemaking (R.) 11-09-011, the Commission sought to review Rule 21 to ensure that the interconnection process was timely, non-discriminatory, cost-effective, and transparent. Under the existing terms of Rule 21, many projects seeking interconnection to the distribution system must be studied serially, in a first-come, first-served process. This process is referred to as the Independent Study Process.

On February 19, 2013, PG&E, jointly with San Diego Gas & Electric Company (SDG&E), filed proposed tariff language for revisions to Rule 21 for their Distribution Group Study Process. Southern California Edison Company (SCE) filed proposed

¹ D. 14-04-003 *Decision Adopting Revisions To Electric Tariff Rule 21 To Include A Distribution Group Study Process And Additional Tariff Forms* can be found at:
<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M090/K001/90001430.PDF>

tariffs as well. In March 2013, comments by the three IOUs addressed concerns raised by parties.

On April 16, 2014 the Commission issued D.14-04-003, wherein it concluded that the Independent Study Process can be time consuming and that the costs are not distributed among electrically interdependent applicants and therefore approved the PG&E and SDG&E February 19, 2013, proposed Distribution Group Study process and related materials with some additional revisions. These changes to Rule 21 and related materials are submitted in this Advice Letter as ordered by D. 14-04-003.

Tariff Revisions

- 1) **Rule 21** – Pursuant to D.14-04-003, PG&E revises Rule 21 and describes changes to the Rule both from PG&E’s February 19, 2013 proposed tariffs and from any additional changes ordered by D.14-04-003 summarized in Attachment 2.

Of note, pursuant to OP 1(f)(3), PG&E revises Rule 21 to provide applicants with the option to request further study to determine whether the proposed interconnection requires Direct Transfer Trip. The proposed tariff language was developed through the California Energy Commission’s (CEC) Synchronous Generator Working Group.

- 2) **Rule 21 Forms** – Pursuant to D.14-04-003, PG&E adopts and revises the following Electric Rule 21 forms:
 - a) D.14-04-003 instructs PG&E to submit several Rule 21 forms. D.14-04-003 OP 5 further instructs PG&E to revise its forms in substantially similar “format and substance” to that of SCE and SDG&E. Finally, D.14-04-003 OP 5 also requires PG&E to incorporate Distribution Group Study Process (DGSP) revisions, as needed, to conform to the Rule 21 revisions adopted by D.14-04-003. Specifically, PG&E revises the following forms (with the original name from the proposed tariffs, and their new name).
 - i. *Pre-Application Report Request* – PG&E just revises the Form number 79-1163 and the filed date format for this submittal;
 - ii. *Independent Study Process Study Agreement* – PG&E revises this form to include Interconnection Requests evaluated under the DGSP. PG&E renames this form the *Detailed Study Agreement* (Form 79-1162); and
 - iii. *Generator Interconnection Agreement for Exporting Generation Facilities* – PG&E revises this form to incorporate Interconnection Requests selecting the DGSP and renames this form the *Generator Interconnection Agreement (GIA) for Exporting Generating Facilities Interconnecting Under the Independent Study, Distribution Group Study, or Transmission Cluster Study Process* (Form 79-1161).

- b) Interconnection Application Form – In addition, pursuant to Ordering Paragraph 1(f)(2), in order to provide “more specific identification of behind the meter components” on PG&E’s interconnection application form, specifically with regard to energy storage, PG&E revises its *Generating Facility Interconnection Application for Non-Export or Certain Net Energy Metered Generating Facilities (Between 30 kW and 1,000 kW)* (Form 79-974). PG&E renames this document the *Interconnection Application for Non-Export or Certain Net Energy Metered Generating Facilities*, adds a new Section IV F, “Additional Information Required for Storage,” on page 14, and makes assorted other related changes. PG&E looks forward to continuing to work on improvements to the interconnection process for storage in the coming months.

Transition Plan

OP 1(g) provides guidance on a transition plan. PG&E currently has no projects that would require a transition. However, included in Attachment 3 is a proposed plan to address the orderly transition of any pending applications to the group study process, in the event it is needed before the changes in this Advice Letter become effective.

Protests

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than June 30, 2014, which is 21 days² after the date of this filing. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via email or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

² The 20-day protest period concludes on a weekend. PG&E is hereby moving this date to the following business day.

Brian K. Cherry
Vice President, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-7226
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

PG&E requests that this Tier 2 advice filing become effective on regular notice, July 9, 2014, which is 30 calendar days after the date of filing.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service lists for R.11-09-011 and R.12-11-005. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter filings can also be accessed electronically at: <http://www.pge.com/tariffs>

Handwritten signature of Brian Cherry in cursive, with the initials 'KAC' written at the end.

Vice President, Regulatory Relations

Attachments

cc: Jamie Ormond, Energy Division
Ehren Seybert, Energy Division
Service Lists R.11-09-011 and R.12-11-005

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 E)**

Utility type:

ELC GAS
 PLC HEAT WATER

Contact Person: Kingsley Cheng

Phone #: (415) 973-5265

E-mail: k2c0@pge.com and PGETariffs@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas
PLC = Pipeline HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: **4437-E**

Tier: **2**

Subject of AL: **Revisions to Incorporate a Distribution Group Study Process into Electric Rule 21 in Compliance with Decision 14-04-003**

Keywords (choose from CPUC listing): Compliance, Rules

AL filing type: Monthly Quarterly Annual One-Time Other _____

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: D.14-04-003

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL: _____

Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: No

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: _____

Resolution Required? Yes No

Requested effective date: **July 9, 2014**

No. of tariff sheets: **204**

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: **Electric Rule 21, Electric Sample Form 79-974, New Electric Sample Form 79-1161, New Electric Sample Form 79-1162, and New Electric Sample Form 79-1163.**

Service affected and changes proposed: **Affects process for interconnecting new generators.**

Pending advice letters that revise the same tariff sheets: N/A

Protests, dispositions, and all other correspondence regarding this AL are due no later than 21 days¹ after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

California Public Utilities Commission
Energy Division
EDTariffUnit
505 Van Ness Ave., 4th Flr.
San Francisco, CA 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Pacific Gas and Electric Company
Attn: Brian K. Cherry
Vice President, Regulatory Relations
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177
E-mail: PGETariffs@pge.com

¹ The 20-day protest period concludes on a weekend. PG&E is hereby moving this date to the following business day.

**ATTACHMENT 1
Advice 4437-E**

**Cal P.U.C.
Sheet No. Title of Sheet**

**Cancelling Cal
P.U.C. Sheet No.**

33943-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 1	31865-E*
33944-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 2	31866-E*
33945-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 3	31867-E*
33946-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 4	31868-E*
33947-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 5	31869-E*
33948-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 6	31870-E*
33949-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 7	31871-E*
33950-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 8	31872-E
33951-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 9	31873-E*
33952-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 10	31874-E*
33953-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 11	31875-E*
33954-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 12	31876-E

**ATTACHMENT 1
Advice 4437-E**

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
33955-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 13	31877-E
33956-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 14	31878-E*
33957-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 15	31879-E*
33958-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 16	31880-E
33959-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 17	
33960-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 18	31881-E
33961-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 19	31882-E
33962-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 20	31883-E
33963-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 21	31884-E
33964-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 22	31885-E
33965-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 23	31886-E
33966-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 24	31887-E

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
33967-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 25	31888-E
33968-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 26	31889-E
33969-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 27	31890-E
33970-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 28	31891-E
33971-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 29	31892-E
33972-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 30	31893-E
33973-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 31	31894-E
33974-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 32	31895-E
33975-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 33	31896-E
33976-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 34	31897-E*
33977-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 35	31898-E
33978-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 36	31899-E

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
33979-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 37	31900-E
33980-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 38	31901-E
33981-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 39	31902-E*
33982-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 40	31903-E
33983-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 41	31904-E
33984-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 42	31905-E*
33985-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 43	31906-E*
33986-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 44	
33987-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 45	31907-E*
33988-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 46	31908-E
33989-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 47	31909-E
33990-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 48	31910-E

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
33991-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 49	31911-E
33992-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 50	
33993-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 51	31912-E
33994-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 52	31913-E*
33995-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 53	
33996-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 54	31914-E*
33997-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 55	31915-E
33998-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 56	31916-E
33999-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 57	31917-E
34000-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 58	31918-E
34001-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 59	31919-E
34002-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 60	31920-E*

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
34003-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 61	31921-E*
34004-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 62	31922-E*
34005-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 63	31923-E
34006-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 64	31924-E
34007-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 65	31925-E
34008-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 66	31926-E
34009-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 67	31927-E
34010-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 68	
34011-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 69	
34012-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 70	31928-E*
34013-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 71	31929-E
34014-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 72	31930-E

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
34015-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 73	31931-E
34016-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 74	31932-E
34017-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 75	31933-E
34018-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 76	31934-E*
34019-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 77	31935-E*
34020-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 78	31936-E
34021-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 79	31937-E*
34022-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 80	31938-E
34023-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 81	31939-E
34024-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 82	31940-E*
34025-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 83	31941-E
34026-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 84	31942-E*

Cal P.U.C. Sheet No.	Title of Sheet	
34027-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 85	31943-E
34028-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 86	
34029-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 87	
34030-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 88	
34031-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 89	
34032-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 90	
34033-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 91	
34034-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 92	
34035-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 93	
34036-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 94	
34037-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 95	
34038-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 96	

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
34039-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 97	
34040-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 98	
34041-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 99	
34042-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 100	31944-E
34043-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 101	31945-E
34044-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 102	31946-E*
34045-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 103	31947-E
34046-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 104	31948-E
34047-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 105	31949-E
34048-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 106	31950-E
34049-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 107	31951-E
34050-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 108	31952-E

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
34051-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 109	31953-E*
34052-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 110	31954-E
34053-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 111	31955-E*
34054-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 112	31956-E*
34055-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 113	31957-E
34056-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 114	31958-E
34057-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 115	
34058-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 116	31959-E
34059-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 117	31960-E
34060-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 118	31961-E
34061-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 119	31962-E
34062-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 120	31963-E*

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
34063-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 121	31964-E*
34064-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 122	31965-E*
34065-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 123	31966-E*
34066-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 124	31967-E*
34067-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 125	31968-E*
34068-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 126	31969-E*
34069-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 127	31970-E*
34070-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 128	31971-E
34071-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 129	31972-E
34072-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 130	31973-E*
34073-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 131	31974-E*
34074-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 132	31975-E*

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
34075-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 133	31976-E*
34076-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 134	31977-E*
34077-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 135	31978-E*
34078-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 136	31979-E*
34079-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 137	31980-E
34080-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 138	31981-E*
34081-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 139	31982-E*
34082-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 140	31983-E
34083-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 141	31984-E
34084-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 142	31985-E
34085-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 143	31986-E
34086-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 144	31987-E

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Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
34087-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 145	31988-E
34088-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 146	31989-E*
34089-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 147	31990-E
34090-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 148	31991-E
34091-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 149	31992-E
34092-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 150	31993-E
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GENERATING FACILITY INTERCONNECTIONS

Sheet 11

B. APPLICABILITY

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.

(T)

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.

(Continued)



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GENERATING FACILITY INTERCONNECTIONS

Sheet 12

B. APPLICABILITY (Cont'd.)

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.

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 13

C. DEFINITIONS (Cont'd.)

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

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.

(T)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 14

C. DEFINITIONS (Cont'd.)

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.

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.

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 15

C. DEFINITIONS (Cont'd.)

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.

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.

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 16

C. DEFINITIONS (Cont'd.)

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. (N)

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)

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. (N)

Dispute Resolution: See Section K.

Distribution Group Study: An interconnection engineering study of a group comprised of Interconnection Requests that pass Screen Q as a group and fail Screen R demonstrating they are electrically interdependent in accordance with Section F.3.c. (N)

Distribution Group Study Process: The interconnection study process set forth in Section F.3.c. (T)

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.

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 17

C. DEFINITIONS (Cont'd.)

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

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. (L)
 |
 |
 |

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. |
 |
 |

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. |
 |
 |
 (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 18

C. DEFINITIONS (Cont'd.)

(L)

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

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 19

C. DEFINITIONS (Cont'd.)

(L)

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.

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 20

C. DEFINITIONS (Cont'd.)

(L)

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.

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

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Initial Review: See Section F.2.a.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 21

C. DEFINITIONS (Cont'd.)

(L)

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.

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.

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

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 22

C. DEFINITIONS (Cont'd.)

(L)

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 23

C. DEFINITIONS (Cont'd.)

(L)

Material Modification: Those modifications that have a material impact on cost or timing of any Interconnection Request with 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.

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 24

C. DEFINITIONS (Cont'd.)

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.

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 Section M.

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 25

C. DEFINITIONS (Cont'd.)

(L)

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.

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 26

C. DEFINITIONS (Cont'd.)

(L)

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.

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 27

C. DEFINITIONS (Cont'd.)

(L)

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 29

C. DEFINITIONS (Cont'd.)

(L)

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.

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 30

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

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 31

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

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.

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 32

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

7. CONFIDENTIALITY (Cont'd)

a. Scope (Cont'd)

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.

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

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 33

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

7. CONFIDENTIALITY (Cont'd.)

b. Limitations on Scope (Cont'd.)

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 34

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

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 35

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

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 36

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

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

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 37

- D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (L)
13. SPECIAL PROVISIONS APPLICABLE TO NET ENERGY METERED APPLICANTS (Cont'd.) (L)
- b. For Generating Facilities qualifying for service under PUC 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 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 an Interconnection System Impact Study, and an Interconnection Facilities Study 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. (L)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 38

- D. GENERAL, RULES, RIGHTS AND OBLIGATIONS (Cont'd.) (L)
13. SPECIAL PROVISIONS APPLICABLE TO NET ENERGY METERED APPLICANTS (Cont'd.)
- c. Unless Net Generator Output Metering is required, Metering Equipment necessary to obtain service under PUC Sections 2827 and 2827.8 shall be installed and operational within the timeframe required to complete Interconnection. (L) (T)/(L) (L)
- d. 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 i) Applicant provides reasonable evidence that the Interconnection Request is still active or ii) the delay is at no fault of Applicant. (L) (T)/(L) (L) (T)/(L) (L)
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. (L)

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 39

E. INTERCONNECTION REQUEST SUBMISSION PROCESS (L)
1. OPTIONAL PRE-APPLICATION REPORT (T)/(L)

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. (L)

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. (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 40

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
- 1. OPTIONAL PRE-APPLICATION REPORT (Cont'd.) (T)/(L)
 - g. Approximate circuit distance between the proposed site and the substation. (L)
 - 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. |
 - 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. (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 41

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
- 1. OPTIONAL PRE-APPLICATION REPORT (Cont'd.) (T)/(L)

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. (L)

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: (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 42

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

2. INTERCONNECTION REQUEST PROCESS (Cont'd.)

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

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.

(L)
 (T)/(L)
 (L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 43

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
- 2. INTERCONNECTION REQUEST PROCESS (Cont'd.)
- b. Applicant Selects a Study Process (Cont'd.)
- 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. (L)
- i) Interconnection Requests for the Independent Study Process will be accepted throughout the year, except during the Distribution Group Study windows. All Detailed Study Interconnection Requests (except those applying directly to the Transmission Cluster Study Process) submitted during the Distribution Group Study Windows will be processed as Distribution Group Study Process Applicants. (N)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 44

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

2. INTERCONNECTION REQUEST PROCESS (Cont'd.)

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

- 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)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 45

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

(L)

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

<u>Generating Facility Type</u>	<u>Interconnection Request Fee</u>	<u>Supplemental Review Fee</u>	<u>Detailed Study Deposit</u>	<u>Additional Commissioning Test Verification</u>
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; 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**

*Optional \$1,000 additional fault current study fee pursuant to Section F.2.c.ii.

**Plus additional costs for travel, lodging and meals.

(L)
(T)/(L)

(T)/(L)
(L)

(L)
(T)/(L)
(T)/(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 46

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
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. (L)
(T)/(L)
(L)
- a. Detailed Study Deposit
- i) Detailed Study Deposit
- To proceed with Detailed Study, Applicant must submit a Detailed Study deposit. (L)
(T)/(L)
(L)
- 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.vi or F.3.c.viii. (L)
(T)/(L)
(L)
(T)/(L)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 47

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
 - 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 either the execution of the Generator Interconnection Agreement or project withdrawal as described in more detail below. (L) (T)/(L) (T)/(L)
- The interconnection study costs for a Distribution Study Group shall be allocated equally among the Interconnection Requests within the Distribution Study Group, except as provided in (3) below. (N) (N)
- The Detailed Study deposits shall be refundable as follows: (L)
- (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 Detailed 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). (L) (T)/(L) (T)/(L) (L)
 - (2) Should an Interconnection Request that has been 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 (30) Calendar Days after the scoping meeting, but on or before thirty (30) Calendar (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 48

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.)
- a. Detailed Study Deposit (Cont'd.)
- ii) Use of Detailed Study Deposit (Cont'd.)
- (2) 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 Detailed Study deposit and (ii) the greater of (a) the costs Distribution Provider, CAISO, and third parties have incurred on Applicant's behalf or (b) one-half of the original Detailed 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). (L)
 (T)/(L)
 (T)/(L)
 (L)
 (T)/(L)
 (L)
- (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 I Interconnection Study, or thirty (30) Calendar Days after issuance of the final Interconnection System Impact Study report or DGS Phase I Interconnection Study report if a results meeting is not held, the Detailed Study deposit shall be non-refundable. (L)
 (T)/(L)
 (T)/(L)
 (L)
- (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 detailed 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). (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 49

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
- 3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.) |
- a. Detailed Study Deposit (Cont'd.) |
- iii) Impact of Withdrawal |
- (1) Notwithstanding the foregoing, an Applicant that withdraws or (L)
- is deemed to have withdrawn its Interconnection Request (T)/(L)
- shall be obligated to pay to Distribution Provider all costs in (L)
- excess of the Detailed Study deposit that have been (L)
- prudently incurred or irrevocably have been committed to be (T)/(L)
- incurred with respect to that Interconnection Request prior to (L)
- 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. (L)
- (2) Forfeited Study Deposit for Distribution Group Study Process (N)
- Non-refundable Detailed Study deposits, as pursuant to |
- Section E.3.a.ii, for a Distribution Group Study Process |
- Interconnection Request, shall be applied to the costs |
- associated with any following Interconnection Study or |
- restudy work performed by Distribution Provider, CAISO, or |
- third party for the withdrawn Interconnection Request's (N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 50

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)
- 3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.)
- a. Detailed Study Deposit (Cont'd.)
- iii) Impact of Withdrawal (Cont'd.)
- (2) Forfeited Study Deposit for Distribution Group Study Process (Cont'd.)
- Distribution Study Group. Any remaining proceeds of the Detailed Study deposit, after the withdrawn Interconnection Request's Distribution Study Group has completed all relevant Interconnection Studies or restudies, or all Interconnection Requests associated with the specific Distribution Study Group have withdrawn, not otherwise applied to costs incurred, or irrevocably committed to be incurred for the Interconnection Studies or restudies, shall be allocated to individual Applicants on a kVA basis who have remained in the Distribution Study Group by executing a Generator Interconnection Agreement.
- Such funds shall be allocated to Applicants sixty (60) Calendar Days following the conclusion of the Generator Interconnection Agreement negotiation pursuant to Section F.3.e.ii. If no Applicants remain in the Distribution Study Group, such funds shall escheat to the State pursuant to the Unclaimed Property Law commencing with the California Code of Civil Procedure § 1500. (N)
- iv) Special Circumstances (L)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 51

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

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 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.

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 53

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)
 - 4. INTERCONNECTION COST RESPONSIBILITY (Cont'd.)
 - c. Cost Allocation (Cont'd.)

For cost allocation under the Distribution Group Study Process: The costs of Interconnection Facilities will be assigned to the triggering Interconnection Request. The costs of Distribution Upgrades or Network Upgrades identified through a Distribution Group Study shall be allocated among the Interconnection Requests in a Distribution Study Group based on nameplate kilovolt amperes (kVA) and, in some instances, as determined by Distribution Provider, also based on an Applicant's specific contributions to the upgrade costs. Costs for upgrades will be allocated based upon an Applicant's specific contributions to a particular upgrade only if the Distribution Provider determines that; based on overall fairness to the Distribution Study Group, the individual applicant, rather than the Distribution Study Group, should be responsible for the costs. Cost allocation within the Distribution Study Group will not always align with cost contribution under a per kVA plus specific contribution allocation method. The DGS Phase I and Phase II study reports will indicate how cost allocation is determined. Examples of the possible types of shared costs include but may not be limited to: upgraded transformers, reconductoring, circuit switchers, and breakers. (N)

Costs triggered by an Interconnection Request under this Rule that transitions to the Transmission Cluster Study Process are allocated pursuant to the terms of Distribution Provider's WDT or other applicable tariff. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 54

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

4. INTERCONNECTION COST RESPONSIBILITY (Cont'd.)

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

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 55

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

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 56

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

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 57

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

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

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

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.

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 58

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
- 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.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 derived 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.

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 59

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

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

- (1) The assigned number, if any;
- (2) the queue position;
- (3) the date the Interconnection Request was received by Distribution Provider;
- (4) the date the Interconnection Request was determined to be complete and valid;
- (5) the review process to which Applicant originally applied and is currently assigned;
- (6) the original requested In-Service Date;
- (7) the currently requested In-Service Date;
- (8) the agreed-upon Commercial Operation Date or actual Commercial Operation Date.

(L)
 (T)/(L)
 (T)/(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 60

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (L)
 - 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
 - (1) the maximum summer and winter MW electrical output; (T)/(L)
 - (2) the type of generating or storage facility to be constructed;
 - (3) the fuel source;
 - (4) the proposed Point of Interconnection location by county;
 - (5) the proposed Point of Interconnection location by substation/area and, if applicable, circuit. (T)/(L)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 61

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

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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 62

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

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.

(L)
 (T)/(L)
 (L)

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:

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 63

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 1. OVERVIEW OF THE INTERCONNECTION REVIEW PROCESS (Cont'd.) |
- d. Compliance with Timelines (Cont'd.) |
- (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. |
- 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 Judge (ALJ) Division. The request may (L)
- be made by electronic mail to adr_program@cpuc.ca.gov, (T)/(L)
- and shall state "Rule 21" in the subject line. The request shall (L)
- 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 (L)
- Commission pursuant to California PUC Section 1702 and Article 4 of (T)/(L)
- the Commission's Rules of Practice and Procedure. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 66

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

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

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. |

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 ten (10) Business Days of the Initial Review results meeting whether it would like to proceed with Supplemental Review or withdraw its Interconnection Request. (L) | (T)/(L)
 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 the Initial Review results meeting, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn. (L) | (T)/(L)
 (L) | (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 67

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

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

c. Supplemental Review

- i) 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. (T)
- ii) If the Applicant chooses to move to Supplemental Review, they have the option to elect that the Distribution Provider provide a fault current study as part of the Supplemental Review. This fault current study would extend the Supplemental Review time by up to ten (10) Business Days, and would require an additional nonrefundable fee of \$1,000. (N)

This fault current study will determine if the Generating Facility can detect phase and ground faults on the Distribution Provider's Distribution System or the distribution feeder breaker where the Applicant proposes to connect the Generating Facility. The result of the fault current study will determine if direct transfer trip (DTT) will be required from the Distribution System to the Generating Facility site. Note that for Applicants proposing to interconnect to the Distribution System where there is expected to be power backfeed to the Transmission System, DTT from the transmission may still be required and a Detailed Interconnection Study will be required to make this determination. Should the Applicant request a Supplemental Review results meeting, as described in Section F.2d, the optional fault current study analysis and related results shall, at the Applicant's request, be reviewed to determine what modifications, if any, may permit the Generating Facility to be connected safely and reliably. (N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 68

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

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

c. Supplemental Review (Cont'd.)

ii) If the Applicant chooses to move to Supplemental Review, they have the option to elect that the Distribution Provider provide a fault current study as part of the Supplemental Review. This fault current study would extend the Supplemental Review time by up to ten (10) Business Days, and would require an additional nonrefundable fee of \$1,000.(Cont'd.)

The Applicant must provide the following data to Distribution Provider when requesting Supplemental Review in order to select this option:

Generator:

- MVA Rating
- kV Rating
- Base MVA
- Base kV
- Xd" (direct axis subtransient reactance)
- Xd' (direct axis transient reactance)
- Xd (Synchronous reactance)
- X2 (Negative Sequence reactance)
- X0 (Zero Sequence reactance)

XFMR Data:

- Winding configuration (delta-Wye grd or Wye grd-Delta)
- MVA Rating
- KV Rating
- Base MVA
- Base KV
- Z1 HV-LV
- Z0 HV-LV

(N)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 69

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
- 2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)
- c. Supplemental Review (Cont'd.)
 - ii) If the Applicant chooses to move to Supplemental Review, they have the option to elect that the Distribution Provider provide a fault current study as part of the Supplemental Review. This fault current study would extend the Supplemental Review time by up to ten (10) Business Days, and would require an additional nonrefundable fee of \$1,000.(Cont'd.)
 - Line Data:
 - Impedance data for line from XFMR to POI (if applicable)
 - Z1
 - Z0
 - POI Location: (N)
 - iii) 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. (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 70

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.) (L)
- c. Supplemental Review (Cont'd.) (L)
- iv) 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. (T)/(L)
- 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 Sections 2827, 2827.8, or 2827.10 are exempt from any costs associated with Detailed Studies. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 71

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

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

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.

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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 72

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

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

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. 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

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 74

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

(L)

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS

a. Detailed Study Track Selection Process

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For all Detailed Study Applicants, as well as Applicants that have failed Fast Track initial review and/or supplemental review, 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.

(L)
 (T)/(L)

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.d below.

(T)(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 75

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

(L)

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

|

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

|

If Applicant passes Screen Q, but fails Screen R, Distribution Provider shall provide data and analysis supporting the Screen R results in writing. Applicant shall notify Distribution Provider within twenty (20) Business Days following such notification whether it would like to (i) proceed to the Distribution Group Study Process or (ii) withdraw the Interconnection Request. Applicant may request one extension of no more than twenty (20) Business Days to respond. However, Applicant's decision must be received prior to the close of a given Distribution Group Study window, to participate in that Distribution Study Group. If the decision is received after the close of a particular Distribution Group Study window, then Applicant's Interconnection Request will be included in the next available Distribution Group Study window.

(L)
 (T)/(L)

If Applicant fails to notify Distribution Provider within twenty (20) Business Days of receiving Screen R results, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn.

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

A Distribution Study Group will be comprised of all Interconnection Requests that are determined to be electrically interdependent based on results of Screen R. A Distribution Study Group may contain only one Interconnection Request.

Applicant(s) that opt to proceed to the Distribution Group Study Process will be re-evaluated under Screen Q. If the Distribution Study Group fails Screen Q, the Applicants will be required to withdraw and move to the Transmission Cluster Process.

If Applicant passes Screens Q and R, 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.d.

(T)(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 76

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.) (L)
- b. Independent Study Process (T)/(L)
- i) Scoping Meeting (L)
- 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. (T)/(L)
- 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. (L)
- 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. (L)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 77

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

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

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

(L)
 (T)/(L)
 (L)

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 a Detailed 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.

(L)
 (T)/(L)
 (L)

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 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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 78

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

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

b. Independent Study Process (Cont'd.)

ii) Timing of the Interconnection System Impact Study Results (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 (L)

Applicant shall request a results meeting within ten (10) Business Days of the issuance of the final Interconnection System Impact Study report. This results meeting, if requested, shall be held among Distribution Provider, the CAISO, if applicable, and Applicant to discuss the results of the Interconnection System Impact 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. (N)

If Applicant does not request a results meeting within the specified time above, the results meeting will be deemed waived. (N)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 79

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- b. Independent Study Process (Cont'd.)
- 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 issuance of 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. (L) (T)/(L) (L)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 80

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.) |
- b. Independent Study Process (Cont'd.) |
- v) Modifications (Cont'd.) |
- At the Interconnection System Impact Study results meeting, Applicant should be prepared to discuss any desired modifications to the Interconnection Request. After the issuance 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. (L) (T)/(L) (L)
- Modifications permitted under this Section F.3.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. For any modifications other than those permitted above, 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 ten (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. (L) (T)/(L) (L) (T)/(L) (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 81

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

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

b. Independent Study Process (Cont'd.)

(L)

v) Modifications (Cont'd.)

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.

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 issuance 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. Within either (i) ten (10) Business Days following the results meeting, or (ii) within twenty-five (25) Business Days of the issuance of the final Interconnection System Impact Study report, for Generating Facilities 5 MW or less, Applicant shall also submit the Interconnection Facilities Study deposit, as set out in Section E.3.a, unless the Interconnection Facilities Study will be waived in accordance with Section F.3.b.vii.

(L)
 (T)/(L)
 (T)/(L)
 (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 82

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- b. Independent Study Process (Cont'd.)
- vii) Waiver of the Interconnection Facilities Study (L)
- The Interconnection Facilities Study may be waived if Distribution Provider and Applicant mutually agree to such waiver within either (i) five (5) Business Days following the Interconnection System Impact Study results meeting, or (ii) within twenty-five (25) Business Days of the issuance of the final Interconnection System Impact Study report if no Interconnection System Impact Study results meeting is held. (T)/(L)
- Within thirty (30) Calendar Days after Distribution Provider and Applicant mutually agree to waive the Interconnection Facilities Study, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, to Applicant. If Applicant chooses to forgo the Interconnection 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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 84

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

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

b. Independent Study Process (Cont'd.) (L)

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.

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.b.vii.

c. Distribution Group Study Process (T)/(L)

i) Initiation of Distribution Study Process (N)

Applicants that apply for the Independent Study Process that pass Screen Q but fail Screen R will be eligible for inclusion in a Distribution Study Group. Applicant must submit all materials required to complete their Interconnection Request no later than ten (10) Business Days after the close of the relevant Distribution Group Study window. This includes notification from Applicant that they want to proceed with the Distribution Group Study Process, if applicable, in accordance with Section F.3.a.

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 85

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

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

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

(N)

i) Initiation of Distribution Study Process (Cont'd.)

Distribution Provider shall perform a Screen Q analysis for the Distribution Study Group within thirty (30) Business Days of the close of the window, using best available information about projects that have entered the Distribution Group Study Process under Rule 21 and the WDT.

If the Distribution Study 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.d.

In order to be eligible to participate in the DGS Phase I Interconnection Study, the 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.

ii) Scoping Meeting

Within five (5) Business Days after Distribution Provider performs the Electrical Independence Test, it will contact the Applicant(s) to notify them that the Interconnection Request has passed Screen Q and failed Screen R and is thus eligible for the Distribution Group Study Process, 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.

(N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 86

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

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

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

ii) 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; (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 DGS Phase I Interconnection Study.

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.

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

(N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 87

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

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

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

ii) Scoping Meeting (Cont'd.)

Within fifteen (15) Business Days after the scoping meeting, Distribution Provider shall provide Applicant with a Detailed Study Agreement, which shall contain an outline of the scope of the DGS Phase I Interconnection Study and DGS Phase II Interconnection 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. Applicant shall execute and deliver to Distribution Provider the Detailed Study Agreement no later than thirty (30) Business Days after the scoping meeting or the start date of the DGS Phase I Interconnection Study, whichever is earlier, or the Interconnection Request shall be deemed withdrawn.

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 may send to each Applicant in a Distribution Study Group a list of the Interconnection Requests in its Distribution Study Group.

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)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 88

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

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

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

iv) Timing of 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.

At any time Distribution Provider determines that it will not meet the required time frame for completing the DGS Phase I Interconnection Study, Distribution Provider shall notify all Applicants in the Distribution Study Group as to the 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, 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)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 89

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

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

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

v) DGS Phase I Interconnection Study Results Meeting

If requested by an Applicant in a Distribution Study Group or Distribution Provider, a results meeting shall be held among Distribution Provider, the CAISO, if applicable, and the Applicant to discuss the results of the DGS Phase I Interconnection 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 the Applicant or Distribution Provider has requested a results meeting, it must be completed within thirty (30) Calendar Days after issuance of the final DGS Phase I Interconnection Study report, unless otherwise agreed upon by the Distribution Provider and Applicant.

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, 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.

(N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 90

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

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

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

v) DGS Phase I Interconnection 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, or the Generator Interconnection Agreement (in accordance with Section F.3.e.iii) if the DGS Phase II Interconnection Study is waived in accordance with Section F.3.c.ix, 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.

Within five (5) Business Days following the DGS Phase I Interconnection Study results meeting, the Applicant shall submit to the Distribution Provider all requested information. If no DGS Phase I Interconnection Study results meeting is held, Applicant shall submit to Distribution Provider any requested information within thirty (30) Calendar Days of the receipt of the final DGS Phase I Interconnection Study report.

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 Interconnection 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 DGS Phase I Interconnection Study report.

(N)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 91

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

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

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

vii) 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 Study results meeting, if elected by Applicant or Distribution Provider, Applicant should be prepared to discuss any desired modifications to the Interconnection Request. After the publication of the final DGS Phase I Interconnection Study report, but no later than five (5) Business Days following the DGS Phase I Interconnection 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 Study results meeting is held, Applicant shall submit to Distribution Provider any requested modifications within thirty (30) Calendar Days of the receipt of the final Phase I Interconnection Study report.

(N)

(Continued)



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GENERATING FACILITY INTERCONNECTIONS

Sheet 92

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

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

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

vii) Modifications (Cont'd.)

Modifications permitted under this Section F.3.c.vii 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. For any modifications other than those permitted above, 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 ten (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.c.vii, 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 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.

(N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 93

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

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

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

viii) Scope and Purpose of the 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 thirty (30) Calendar Days of the receipt of the final DGS Phase I Interconnection Study report if no DGS Phase I Interconnection Study results meeting is held, Applicant shall submit to Distribution Provider the data required by Distribution Provider. Within thirty (30) Business Days of the issuance of the final DGS Phase I Interconnection Study report, for Generating Facilities 5 MW or less, Applicant shall submit the DGS Phase II Interconnection Study deposit, as set out in Section E.3.a, unless the DGS Phase II Interconnection Study is waived in accordance with Section F.3.

ix) Waiver of the DGS Phase II Interconnection Study

The DGS Phase II Interconnection Study may be waived if Distribution Provider and all Applicants included in the DGS Phase I Interconnection Study mutually agree to such waiver within thirty (30) Calendar Days of the issuance of the DGS Phase I Interconnection Study report. Within thirty (30) Calendar Days after Distribution Provider and Applicants agree to waive the DGS Phase II Interconnection Study, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, to Applicant. 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.

(N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 94

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

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

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

x) DGS Phase II Interconnection Study Procedures

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

Distribution Provider shall 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 in the time specified, such notice shall provide an explanation of the reasons why additional time is required.

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.

(N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 95

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

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

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

x) DGS Phase II Interconnection Study Procedures (Cont'd.)

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.

xi) 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 after issuance of the final DGS Phase II Interconnection Study report, unless mutually agreed upon by the Distribution Provider and Applicant.

(N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 96

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- c. Distribution Group Study Process (Cont'd.)
- xi) DGS Phase II Interconnection Study Results Meeting (Cont'd.)
- 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.
- xii) Timing of the DGS Phase II Interconnection Study
- 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 each Applicant in the Distribution Study Group in writing as to the status of the DGS Phase II Interconnection Study and provide an estimated completion date with an explanation of the reasons why additional time is required.
- xiii) Second and Third Postings of Interconnection Financial Security
- Each Applicant in a Distribution Study Group will post its second and third posting 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 Study, or the final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived in accordance with Section F.3.c.ix. (N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 97

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

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

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

xiv) 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 reevaluated 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.c.xv. 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.

xv) Restudy

If a restudy is required following the issuance of the final DGS Phase II Interconnection Study, or the final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived, due to a project withdrawal, Distribution Provider shall notify the remaining Applicant(s) in writing.

The restudy report shall be completed and provided to each Applicant remaining in the Distribution Group within sixty (60) Business 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)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 98

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
 - 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
 - c. Distribution Group Study Process (Cont'd.)
 - xvi) Automatic Timing Extension
 - If during any six month period, 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 DGS Phase I Interconnection Study pursuant to Section F.3.c.iv will increase from sixty (60) Business Days to one hundred twenty (120) Business Days. The time to complete the DGS Phase II Interconnection Study pursuant to Section F.3.c.x will increase from sixty (60) Business Days to one hundred twenty (120) Business 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. Distribution Provider will notify Applicants in the Distribution Study Group in writing after commencement of DGS Phase I Interconnection Study of the extension. (N)
 - d. Transmission Cluster Study Process (T)/(L)
 - 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. (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 99

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

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

d. Transmission Cluster Study Process (Cont'd.)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 100

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- e. Generator Interconnection Agreement
- i) Tender (L)
- The Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, within thirty (30) Calendar Days of the following: (T)/(L)
- 1) Agreement by the Distribution Provider and Applicant to waive the Interconnection Facilities Study in accordance with Section F.3.b.vii,
 - 2) Issuance of the final Interconnection Facilities Study report (or results meeting, if held) to Applicant,
 - 3) Agreement by the Distribution Provider and all Applicants included in a DGS Phase I Interconnection Study to waive the DGS Phase II Interconnection Study in accordance with Section F.3.c.ix,
 - 4) Issuance 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. (T)/(L)
- ii) Negotiation (L)
- 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 (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 101

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.) |
- e. Generator Interconnection Agreement (Cont'd.) |
- ii) Negotiation (Cont'd.) |
- final Interconnection System Impact Study report if the (L)
- Interconnection Facilities Study is waived) or final DGS Phase II (N)
- Interconnection Study report (or the final DGS Phase I |
- Interconnection Study report if the DGS Phase II Interconnection |
- Study is waived) in the case of the Distribution Group Study |
- Process. Distribution Provider and Applicant shall negotiate (N)
- concerning any disputed provisions of the appendices to the draft (L)
- Generator Interconnection Agreement for not more than ninety |
- (90) Calendar Days after Distribution Provider provides Applicant (L)
- with the final DGS Phase II Interconnection Study report (or the (N)
- final DGS Phase I Interconnection Study report if the DGS Phase |
- II Interconnection Study is waived) in the case of the Distribution |
- Group Study Process or the final Interconnection Facilities Study (N)
- report (or final Interconnection System Impact Study report if the (L)
- Interconnection Facilities Study is waived) in the case of the (N)
- Independent Study Process. Producers whose Interconnection |
- Requests 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 |
- Commercial Operation Date of such Interconnection requests. (N)
- Producer is responsible for all costs associated with Parallel (L)
- Operation to support the safe and reliable operation of the |
- Distribution System and Transmission System as set forth in |
- Section E.4. |
- 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 (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 102

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- e. Generator Interconnection Agreement (Cont'd.)
 - ii) Negotiation (Cont'd.)

DGS Phase II Interconnection Facilities Study report (or the final DGS Phase I Interconnection Study report if the DGS Phase II Interconnection Study is waived) 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.
 - iii) Extensions of Commercial Operation Date

Extensions of the Commercial Operation Date will be agreed upon in the executed Generator Interconnection Agreement. Reasonable Commercial Operation Dates will be discussed at the DGS Phase II Interconnection Study results meeting, or the DGS Phase I Interconnection Study results meeting if the DGS Phase II Interconnection Study results meeting is waived, in the case of the Distribution Group Study Process, the Interconnection Facilities Study results meeting, or the Interconnection System Impact Study results meeting if the Interconnection Facilities Study is waived in the case of the Independent Study Process. A request for an extension of the Commercial Operation Date after the Generator Interconnection Agreement is executed will be agreed to provided that, the Producer is still responsible for funding any 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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 103

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

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.

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:

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 104

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
4. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.) (T)/(L)
- a. Types of Interconnection Financial Security (Cont'd.) (L)
- i) 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;
 - ii) an unconditional and irrevocable guaranty issued by a company has a credit rating of A or better by Standard and Poor's or A2 or better by Moody's;
 - iii) 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;
- 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 (iii) 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 either the final Interconnection System Impact Study report, or the final DGS Phase I Interconnection Study report, Applicant must post, with notice to Distribution Provider, two separate Interconnection Financial Security instruments.

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 105

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

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

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

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. (L)

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. (L)

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 or final DGS Phase I Interconnection Study in the case of the Distribution Group Study Process for Distribution Provider's Interconnection Facilities and Distribution Upgrades. (L)

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. (L)

If required by Distribution Provider, 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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 106

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)
- c. Second Posting of Interconnection Financial Security
- On or before one hundred twenty (120) Calendar Days after issuance of the final DGS Phase II Interconnection Study report (or final DGS Phase I Interconnection Study report if the DGS Phase II Interconnection Study is waived) 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. (T)/(L)
- 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. (L)
- 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. (T)/(L)
- 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 Facilities Study (or final DGS Phase I Interconnection Study if the DGS Phase II Interconnection study is waived) in the case (T)/(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 107

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)
- c. Second Posting of Interconnection Financial Security (Cont'd.)
- of the Distribution Group Study Process, or final Interconnection Facilities Study (or final Interconnection System Impact Study if the Interconnection Facilities Study is waived) in the case of the Independent Study Process, for Distribution Provider's Interconnection Facilities and Distribution Upgrades. (L)
 (T)/(L)
- 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 issuance of the final DGS Phase II Interconnection Facilities Study report (or final DGS Phase I Interconnection Study report if the DGS Phase II Interconnection Study is waived), in the case of the Distribution Group Study Process 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, 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. (L)
 (T)/(L)
 (L)
- 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. (L)
- 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 (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 108

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)
- d. Third Posting of Interconnection Financial Security. (Cont'd.) (L)
- assigned to Applicant for Network Upgrades in the final DGS Phase II Interconnection Study (or the final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived) in the case of the Distribution Group Study Process or final Interconnection Facilities Study (or the final Interconnection System Impact Study if the Interconnection Facilities Study is waived) in the case of the Independent Study Process. (T)/(L)
- 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 and Distribution Upgrades in the final DGS Phase II Interconnection Study (or the final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived) in the case of the Distribution Group Study Process or final Interconnection Facilities Study (or the final Interconnection System Impact Study if the Interconnection Facilities Study is waived) in the case of the Independent Study Process. (L)
- 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. (T)/(L)
- e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security for Interconnection Requests Studied Under the Independent Study Process. (L)
- 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 (N)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 109

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

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 Interconnection Requests Studied Under the Independent Study Process. (Cont'd.) (L)
 (N)
 (N)
 (L)

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.

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

(L)
 (T)/(L)
 (L)
 (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 110

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
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 Interconnection Requests Studied Under the Independent Study Process. (Cont'd.) (L)
 (N)
 (N)
 (L)
- i) Conditions for Partial Recovery of Interconnection Financial Security Upon Withdrawal of Interconnection Request or Termination of Generator Interconnection Agreement. (Cont'd.)
- (1) Failure to Secure a Power Purchase Agreement. (Cont'd.)
- 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.
- (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.b.v. (L)
 (T)/(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 111

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
- 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 Interconnection Requests Studied Under the Independent Study Process. (Cont'd.) (L)
(N)
(N)
(L)
- 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 the Final Interconnection Facilities Study Report (or Final Interconnection System Impact Study 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 (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 112

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
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 Interconnection Requests Studied Under the Independent Study Process. (Cont'd.) (L)
 (N)
 (N)
 (L)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 113

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
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 Interconnection Requests
 Studied Under the Independent Study Process. (Cont'd.) (L)
- ii) Schedule for Determining Non-Refundable Portion of the
 Interconnection Financial Security for Network Upgrades.
 (Cont'd.) (N)
- (2) Between One Hundred Twenty-One (121) Calendar Days and
 After Final Interconnection Facilities Study Report and the
 Commencement of Construction Activities. (N)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 114

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (L)
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 Interconnection Requests Studied Under the Independent Study Process. (Cont'd.) (L)
 (N)
 (N)
 (L)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 115

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

- f. 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 Process.

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 DGS Phase II Interconnection study (or final DGS Phase I Interconnection Study if the DGS Phase II Interconnection 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.

- i) 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.f. 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
 GENERATING FACILITY INTERCONNECTIONS

Sheet 116

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

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.

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 117

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

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.

(L)
 (T)/(L)
 (L)

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 is not required to be considered in any ongoing Interconnection Study during the Dispute Resolution process.

(L)
 (T)/(L)
 (L)

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.

(L)

(Continued)

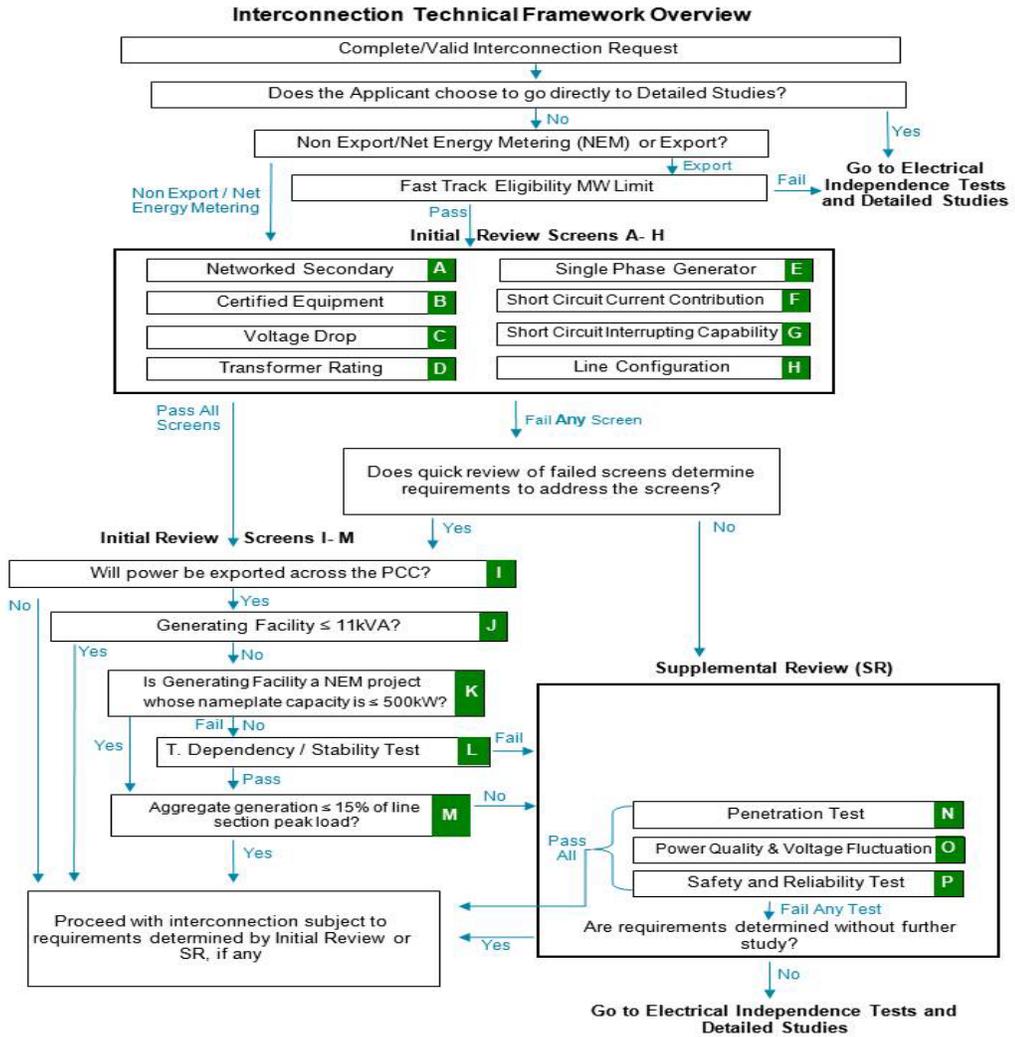


ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 118

G. ENGINEERING REVIEW DETAILS

(L)



(Continued)

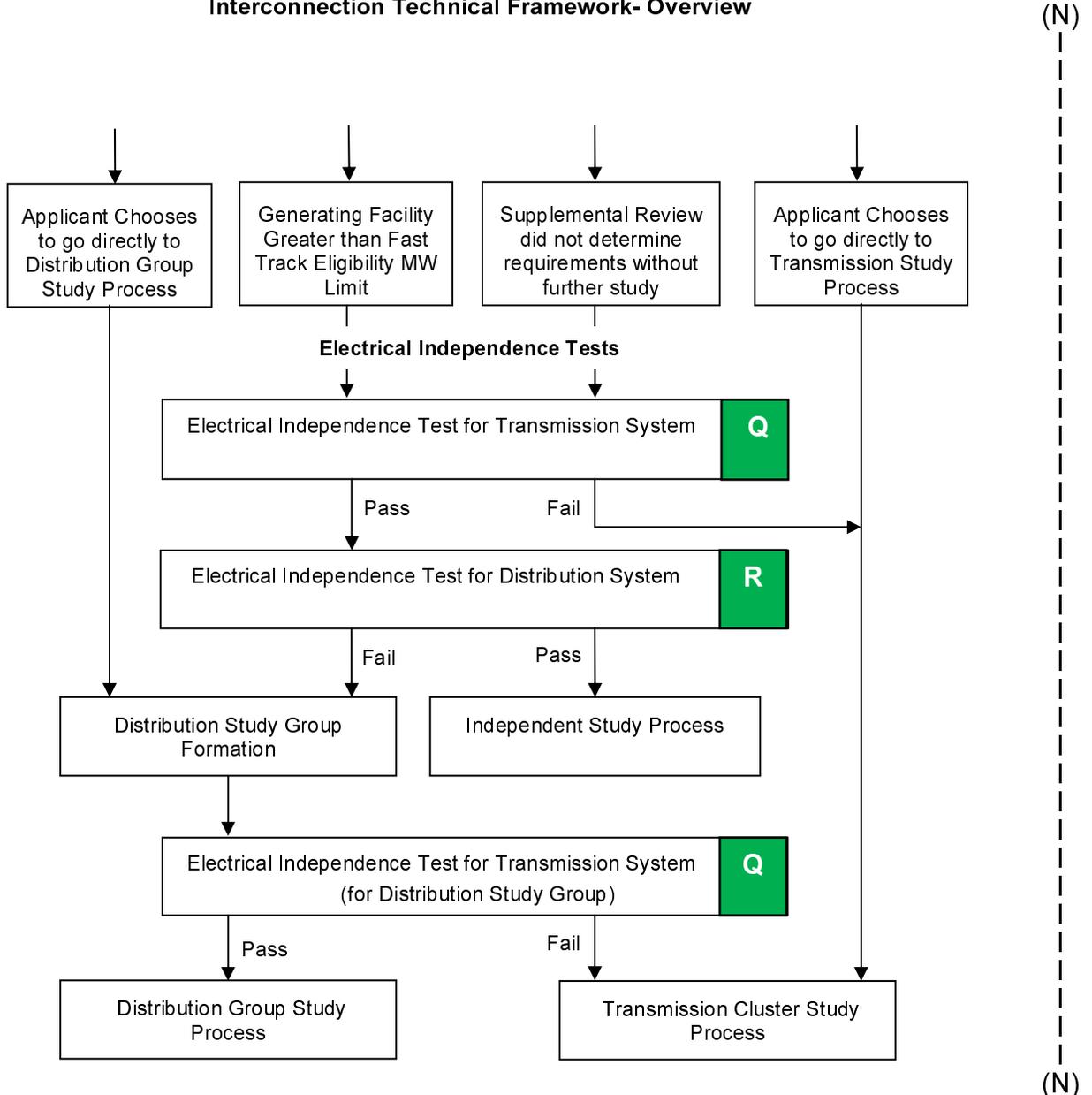


ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 119

G. ENGINEERING REVIEW DETAILS (Cont'd.)

Interconnection Technical Framework- Overview



(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 120

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 121

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 122

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 123

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 124

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 125

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 126

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 127

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 128

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 129

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

Option 5: Inadvertent Export as described in Section M.

(T)/(L)

Significance:

(L)

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).

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 130

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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; Initial Review is complete.
- If No (fail), continue to Screen K.

(L)
 (T)/(L)
 (L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 131

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

1. INITIAL REVIEW SCREENS (Cont'd.)

I. Screen L: Transmission Dependency and Transmission Stability Test

Is the Interconnection Request for an area where: (i) there are known, or posted, transient 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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 132

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 133

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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 M.

(L)
 (T)/(L)
 (L)

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 may flow across the Point of Common Coupling into Distribution Provider's Distribution System will be considered as part of the aggregate generation.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 134

- G. ENGINEERING REVIEW DETAILS (Cont'd.) (L)
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 (L)
- In aggregate with existing Generating Facility capacity on the Line Section, distribution circuit, and/or substation. (T)/(L)
- i) 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? (L)
- ii) 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? (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 135

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

b. Screen O: Power Quality and Voltage Tests (Cont'd.)

(L)

In aggregate with existing Generating Facility capacity on the Line Section, distribution circuit, and/or substation. (Cont'd.)

(T)/(L)

(T)/(L)

(L)

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

(T)/(L)

(L)

- 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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 136

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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)?

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 137

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.d.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 138

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.d.

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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.

(L)

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 139

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(L)

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.

(L)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 140

G. ENGINEERING REVIEW DETAILS (Cont'd.)

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 for the Independent Study Process or the DGS Phase I Interconnection Study and the DGS Phase II Interconnection Study 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.c above.

The estimated costs of short circuit related upgrades and shared interconnection facilities, if any, identified through a Distribution Group Study shall be assigned as provided in E.4.e.

- 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 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 require(s) the upgrades. Short circuit duty impacts to the

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 141

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. (Cont'd.)

(1) Scope of the Interconnection System Impact and DGS Phase
 I Interconnection Study. (Cont'd.)

CAISO Controlled Grid are appropriately evaluated only in the
 Transmission Cluster Study Process as set forth in Section
 F.3.d. 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 Cluster Study Process will be
 allocated its 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.

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 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.

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

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 142

- G. ENGINEERING REVIEW DETAILS (Cont'd.) (L)
- 3. DETAILED STUDY SCREENS (Cont'd.) (L)
- c. Independent Study Process and Distribution Group Study Process Interconnection Studies (Cont'd.) (T)(L)
 - i) Interconnection System Impact and DGS Phase I Interconnection Study. (Cont'd.) (L)
 - (1) Scope of the Interconnection System Impact and DGS Phase I Interconnection Study. (Cont'd.) (T)(L)
 - 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. (N)
 - 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. (N)
 - ii) Interconnection Facilities Study and DGS Phase II Interconnection Study. (T)(L)
 - (1) Scope and Purpose of the Interconnection Facilities and DGS Phase II Interconnection Study. (L)
 - 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 (T)(L)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 143

- G. ENGINEERING REVIEW DETAILS (Cont'd.) (L)
 - 3. DETAILED STUDY SCREENS (Cont'd.) (L)
 - c. Independent Study Process and Distribution Group Study Process Interconnection Studies (Cont'd.) (T)/(L)
 - ii) Interconnection Facilities Study and DGS Phase II Interconnection Study. (Cont'd.) (T)/(L)
 - (1) Scope and Purpose of the Interconnection Facilities and DGS Phase II Interconnection Study. (Cont'd.) (T)/(L)
 - (L)
 - Good Utility Practice to physically and electrically connect the Generating Facility to the Distribution or Transmission System. (L)
 - 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. (T)/(L)
 - The analyses in the Interconnection System Impact Study (or DGS Phase I Interconnection Study in the case of the Distribution Group Study Process) will be updated as necessary in the Interconnection Facilities Study (or DGS Phase II Interconnection Study), to account for withdrawal of interconnection requests in the interconnection queue. (T)/(L)
 - (L)
- H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
- 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. (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 144

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

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:

- i) Over and under voltage trip functions and over and under frequency trip functions;
- ii) 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

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 145

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)

a. Protective Functions Required (Cont'd.)

- iii) 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.

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

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 146

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)

c. Suitable Equipment Required (Cont'd.)

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.

The device must:

- i) allow visible verification that separation has been accomplished. (T)/(L)
 (This requirement may be met by opening the enclosure to observe contact separation.) (L)
- ii) include markings or signage that clearly indicates open and closed positions. (T)/(L)
 (L)
- iii) be capable of being reached: (N)
 - a) for Emergency purposes 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. (T)/(L)
 (L)
 - b) for Non-Emergency purposes during normal business hours. Distribution Provider, where possible, will provide notice to Customer for gaining access to Customer's premises. (T)/(L)
 (L)
- iv) be capable of being locked in the open position, (T)/(L)
 (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 147

- H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)
- 1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)
- d. Visible Disconnect Required (Cont'd.)
 - v) 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. (T)/(L)
 (L)
 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. (L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 149

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 151

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS
 (Cont'd.)

(L)

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.			

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 152

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 154

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (Cont'd.)

(L)

2. PREVENTION OF INTERFERENCE (Cont'd.)

f. Frequency (Cont'd.)

Table H.2
Frequency Trip Settings

<u>Generating Facility Rating</u>	<u>Frequency Range</u> <u>(Assuming 60Hz Nominal)</u>	<u>Maximum Trip Time [1]</u> <u>(Assuming 60 Cycles per Second)</u>
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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 155

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 156

- H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)
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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 157

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 158

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 159

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

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 reclose-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.

(L)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 160

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (L)
 (Cont'd.)

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.

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 161

J. METERING, MONITORING AND TELEMETERING (Cont'd.) (L)

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:

- i) Data requirements in proportion to need for information; (L)
(T)/(L)
- ii) Producer's election to install equipment that adequately addresses Distribution Provider's operational requirements; (L)
(T)/(L)
(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 162

- J. METERING, MONITORING AND TELEMETERING (Cont'd.) (L)
- 3. NET GENERATION OUTPUT METERING (Cont'd.) (L)
- iii) Accuracy and type of required Metering consistent with purposes of collecting data; (T)/(L)
- iv) Cost of Metering relative to the need for and accuracy of the data; (L)
- v) The Generating Facility's size relative to the cost of the Metering/monitoring; (T)/(L)
- vi) Other means of obtaining the data (e.g. Generating Facility logs, proxy data, etc.); (L)
- vii) Requirements under any Generator Interconnection Agreement with Producer. (T)/(L)

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,

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 163

J. METERING, MONITORING AND TELEMETERING (Cont'd.) (L)

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.

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 165

K. DISPUTE RESOLUTION PROCESS

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 166

K. DISPUTE RESOLUTION PROCESS (Cont'd.)

(L)

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.

(L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 167

K. DISPUTE RESOLUTION PROCESS (Cont'd.)

(L)

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 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.

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.

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(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 168

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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."

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 169

- L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (L)
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). (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 170

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (L)

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. (L)

(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 172

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 173

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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

<u>Test No.</u>	<u>Type Test</u>
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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 175

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (L)

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 176

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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	Voltage Difference (Δf , Hz)	Phase Angle (ΔV , %)	Difference ($\Delta \Phi$, °)
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).

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 177

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 178

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 179

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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.

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GENERATING FACILITY INTERCONNECTIONS

Sheet 180

- L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (L)
- 5. COMMISSIONING TESTING (Cont'd.)
- d. Certified Equipment (Cont'd.)
 - (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.
 - 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. (L)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 182

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 183

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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).

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 184

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 185

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 186

- L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (L)
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. (L)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 187

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (L)

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 188

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (L)

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.

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ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 189

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

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 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.

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 190

- L. CERTIFICATION AND TESTING CRITERIA (Cont'd.) (L)
- 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

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.

 - i) Locked-Rotor Method (L)

Use the test procedure defined in NEMA MG-1 (manufacturer's data is acceptable if available). (L)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 191

L. CERTIFICATION AND TESTING CRITERIA (Cont'd.)

(L)

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS
 (Cont'd.)

|

b. In-rush Current Test Procedures (Cont'd.)

|

ii) Start-up Method

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 (T)/(L)
 (L)

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.

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 192

M. INADVERTENT EXPORT

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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.

(L)

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.

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(Continued)



ELECTRIC RULE NO. 21
 GENERATING FACILITY INTERCONNECTIONS

Sheet 193

M. INADVERTENT EXPORT (Cont'd.)

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 (L)

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.

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(Continued)



ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 194

Appendix A Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
Pre-Application Request			
79-1163	Rule 21 Pre-Application Report Request	Rule 21	For Generator Developer to request basic info about local distribution circuit
Study Agreement			
79-1162	Rule 21 Detailed Study Agreement	Rule 21	Independent Study and Distribution Group Study Process Study Agreement
NEM and Non-Export Interconnection Forms			
79-978	Interconnection Agreement for Net Energy Metering of Solar or Wind Electric Generating Facilities of 1,000 kW or Less, Other Than Facilities of 30 kW or Less	NEM, Rule 21	Typically used for expanded NEM
79-997	Interconnection Agreement for Net Energy Metering of Biogas Digester Generating Facilities	NEM, Rule 21	NEMBIO (Closed to new applicants), NEMBIOA Interconnection Agreement used with Form 79-974
79-998	Renewable and expanded Net energy Metering (NEM) Supplemental Application	NEM, Rule 21	Expanded NEM "supplemental" application used with Forms 79-974 and 79-1137
79-1010	Interconnection Agreement for Net Energy Metering of Fuel Cell Generating Facilities	NEM, Rule 21	NEMFC Interconnection Agreement used with Form 79-974
79-1069	Generating facility Interconnection Agreement (Multiple Tariff)	NEM, Rule 21	NEMMT Interconnection Agreement used with Form 79-974
79-1109	Virtual Net Energy Metering Application and Interconnection Agreement For The Building Owner of Multifamily Affordable Housing With A Solar Generating Facility of 1 Megawatt or Less	NEM, Rule 21	NEMV Interconnection Agreement used with Form 79-974
79-1151A	Net Energy Metering Interconnection for Solar And/or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Agreement and Customer Authorization	NEM, Rule 21	NEMS Interconnection Agreement be used with 79-1151B Application
79-1151B	Net Energy Metering Interconnection For Solar And/or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Application	NEM, Rule 21	NEMS Application to be used with 79-1151A Interconnection Agreement

(N)

(N)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 195

Appendix A (Cont'd.) Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
NEM and Non-Export Interconnection Forms (Cont'd.)			
79-1124	Eligible Low Income Development Virtual Net Energy Metering Application and Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 Megawatt or Less	NEM, Rule 21	
79-1131	NEMV Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less <i>Serving Multiple Tenants Served at a Single Service Delivery Point</i>	NEM, Rule 21	
79-1137	Interconnection Agreement for Net Energy Metering for a Renewable Electrical Generation Facility of 1,000 kW or Less, Except Solar or Wind (SB 489)	NEM, Rule 21	NEMV, NEMEXP, NEMEXPM Interconnection Agreement typically used with Forms 79-974 and 79-1142 Applications
79-1142	NEMV Interconnection Application for a Renewable Electrical Generation Facility of 1 MW or Less	NEM, Rule 21	Used with Form 79-1137
79-973	Generating Facility Interconnection Agreement For Non-Export Generating Facilities (Rule 21 Interconnection Agreement)	Rule 21	Interconnection Agreement used for RESBCT and non-NEM generation with Application 79-974 and 79-1112
79-974	Interconnection Application for Non-Export or Certain Net Energy Metered Generating Facilities	NEM, Rule 21	Application used for (1) Non-Export Generating Facilities; (2) Net Energy Metered Generating Facilities when paired with <i>energy storage</i> ; or (3) when not paired with <i>energy storage</i> . Used with Interconnection Agreements 79-973, 1137, 79-1069, 79-997 and 79-1010.
79-988	Generating Facility Interconnection Agreement (Third party Non-Exporting)	Rule 21	Used with Forms 79-992 and 79-974
79-992	Customer Generation Agreement (Third party Generator on Premises, Non-Exporting)	Rule 21	Used with Forms 79-988 and 79-974
79-1070	Export Addendum to Generating Facility Interconnection Agreement for Non-Export Generating Facilities (Form 79-973) Sized 2 Megawatts or Less	Rule 21	Export addendum used with Form 79-973
79-1136	PG&E Interconnection Agreement For an Existing Small Generating Facility Interconnecting to the Distribution System under Rule 21	Rule 21	Used for existing QFs with Form 79-974

(N)

(N)

(Continued)

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 196

Appendix A (Cont'd.) Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
Other NEM and Non-Export Forms			
79-1125	NEM / NEMV / NEMVMASH Inspection Report	NEM, Rule 21	
79-1130	Request to Opt-out of / Opt-in to Compensation for Surplus Electricity	NEM	AB 920- Opt not to receive compensation for net annual excess energy
79-1153	NEM Load Aggregation Appendix	NEM, Rule 21	Use as an Appendix with Form 79-1151A, 79-978, 79-1137 or 79-1069
79-1155	Schedules NEM, NEMV, NEMVMASH, Net Surplus Electricity (NSE) Renewable Energy Credits Compensation	NEM, Rule 21	
Export for Sale Interconnection Forms			
79-1144	Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities Interconnecting Under the Fast Track Process	Rule 21	To be used with the GIA For Exporting GFs Interconnecting Under The Detailed Study Process
79-1145	Rule 21 Exporting Generator Interconnection Request	Rule 21	Preferred online application: http://www.pge.com/mybusiness/customer-service/non-pge-utility/generate-own-power/egi/
79-1161	Rule 21 Generator Interconnection Agreement (GIA) For Exporting Generating Facilities Interconnecting Under The Detailed Study Process	Rule 21	Interconnection Agreement to be used for Interconnecting Under The Independent Study, Distribution Group Study, or Transmission Cluster Study Process

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ELECTRIC RULE NO. 21
GENERATING FACILITY INTERCONNECTIONS

Sheet 197

Appendix A (Cont'd.) Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
Other Agreements			
79-280	Agreement for Installation of Allocation of Special Facilities for Parallel Operation of Non-Utility-Owned Generation and/or Electrical Standby Service (Electric Rules 2 and 21)	Rule 21	Special Facilities Agreement to be used with Form 79-702
79-702	Appendix A: Detail of Special Facilities Charges to be used in concert with form 79-280	Rule 21	Used with Form 79-280
79-1112	Local Government Application for an Arrangement to Take Service on Rate Schedule RES-BCT With Interconnected Eligible Renewable Generation of Not More Than 5 Megawatt	Rule 21	RES-BCT Application to be used with Forms 79-973 and 79-974

(N)

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(Continued)

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ELECTRIC SAMPLE FORM NO. 79-974
INTERCONNECTION APPLICATION FOR NON-EXPORT OR (T)
CERTAIN NET ENERGY METERED GENERATING FACILITIES (T)

Please Refer to Attached
Sample Form

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INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

Part I – Introduction and Overview

- A. Applicability:** This Generating Facility Interconnection Application (Application) is used to request the interconnection of (1) Non-Export Generating Facilities; (2) Net Energy Metered Generating Facilities when paired with energy storage; or (3) when not paired with energy storage, certain Net Energy Metered Generating Facilities other than PV or Wind 30 kW or less, to Pacific Gas and Electric Company's (PG&E) Distribution System (over which the California Public Utilities Commission (CPUC) has jurisdiction). Simpler, shorter forms are available from PG&E for Net Energy Metering Customers with Solar and/or Wind Electric Generating Facilities less than 30 kW that are not paired with Energy Storage (Forms 79-1151A and B). These forms are available on PG&E's website at <http://www.pge.com/gen>. Refer to PG&E's Rule 21 to determine the specific requirements for interconnecting a Generating Facility. Capitalized terms used in this Application, and not otherwise defined herein, shall have the same meanings as defined in PG&E's Rule 21 and Rule 1.

Except as noted in the next paragraph, this Application may be used for any Generating Facility to be operated by, or for, a Customer and/or Producer to supplement or serve part or all of its electric energy requirements that would otherwise be provided by PG&E, including distributed generation, cogeneration, emergency, backup, standby generation, and certain Net Energy Metered Generating Facilities. While Customers operating Generating Facilities isolated from PG&E's Distribution System are not obligated to enter into an Interconnection Agreement with PG&E, parts of this Application will still need to be completed to satisfy PG&E's notice requirements for operating an isolated Generating Facility as specified in the California Health and Safety Code Section 119085 (b).

This Application may not be used to apply for interconnecting Generating Facilities used to participate in transactions where all, or a portion of, the electrical output of the Generating Facility is scheduled with the California Independent System Operator. Such transactions may be subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC) and require a different application available from PG&E.

This Application is not applicable for incentives and/or rebates offered by the Energy Resources Conservation and Development Commission (CEC) or the CPUC. Please contact those agencies directly or on their respective websites (www.energy.state.ca.us and www.cpuc.ca.gov).

Guidelines and Steps for Interconnection: This Application must be completed and sent to PG&E along with the additional information indicated in Part 1, Section C below to initiate PG&E's interconnection review of the proposed Generating Facility. When applicable per Rule 21, unless exempted by CPUC Decision, a non-refundable \$800 Interconnection Request fee shall be invoiced and must be paid by Applicant. Pursuant to PG&E's Rule 21, there may be additional study and other costs; see PG&E's Rule 21, Sections E.2.c and E.3., for more information regarding interconnection of a generator to PG&E's Distribution System.

This document is only an Application. Upon acceptance of the Generating Facilities, PG&E will prepare an Interconnection Agreement for execution by the Producer, the party that will be responsible for the Generating Facility. PG&E may also require an inspection and testing of the Generating Facility and installation of any related Interconnection Facilities prior to giving the Producer written authorization to operate in parallel. **Unauthorized Parallel Operation may be dangerous and may result in injury to persons and/or may cause damage to equipment and/or property for which a Producer/Customer may be liable!**

Please note, other approvals may need to be acquired, and/or other agreements may need to be formed with PG&E or regulatory agencies, such as the Air Quality Management Districts and local governmental building and planning commissions, prior to operating a Generating Facility. PG&E's authorization to operate in parallel does not satisfy the need for an Applicant to acquire such other approvals.

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

- B. Required Documents:** Each of the following documents **are required to be submitted** before this application will be processed. Drawings must conform to accepted engineering standards and must be legible. Electronic documents are preferred.
1. A **Single-line drawing** showing the electrical relationship and descriptions of the significant electrical components such as the primary switchgear, secondary switchboard, protective relays, transformers, generators, circuit breakers, with operating voltages, capacities, and protective functions of the Generating Facility, the Customer's loads, and the interconnection with PG&E's Distribution System. Please show the location of all required net generation electric output meter(s) and the A.C. manual operated disconnect switch on the single line drawing, when required.
 2. **Site plans and diagrams** showing the physical relationship of the significant electrical components of the Generating Facility such as generators, transformers, primary switchgear/secondary switchboard, and control panels, the Customer's loads and the interconnection with PG&E's Distribution System. Please show the location of all required net generation electric output meter(s) and the A.C. manual operated disconnect switch on the site plans, when required.
 3. If transformers are used to interconnect the Generating Facility with PG&E's Distribution System, please provide **transformer nameplate information** (voltages, capacity, winding arrangements, connections, impedance, et cetera).
 4. If a **transfer switch** or scheme is used to interconnect the Generating Facility with PG&E Distribution System, please provide component descriptions, capacity ratings, and a technical description of how the transfer scheme is intended to operate.
 5. If **protective relays** are used to control the interconnection, provide protection diagrams or elementary drawings showing relay wiring and connections, proposed relay settings, and a description of how the protection scheme is intended to function.
 6. A **non-refundable \$800 Interconnection Request fee** shall be invoiced and required, when applicable per Rule 21 unless exempted by CPUC Decision.

- C. Application Instructions:** Complete this application and enter this information into PG&E's web-based form. (PG&E strongly recommends preparing all information and materials before starting the online application.) The online web-based form can be found at:

<http://www.pge.com/mybusiness/customerservice/nonpgeutility/generateownpower/distributedgeneration/generationrule21/>

Questions concerning PG&E's Online Application process can be directed to the Electric Generation Interconnection Department at rule21gen@pge.com.

Part II Selecting the Study Process¹

Please check one:

- Fast Track Process.
- Detailed Study (not typical)
- Will be either an Independent Study Process, Distribution Group Study Process or Transmission Cluster Study Process, dependent upon the Electrical Independence Tests.

¹ For selection of Study Process for Exporting Generating Facilities, please complete the Rule 21 Exporting Generating Facility Interconnection Request Form 79-1145.



INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

Part III– Identifying the Generating Facility Location and Responsible Parties

Project Name:	Date Received:	Generating Facility ID:	Application Expiration Date (Refer to Part III, Section E)

(For PG&E Use Only)

A. Customer Electric Account Information (What electric service will the Generating Facility be interconnected for parallel operation with PG&E? For aggregated electric accounts (under NEMBIO, dairy operations only) provide the primary and all associated accounts/meter information).

--	--	--

Name shown on PG&E service account

Electric Service Agreement ID number

Electric Badge (Meter) Number

NOTE: Customer Electric account must match the customer's utility bill account information.

--	--	--	--

Meter Location Street Address

City

State

Zip

Please check all that apply:

- A New Generating Facility interconnection (at an existing service).
- Physical Changes to an interconnected Generating Facility with previous approval by PG&E (adding PV panels, adding energy storage as an addition or enhancement, changing inverters/turbines or changing load and/or operations).
- A New interconnection in conjunction with a new service.
 - An **Application for Service** must be completed. Additional fees may be required if a service or line extension is required (in accordance with PG&E Electric Rules 15 and 16). Please contact PG&E at 1-800-PGE-5000.
- An Interconnection under Direct Access (DA).
 - Customers applying for interconnection who are served under Direct Access by an Electric Service Provider (ESP) must contact their ESP directly for information regarding the options available under their Direct Access contract.
- An Interconnection under Community Choice Aggregation Service (CCA Service).
 - Customers applying for interconnection who are served under Community Choice Aggregation Service (CCA Service) by a Community Choice Aggregator (CCA) must contact their CCA directly for information regarding the options available under their CCA Service Program.
- An interconnected non-exporting Generating Facility (load always exceeds generation).



INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

A. Customer Electric Account Contact Information

(Who is the customer contact for progress updates and/or additional information?)

Contact Person		Company Name	
Phone	Fax	E-mail	
Mailing Address		City	State Zip

B. Project Contact Information (Who is the project manager for this Generating Facility?)

Project Contact Person (Optional)		Company Name	
Phone	Fax	E-mail	
Mailing Address		City	State Zip

B.1. Will the Generating Facility be owned by a (third) party other than the name appearing on the PG&E service account in A. above (please check)? Yes No

C.1. Customer-Generating Facility Interconnection Agreement (GFIA) or Customer Generation Agreement (CGA) (for 3rd Party Generator on Premises) Information (Please identify the party that will execute the applicable agreement). CGA is not applicable to Net Energy Metering (NEM) Applicants because PG&E and the Customer, not the 3rd Party if any, must enter into the Net Energy Metering Interconnection Agreement.

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

Company Name to be entered on GFIA/CGA	Legal Title of Host Facility to be entered on GFIA/CGA
Person Executing the GFIA/CGA	Title of Person Executing the GFIA/CGA

Mailing Address	Phone	E-Mail

C.2. 3rd Party Owner – GFIA Information (Please identify the Party, if known, that will execute the GFIA). This Section is not applicable to Net Energy Metering (NEM) Applicants because PG&E and the Customer, not the 3rd Party if any, must enter into the Net Energy Metering Interconnection Agreement.

Company Name to be entered on GFIA/CGA	Legal Title of Company to be entered on GFIA/CGA	
Person Executing the GFIA	Title of Person Executing GFIA	
Mailing Address	Phone	E-Mail

D. Operating Date (What date is this Generating Facility expected to begin operation?)

E. Expiration Date* (The date the status of this Application is changed to “withdrawn” by PG&E?)

- **The information submitted in this Application will remain active and valid consistent with the timelines specified in Rule 21.f.**

Part IV - Describing the Generating Facility and Host Customer’s Electrical Facilities

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

A.
(MP&I)

Indicate the operating mode of the Generating Facility	operating mode options: <div style="text-align: center;"> <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 (Choose one) </div>
--	---

Instructions and Notes

Choose from the following operating mode options:

1. **Parallel Operation:** The Generating Facility will interconnect and operate “in parallel” with PG&E’s Distribution System for more than one (1) second.
2. **Inadvertent Export:** The Generating Facility will interconnect and operate, providing unscheduled and uncompensated export of real power for a duration exceeding two (2) seconds but fewer than sixty (60) seconds. The expected frequency of “inadvertent export” occurrences should be less than two occurrences per 24-hour period. Protective Functions, technical requirements and operational limitations are described in Rule 21, Section M.
3. **Momentary Parallel Operation (MP):** The Generating Facility will interconnect and operate on a “momentary parallel” basis with PG&E’s Distribution System for a duration of one (1) second or less through transfer switches or operating schemes specifically designed and engineered for such operation.
4. **Isolated Operation (I):** The Generating Facility will be “isolated” and prevented from becoming interconnected with PG&E’s Distribution System through a transfer switch or operating scheme specifically designed and engineered for such operation.

If the answer is operating mode option 1, “parallel operation,” please supply all of the information requested for the Generating Facility. Be sure to supply adequate information including diagrams and written descriptions regarding the protective relays that will be used to detect faults or abnormal operating conditions on PG&E’s Distribution System.

If the answer is operating mode option 2 or 3, “momentary parallel operation” or “inadvertent export,” only questions A, E and F of this Part IV and questions A, B, E, F, I, L, M, N, and S of Part V need be answered. Be sure, however, to supply adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protective device and controls that will trip the Generating Facility should the transfer switch or scheme not complete the transfer in one second or less.

If the answer is operating mode option 4, “isolated operation,” only questions A, E, and F of this Part IV and questions A, B, F, and S of Part V need be answered. Be sure, however, to supply adequate information including diagrams and written descriptions regarding the isolating switching device or scheme that will be used to prevent the Generating Facility from operating in parallel with PG&E’s Distribution System.

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

B.
*Parallel
Operation
Applications
Only*

If the Answer to Section A above was operating mode option 1, please indicate the type of agreement that is being requested with this Application. If operating mode option 2, 3 or 4 was selected, please skip to questions E and F.

If Agreement options 2, 3, 5, 7, 8, or 9 to this Section B are chosen, please provide an estimate of the maximum kW the Generating Facility is expected to export to PG&E's Distribution System. If PG&E determines that the amount of power to be exported is significant in relation to the capacity available on its Distribution System, it may request additional information, including time of delivery or seasonal kW/kWh estimates.

agreement options:

1 2 3 4 5
 6 7 8 9
 (Choose all that apply)

_____ Maximum kW

Instructions and Notes

Sample agreements are available from PG&E for review. Choose from the following eight (8) agreement options:

Customer Owned Generating Facility (non-NEM)

1. **A Generating Facility Interconnection Agreement** that provides for parallel operation of the Generating Facility, but does not provide for exporting power to PG&E's Distribution System. This non-export agreement, however does allow the occasional and uncompensated export of energy to PG&E's Distribution System for less than 2 seconds in duration.
2. **A Generating Facility Interconnection Export Addendum** that provides for parallel operation of the Generating Facility and the **occasional, continuous, non-compensated, export of generator facilities sized 2 MW or less** to PG&E's Distribution System. Continuous export is export greater than 60 seconds in duration. This addendum must be executed in concert with Agreement 1.
3. **A Generating Facility Interconnection Agreement** that provides for parallel operation of the 3rd Party owned Generating Facility, but does not provide for exporting energy to PG&E's Distribution System. This agreement must be executed in addition to agreement 4.
4. **A Customer Generation Agreement** that defines the relationship between the Customer whose name appears on PG&E's electric service account. This agreement must be executed in addition to agreement 3.

Net Energy Metering Generating Facility

If you wish to have your Generating Facility participate on one of PG&E's Net Energy Metering tariffs, following your bi-directional meter installation, your meter and disconnect switch, when required, must be installed in a safe PG&E accessible location and remain unobstructed by plants, structures, locked gates or pets. Meter and disconnect switch access must be maintained at all times for your safety and PG&E's electrical system safety. Additionally, unencumbered access is required for meter reading, system maintenance, and operations. Any animals owned by the customer, for example pet dogs, should be kept clear from these areas to avoid hindering PG&E service personnel from completing their work.

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

Are there any meter access issues? Please check all that apply to avoid interconnection delays.

- Dog, or other animals at Residence
- Locked Gate
- Shrubs or Bushes
- Other (please explain) _____

5. **A Net Energy Metering Agreement: Solar and Wind**, that provides for parallel operation of the Generating Facility, and exporting energy to PG&E's Distribution System for credit under the terms of PG&E's Net Energy Metering tariffs pursuant to Public Utility Code Section 2827 for solar PV and/ or wind Generating Facilities greater than 30 kw to 1 MW or a Renewable Electrical Generation Facility (as defined in Schedule NEM) sized less than 1 MW, or any combination of these with a total size of no more than 1 MW per each applicable NEM tariff. This agreement also requires submittal of an expanded net energy metered supplemental application. This option is available only to eligible Generating Facilities as defined in PG&E's Net Energy Metering tariffs.
6. **A Net Energy Metering Agreement: Fuel Cell**, that provides for parallel operation of the Generating Facility, and exporting energy to PG&E's Distribution System for credit under the terms of PG&E's Net Energy Metering tariffs for fuel-cell Generating Facilities. This option is available only to eligible Generating Facilities as defined in PG&E's NEMFC tariff.
7. **Multiple Tariff Generating Facility Agreement**, that provides for the parallel operation of multiple Generating Facilities that are electrically connected behind the same Point of Common Coupling at least one of which is a Generating Facility eligible for service under NEM or other applicable Net Energy Metering tariffs, and may include a Generating Facility not eligible to receive the same tariff treatment under a Net Energy Metering tariff.
8. **Other, please describe:**

<p>C. <i>Parallel Operation Applications Only</i></p>	<p>If the answer to Section B above was agreement option 1 or 4, please indicate the protection option that will be used to prevent energy from being exported to PG&E's Distribution System.</p> <p>If protection option 3 to this Section C is selected, please provide the continuous current rating of the host Customer facility's service entrance equipment (service panel rating):</p> <p>If Protection Option 4 to this Section C is selected, please provide the minimum load of the host Customer facility:</p>	<p>Protection Option:</p> <p style="text-align: center;"> <input type="checkbox"/>1 <input type="checkbox"/>2 <input type="checkbox"/>3 <input type="checkbox"/>4 <input type="checkbox"/>5 (Choose one) </p> <p style="text-align: center;">_____ Amps</p> <p style="text-align: center;">_____ kW</p>
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INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

Instructions and Notes

Refer to PG&E's Rule 21, Sections F.1-3 and Section G, for additional information as to how to answer this question. If the Generating Facility will never export power to PG&E's Distribution System, a simpler, lower cost, protection scheme may be used to control the interface between the Generating Facility and PG&E's Distribution System. Choose from the following five options:

1. A reverse-power protection device will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded.
2. An under-power protection device will be installed to measure the inflow of power and trip or reduce the output of the Generating Facility if limits are not maintained.
3. The Generating Facility Interconnection Facility equipment has been certified as non-islanding and the incidental export of power will be limited by the design of the interconnection. If this option is to be used, the continuous ampere rating of the service entrance equipment (service panel rating) that is used by the host Customer facility must be stated in the space provided above.
4. The Gross Nameplate Rating of the Generating Facility will not exceed 50% of the host Customer facility's minimum electrical load over the past 12 months. If this option is to be used, the minimum load of the host Customer facility must be stated in the space provided above.
5. The Generating Facility completely offset their facility load by being (a) optimally sized to meet their peak demand with load following functionality on the Generator controls and (b) ensuring conditional (inadvertent) export of electric power from the Generation Facility to Distribution Provider's Distribution or Transmission System occurs no more frequently than twice in any 24 hour period and the exports are greater than 2 seconds but no more than more than 60 seconds.

If this option is selected, you must also choose option 1 or 2.

Note: With the approval of PG&E, a Producer that wishes to retain the option to export power from a Generating Facility to PG&E's Distribution System may use a different protection scheme that provides for the detection of faults and other abnormal operating conditions.

<p>D.</p> <p><i>Parallel Operation Applications Only</i></p>	<p>What is the maximum 3-phase fault current that will be contributed by the Generating Facility to a 3-phase fault at the Point of Common Coupling (PCC)? (If the Generating Facility is single phase in design, please provide the contribution for a line-to-line fault).</p> <p>Please indicate the short circuit interrupting rating of the host Customer facility's service panel:</p>	<p>_____</p> <p>Amps</p> <p>_____</p> <p>Amps</p>
--	--	--

Instructions and Notes

Refer to PG&E's Rule 21, Section G, for significance and additional information. To determine this value, any transformers and/or significant lengths of interconnecting conductor used between each of the Generators (if there are more than one) that make up the

Generating Facility and the PCC must be taken into account. The details, impedance, and arrangement of such transformers and interconnecting conductors should be shown on the single-line diagram that is provided. Consult an electrical engineer or the equipment supplier if assistance is needed in answering this question.

It is expected that most Applicants will want to reserve the flexibility to operate any or all of their Generators in parallel. If the design of the proposed Generating Facility limits the amount of generation that may be interconnected at any time to PG&E's Distribution System, please describe the assumptions used in calculating the maximum fault current contribution value.

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

E.
(MP&I)

Please indicate how this Generating Facility will be operated.	__1 __2 __3 __4 __5 __6 (Please choose all options that may apply.)
--	--

Choose from the following seven operation options:

1. **Combined Heat and Power or Cogeneration** – Where the operation of the Generating Facility will produce thermal energy for a process other than generating electricity.
2. **Peak Shaving/Demand Management** – Where the Generating Facility will be operated primarily to reduce electrical demands of the host Customer facility during PG&E’s peak pricing periods.
3. **Primary Power Source** – Where the Generating Facility will be used as the primary source of electric power and power supplied by PG&E to the host Customer’s loads will be required for supplemental, standby, or backup power purposes only.
4. **Standby / Emergency / Backup** – Where the Generating Facility will normally be operated only when PG&E’s electric service is not available.
5. **Net Energy Metering** – Where the Generating Facility qualifies and receives service under PG&E’s Net Energy Metering tariffs. For applicants for service under Schedule NEM as described in Part 3 B (7.) and (9.), a supplemental application (Form Number 79-998) is also required.
6. **RES-BCT** – Where the Generating Facility will be operated with no on-site electrical load (other than station load).
7. **Multiple Tariff** - Generating Facilities that have one or more Net Energy Metering (NEM) generator(s) and optionally a non-Net Energy Metering (non-NEM) generator(s). Check one of the following four options on the next sheet.

For **Multiple Tariff** Generating Facilities, check one of the following:

- New facility installing non-NEM generator(s) and NEM generator(s) at the same time.
- Existing facility with non-NEM generator(s) and planning to add NEM generator(s). Please provide data for the table below.
- Existing facility with NEM generator(s) and planning to add non-NEM generator(s). Please provide data for the table below.
- Existing facility with NEM generator(s) and planning to add NEM generator(s) under a different NEM tariff. Please provide data for the table below.



INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

Part IV Cont'd - Describing the Generating Facility and Host Customer's Electrical Facilities

Instructions (From Part V)	Generator Information	Existing Generator Type	Existing Generator Type	New Generator Type	New Generator Type	Generating Facility Totals
#	Please indicate the number of each type of Generator being installed: (see Instructions)					
A	Generator/Inverter Manufacturer					
B	Generator/Inverter Model					
C	Generator/Inverter Software Version					
D	Is the Generator/Inverter certified	<input type="checkbox"/> Yes <input type="checkbox"/> No				
E	Generator Design	<input type="checkbox"/> Synch <input type="checkbox"/> Induct. <input type="checkbox"/> Inverter				
F	Gross Nameplate Rating					
G	Energy Storage Electrical Source Function (in addition, please complete section: "Additional Information Required for Energy Storage") List (if any) device(s) used to limit discharge (Inverter, Power Control, etc.)	Max kWh Capacity: <hr/> Rated kW Discharge: <hr/> Max kW Discharge: <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	Max kWh Capacity: <hr/> Rated kW Discharge: <hr/> Max kW Discharge: <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	Max kWh Capacity: <hr/> Rated kW Discharge: <hr/> Max kW Discharge: <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	Max kWh Capacity: <hr/> Rated kW Discharge: <hr/> Max kW Discharge: <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	
H	Operating Voltage					



INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

Part IV Cont'd - Describing the Generating Facility and Host Customer's Electrical Facilities

Instructions (From Part V)	Generator Information	Existing Generator Type	Existing Generator Type	New Generator Type	New Generator Type
I	Power Factor Rating				
J	PF Adjustment Range				
K	Wiring Configuration				
L (MP)	3-Phase Winding Configuration (Choose One)	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye
M (MP)	Neutral Grounding System Used (Choose One)	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor _____ Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor _____ Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor _____ Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor _____ Ohms
N	<i>Synchronous Generators Only:</i> Synchronous Reactance: Transient Reactance: Subtransient Reactance:	_____ (Xd %) _____ (X'd %) _____ (X''d %)			
O	<i>Induction Generators Only:</i> Locked Rotor Current: Stator Resistance: Stator Leakage Reactance: Rotor Resistance: Rotor Leakage Reactance:	_____ (Amps) _____ (%) _____ (%) _____ (%) _____ (%)			
P	Short Circuit Current Produced by Generator:	_____ (Amps)	_____ (Amps)	_____ (Amps)	_____ (Amps)
Q	<i>For Generators that are Started as a "Motor" Only</i> 1. In-Rush Current: 2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating:	_____ (Amps) _____ (Amps)	_____ (Amps) _____ (Amps)	_____ (Amps) _____ (Amps)	_____ (Amps) _____ (Amps)



INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

Part IV Cont'd - Describing the Generating Facility and Host Customer's Electrical Facilities

Instructions (From Part V)	Generator Information	Existing Generator Type	Existing Generator Type	New Generator Type	New Generator Type
R (MP&I)	Prime Mover Type: (Circle One)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
S	AC Disconnect	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)
T	Photovoltaic (PV) Panel	_____ Manufacturer _____ Model # _____ Nameplate Rating (kW/unit) _____ CEC Rating (kW/unit) _____ Quantity of Panels _____ Total Capacity (kW)	_____ Manufacturer _____ Model # _____ Nameplate Rating (kW/unit) _____ CEC Rating (kW/unit) _____ Quantity of Panels _____ Total Capacity (kW)	_____ Manufacturer _____ Model # _____ Nameplate Rating (kW/unit) _____ CEC Rating (kW/unit) _____ Quantity of Panels _____ Total Capacity (kW)	_____ Manufacturer _____ Model # _____ Nameplate Rating (kW/unit) _____ CEC Rating (kW/unit) _____ Quantity of Panels _____ Total Capacity (kW)
U	Energy Storage System	_____ Manufacturer _____ Model # _____ Quantity of Units			
V	Lineside Tap	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

F. Additional Information Required for Energy Storage Systems (if applicable):

Describe the current primary intended use (s) of the storage device (please check all applicable boxes that apply. If operations significantly change, please contact PG&E):

- Peak Shaving Load Shifting (away from peak time periods)
 Export to Grid Back Up Power

Other: _____

Electrical Load Function:

Rated Charge Demand (Load): _____ kW

Will the distribution grid be used to charge the storage device: Yes No

If yes: Will charging the storage systems from the grid increase the host facility's current peak load demand:
Yes No

- **Yes:** Provide the amount added of peak demand in (kW): _____
- **No:** Provide technical description of control systems including:
 - Charging periods: _____
 - Source of energy for charging: _____
 - Mechanism to prevent charging from the grid at peak: _____

Generating Facility: *Including all generation sources such as PV, storage, and other technologies, provide the following information:*

Will the generating facilities export power to the grid: Yes No

If yes, specify Generating Facility's maximum coincident export to the grid: _____ kW

If all generation sources are not simultaneously exporting to the grid, provide technical high level description of the control system(s) for this function:

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

G.
(MP&I)

Please indicate if Qualifying Facility (QF) Status will be obtained from the FERC for this Generating Facility.

Yes
 No

Instructions and Notes

Parties operating Generating Facilities (QF) complying with all of the requirements for qualification as either a small power production facility or cogeneration facility pursuant to the regulations of the FERC (18 Code of Federal Regulations Part 292, Section 292.203 et seq.) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. Section 796, et seq.), or any successor requirements for Qualifying Facilities, may seek certification from FERC to have the Generating Facility designated as a Qualifying Facility or "QF." In summary, QFs are Generating Facilities using renewable or alternative fuels as a primary energy source or facilities that utilize the thermal energy given off by the generation process for some other useful purpose. QFs enjoy certain rights and privileges not available to non-QF Generating Facilities.

QF status is not required to interconnect and operate in parallel with PG&E's Distribution System.

H.

Please indicate if Generating Facility will meet the annual Efficiency and Operating Standards of PUC Code 216.6 (Applicable to Cogeneration Only)

Yes
 No
 N/A

Part V – Instructions for Describing the Generators

	Generator Information	Instructions and Comments
#	Please indicate the number of each "type" of Generator being installed:	Please provide the following information for each Generator "type". Be sure all Generators classified as one "type" are identical in all respects. If only one type of Generator is to be used, only one column needs to be completed. Please be sure the information in the "Totals" column is correct and reflects the total number of Generator units to be installed.
A	Generator/Inverter Manufacturer	Enter the brand name of the Generator.
B	Generator/Inverter Model	Enter the model name or number assigned by the manufacturer of the Generator.
C	Generator/Inverter Software Version	If this Generator's control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
D	Is the Generator Certified by a Nationally Recognized Testing Laboratory (NRTL) according to Rule 21?	Answer "Yes" only if the Generator manufacturer can or has provided certification data. See PG&E's Rule 21, Section L for additional information regarding Generator certification.

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

	Generator Information	Instructions and Comments
E	Generator Design	Please indicate the design of each Generator. Designate "Inverter" anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.
F	Gross Nameplate Rating (kVA)	This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate. This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.
G	Energy Storage Electrical Source Function	Please indicate the discharge characteristics of your Energy Storage device in addition to any devices that limit or control the discharge capability.
H	Operating Voltage	This value should be the voltage rating designated by the manufacturer and used in this Generating Facility. Please indicate phase-to-phase voltages for 3-phase installations. See PG&E's Rule 21, Section H.2.b. and Table H.1., for additional information.
I	Power Factor Rating	This value should be the nominal power factor rating designated by the manufacturer for the Generator. See PG&E's Rule 21, Section H.2.i. for additional information.
J	PF Adjustment Range	Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values. See PG&E's Rule 21, Section H.2.i.
K	Wiring Configuration	Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.
L	3-Phase Winding Configuration	For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.
M	Neutral Grounding	Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected. If the grounding method used at this facility is not listed, please attach additional descriptive information.
N	<i>For Synchronous Generators Only:</i>	If the Generator is of a synchronous design, please provide the synchronous reactance, transient reactance, and subtransient reactance values supplied by the manufacturer. This information is necessary to determine the short circuit contribution of the Generator and as data in load flow and short circuit computer models of PG&E's Distribution System. If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&E may request additional data to better model the nature and behavior of the Generator with relation to its Distribution System.
O	<i>For Induction Generators Only:</i>	If the Generator is of an induction design, please provide the "locked rotor current" value supplied by the manufacturer. If this value is not available, the stator resistance, stator leakage reactance, rotor resistance, rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current. If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&E may request additional data to better model the nature and behavior of the Generator with relation to its Distribution System.

INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES

P	Short Circuit Current Produced by Generator	Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current.
Q	<p><i>For Generators that are Started as a "Motor" Only:</i></p> <p>1. In-Rush Current</p> <p>2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating</p>	<p>This information is needed only for Generators that are started by "motoring" the generator.</p> <p>See PG&E's Rule 21, Sections L.3.d. and L.7.b. for significance and additional information.</p> <p>If this question was answered in Part IV, question C of this Application, it need not be answered here.</p>

Part	Generator Information	Instructions and Comments
R	Prime Mover Type	<p>Please indicate the type and fuel used as the prime mover or source of energy for the Generator.</p> <p>1 = Internal Combustion Engine – Natural Gas</p> <p>2 = Internal Combustion Engine – Diesel Fueled</p> <p>3 = Internal Combustion Engine - Other Fuel</p> <p>4 = Microturbine – Natural Gas</p> <p>5 = Microturbine – Other Fuel</p> <p>6 = Combustion Turbine Natural Gas</p> <p>7 = Combustion Turbine - Other Fuel</p> <p>8 = Steam Turbine</p> <p>9 = Photovoltaic Panels</p> <p>10 = Solar-thermal engine</p> <p>11 = Fuel Cell– Natural Gas</p> <p>12 = Fuel Cell– Other Fuel</p> <p>13 = Hydroelectric Turbine</p> <p>14 = Wind Turbine</p> <p>15 = Energy Storage</p> <p>16 = Other (please describe)</p>
S	AC Disconnect	For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.
T	Photovoltaic (PV) Panel	For PV systems only, please include the requested information about the PV panels.
U	Energy Storage System	For Energy Storage systems only, please include the requested information about the Energy Storage device.
V	Lineside Tap	PG&E has special requirements for a lineside tap. Contact PG&E at: Rule21Gen@PGE.Com for more information.



ELECTRIC SAMPLE FORM 79-1161	Sheet 1	(N)
RULE 21 - GENERATOR INTERCONNECTION AGREEMENT (GIA) FOR		(N)
EXPORTING GENERATING FACILITIES INTERCONNECTING		
UNDER THE INDEPENDENT STUDY, DISTRIBUTION STUDY, OR		(N)
TRANSMISSION CLUSTER PROCESS		

Please Refer to Attached
Sample Form

**RULE 21 GENERATOR INTERCONNECTION AGREEMENT (GIA)
FOR EXPORTING GENERATING FACILITIES
INTERCONNECTING UNDER THE INDEPENDENT STUDY,
DISTRIBUTION GROUP STUDY, OR TRANSMISSION CLUSTER
STUDY PROCESS**

BETWEEN

[INTERCONNECTION CUSTOMER]

AND

PACIFIC GAS AND ELECTRIC COMPANY

PROJECT: [PROJECT NAME]



**RULE 21
GENERATOR INTERCONNECTION
AGREEMENT (GIA) FOR EXPORTING
GENERATING FACILITIES
INTERCONNECTING UNDER THE
INDEPENDENT STUDY, DISTRIBUTION
STUDY, OR TRANSMISSION
CLUSTER PROCESS**

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Appendix C – Interconnection Details

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Appendix E – Commercial Operation Date

Appendix F – Addresses for Delivery of Notices and Billings

Appendix G – Interconnection Customer’s Share of Costs of Distribution Upgrades and Network Upgrades for Applicable Project Group



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OR TRANSMISSION CLUSTER PROCESS

GENERATOR INTERCONNECTION AGREEMENT

THIS GENERATOR INTERCONNECTION AGREEMENT (“GIA” or “Agreement”) is made and entered into this ____ day of _____ 20__, by and between _____, a _____ organized and existing under the laws of the State/Commonwealth of _____ (“Interconnection Customer” with a Generating Facility), and Pacific Gas and Electric Company, a corporation organized and existing under the laws of the State of California (“Distribution Provider and/or Distribution Owner”). Interconnection Customer and Distribution Provider each may be referred to as a “Party” or collectively as the “Parties.” This Agreement shall be used for interconnection to the Distribution System through the Independent Study Process or Distribution Group Study Process in the Distribution Provider’s California Public Utilities Commission (“CPUC” or “Commission”) approved Electric Rule 21 (“Rule 21”). This Agreement may also be used for interconnection to the Distribution System through the Transmission Cluster Study Process if FERC has approved changes to the Generator Interconnection Procedures set forth in the Distribution Provider’s WDT which allow Interconnection Customer to sign this Agreement.

WHEREAS, Distribution Provider operates the Distribution System; and

WHEREAS, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified in Appendix C to this Agreement; and,

WHEREAS, Interconnection Customer and Distribution Provider have agreed to enter into this Agreement for the purpose of interconnecting the Generating Facility with the Distribution System; and,

WHEREAS, the Interconnection Customer’s Interconnection Request was studied under the Independent Study Process, Distribution Group Study Process, or Transmission Cluster Study Process [check one]; and,

WHEREAS, the basis for the Parties entering into this Agreement is that Interconnection Customer is a Qualifying Facility (“QF”) and will sell all of its exports to the grid to the Distribution Provider under a power purchase agreement (“PPA”) entered into pursuant to the Public Utility Regulatory Policies Act of 1978 (“PURPA”); or, the basis for the Parties entering into this Agreement is: _____ (Insert Description or N/A) _____.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:



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When used in this Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used or in Rule 21 or in the Distribution Provider's WDT.

Article 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety, power quality, and reliability of the electric system.

Affected System shall mean an electric system other than the Distribution Provider's Distribution System or Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, 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.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Distribution Provider's Distribution System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Distribution System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Control Area of the Distribution System to which the Generating Facility is directly interconnected, including the requirements pursuant to Section 215 of the Federal Power Act.

Applicant shall mean the entity submitting an Interconnection Request pursuant to Rule 21.



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Base Case shall mean data including, but not limited to, base case 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 the 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 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, Transmission System, or an Affected System; or (iv) are not interconnected to the Distribution System or CAISO 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.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the GIA.

Breaching Party shall mean a Party that is in Breach of the GIA.

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

CAISO shall mean the California Independent System Operator Corporation, a state-chartered, nonprofit, corporation that controls certain transmission facilities of all Participating Transmission Owners and dispatches certain generating units and loads.

CAISO Grid shall mean the system of transmission lines and associated facilities of the Participating Transmission Owners that have been placed under the CAISO's Operational Control.

CAISO Tariff shall mean the California Independent System Operator Corporation Operating Agreement and Tariff, as it may be modified from time to time, and accepted by the FERC.

CAISO's Generator Interconnection Procedures (CAISO Tariff GIP) shall mean the procedures included in the CAISO Tariff to interconnect a Generating Facility directly to the CAISO Grid, as such procedures may be modified from time to time, and accepted by FERC.



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Calendar Day shall mean any day including Saturday, Sunday or a Federal and State Holiday.

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

Commercial Operation Date shall mean the date on which a Generator at a Generating Facility commences Commercial Operation as agreed to by the Parties.

Commissioning Testing shall mean testing performed during the commissioning of all or part of a Generating Facility pursuant to Rule 21.

Confidential Information: See Rule 21 Section D.7 and Article 22 of this GIA.

Construction Activities shall mean actions by the 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 the Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades.

Control Area shall mean Control Area as defined in the CAISO Tariff.

Customer shall mean 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.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the GIA.

Detailed Study Agreement shall mean 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.

DGS Phase I Interconnection Study shall mean the Distribution Group Study (DGS) Phase I Interconnection Study performed by the Distribution Provider under the Distribution Group Study Process per Rule 21 Section G.3.c.i.



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DGS Phase II Interconnection Study shall mean the Distribution Group Study (DGS) Phase I Interconnection Study performed by the Distribution Provider under the Distribution Group Study Process per Rule 21 Section G.3.c.ii.

Distribution Group Study Process shall mean the interconnection study process set forth in Rule 21 Section F.3.c.

Distribution Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Distribution System at the Point of Interconnection and may be a Party to the GIA to the extent necessary.

Distribution Provider shall mean Pacific Gas and Electric Company.

Distribution Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled or operated by the Distribution Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the GIA, including any modifications, additions or upgrades to such facilities and equipment. Distribution Provider's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Distribution Service shall mean the service of delivering energy over the Distribution System pursuant to the approved tariffs of the Distribution Provider other than services directly related to the Interconnection of a Generating Facility under Rule 21.

Distribution System shall mean all electric wires, equipment, and other facilities owned, controlled and operated by the Distribution Provider, other than Interconnection Facilities or the Transmission System, by which Distribution Provider provides Distribution Service to its Customers.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the 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.

Effective Date shall mean the date on which the GIA becomes effective upon execution by the Parties.

Emergency shall mean 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



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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.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the 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.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission or its successor.

Full Capacity Deliverability Status shall be as defined in the CAISO Tariff.

Generating Facility shall mean all generators, electrical wires, equipment, and other facilities owned or provided by Producer for the purpose of producing electric power, including storage.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple Generators.

Generator shall mean 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 (GIA) shall mean the agreement between Distribution Provider and the Producer providing for the Interconnection of a Generating Facility that give certain rights and obligations to effect or end Interconnection.

Generator Interconnection Procedures (GIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Generating Facility set forth in Attachment I of the Distribution Provider's WDT subject to any modifications FERC may direct in the exercise of its jurisdiction.

Generator Interconnection Study Process Agreement shall mean the agreement between the Distribution Customer and the Interconnection Customer for conducting the Interconnection Studies for a proposed Generating Facility under the Transmission Cluster Study Process, a *pro forma* version of which is set forth in Attachment 6 of the GIP.



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Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric 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 shall mean 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.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “radioactive substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Independent Study Process shall mean the interconnection study process set forth in Rule 21 Section F.3.b.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the estimated date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Distribution Provider's Interconnection Facilities.

Interconnection; Interconnected shall mean the physical connection of a Generating Facility in accordance with the requirements of Rule 21 so that Parallel Operation with Distribution Provider's Distribution or Transmission System can occur (has occurred).



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Interconnection Customer: The definition of “Interconnection Customer” in this Agreement is intended to be identical to and used interchangeably with the definition of “Producer” in Rule 21.

Interconnection Customer’s Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the GIA, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Distribution Provider's Distribution System. Interconnection Customer's Interconnection Facilities are sole use facilities.

Interconnection Facilities shall mean 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 the Producer or the Distribution Provider.

Interconnection Facilities Study shall mean a study conducted by the 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 the Distribution Provider's Distribution or Transmission System. The scope of the study is defined in Rule 21 Section G.3.c.

Interconnection Financial Security: Any of the financial instruments listed in Rule 21 Section F.4.a.

Interconnection Handbook shall mean a handbook, developed by the Distribution Provider and posted on the Distribution Provider’s website or otherwise made available by the Distribution Provider, describing the technical and operational requirements for wholesale generators and loads connected to the Distribution System; as such handbook may be modified or superseded from time to time. Distribution Provider’s standards contained in the Interconnection Handbook shall be deemed consistent with Good Utility Practice and Applicable Reliability Standards. In the event of a conflict between the terms of this GIA and the terms of the Distribution Provider’s Interconnection Handbook, the terms in this GIA shall govern.

Interconnection Request shall mean an Applicant’s request to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the



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operating characteristics of, an existing Generating Facility that is interconnected with the Distribution Provider's Distribution or Transmission System.

Interconnection Service shall mean the service provided by the Distribution Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Distribution Provider's Distribution System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the GIA and, if applicable, the Distribution Provider's Rule 21.

Interconnection Study shall mean a study to establish the requirements for Interconnection of a Generating Facility with Distribution Provider's Distribution System or Transmission System, pursuant to Rule 21. For an Applicant in the Transmission Cluster Study Process, this shall mean any of the following studies: the Phase I Interconnection Study and the Phase II Interconnection Study described in Section 4.8 of the GIP. For an Applicant in the Distribution Group Study Process, this shall mean any of the following studies: the DGS Phase I Interconnection Study and the DGS Phase II Interconnection Study. For an Applicant in the Independent Study Process, this shall mean any of the following studies: the Interconnection System Impact Study and the Interconnection Facilities Study.

Interconnection System Impact Study shall mean an engineering study conducted by the 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 System and/or Transmission System and, if applicable, an Affected System. The scope of the study is defined in Rule 21 Section G.3.c.

IRS shall mean the Internal Revenue Service.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the GIA on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean 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.

Metering shall mean 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 Rule 21.



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Metering Equipment shall mean all equipment, hardware, software, including meter cabinets, conduit, etc., that are necessary for Metering.

NERC shall mean the North American Electric Reliability Corporation or its successor organization.

Network Upgrades shall mean Network Upgrades as defined by the CAISO Tariff.

Operational Control shall mean the rights of the CAISO under the Transmission Control Agreement and the CAISO Tariff to direct the parties to the Transmission Control Agreement how to operate their transmission lines and facilities and other electric plant affecting the reliability of those lines and facilities for the purpose of affording comparable non-discriminatory transmission access and meeting applicable reliability criteria.

Parallel Operation shall mean the simultaneous operation of a Generator with power delivered or received by Distribution Provider while Interconnected. For the purpose of Rule 21, 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).

Participating Transmission Owner shall mean an entity which (i) owns, operates, and maintains transmission lines and associated facilities and/or has entitlements to use certain transmission lines and associated facilities and (ii) has transferred to the CAISO operational control of such facilities and/or entitlements to be made part of the CAISO Grid.

Party or Parties shall mean Producer and/or Distribution Provider.

Phase I Interconnection Study shall mean an engineering study for Applicants in the Transmission Cluster Study Process as defined in the WDT.

Phase II Interconnection Study shall mean an engineering and operational study for Applicants in the Transmission Cluster Study Process conducted by the Distribution Provider to determine the Point of Interconnection and a list of facilities (including Distribution Provider's Interconnection Facilities, Network Upgrades, Distribution Upgrades, and Stand Alone Network Upgrades), the estimated cost of those facilities, the costs allocated to each project, and the estimated time required to interconnect the Generating Facility(ies) with the Distribution System. The portion of the study required to evaluate the impacts on the CAISO Grid will be coordinated with the CAISO and will be completed in a manner consistent with the CAISO Tariff GIP.



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Point of Change of Ownership shall mean the point, as set forth in Appendix A to the GIA, where the Interconnection Customer's Interconnection Facilities connect to the Distribution Provider's Interconnection Facilities.

Point of Interconnection shall mean 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.

Pre-Construction Activities shall mean the actions by the Distribution Provider, other than those required by an Engineering and Procurement Agreement under Section F.3.f. of Rule 21 or Section 6 of the GIP, undertaken prior to Construction Activities in order to prepare for the construction of the 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 the Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades.

Producer shall mean the entity that executes a GIA 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.

Qualifying Facility (QF) shall mean a qualifying cogeneration facility or qualifying small power production facility, as defined in the Code of Federal Regulations, Title 18, Part 292 (18 C.F.R. §292).

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the GIA, 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.

Results Meeting for Applicants in the Transmission Cluster Study Process shall mean the meeting among the Distribution Provider, the Interconnection Customer, and, if applicable, the CAISO and other Affected System operators to discuss the results of the Phase I Interconnection Study as set forth in Section 4.11 of the GIP. Results Meeting for Applicants in the Distribution Group Study Process shall mean the meetings among the Distribution Provider, the Interconnection Customer, and, if applicable, the CAISO to discuss either the results of the DGS Phase I Interconnection Study as set forth in Rule 21 Section F.3.c.v. or the results of the DGS Phase II Interconnection Study as set forth in Rule 21 Section F.3.c.xi. Results Meeting for Applicants in the Independent Study Process shall mean the meetings among the Distribution Provider, the Interconnection Customer, and, if applicable, the CAISO to discuss either the results of the Interconnection System Impact Study as set forth in Rule 21 Section 3.b.iii, or the results of the Interconnection Facilities Study as set forth in Rule 21 Section 3.b.ix.



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Stand Alone Network Upgrades shall mean Network Upgrades that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Distribution Provider and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the GIA.

System Integrity shall mean 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.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Distribution Provider's Distribution System, the CAISO Controlled Grid, and Affected Systems from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Distribution Provider's Distribution System, the CAISO Controlled Grid or on other delivery systems or other generating systems to which the Distribution Provider's Distribution System and Transmission System is directly connected.

Transmission Cluster Study Process shall mean the Transmission Cluster Study Process set forth in GIP Section 4.

Transmission Control Agreement shall mean CAISO FERC Electric Tariff No. 7, as it may be modified from time to time, and accepted by the FERC, or any successor agreement.

Transmission System shall mean those transmission facilities owned by the Distribution Provider that have been placed under the CAISO's Operational Control and are part of the CAISO Grid, as defined in the CAISO Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Uncontrollable Force shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm, flood, earthquake, explosion, breakage or accident to machinery or equipment, any curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond the reasonable control of the Distribution Provider or Interconnection Customer which could not be avoided through the exercise of Good Utility Practice. An Uncontrollable Force event does not include acts of negligence or intentional wrongdoing by the Party claiming Uncontrollable Force.



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Unsafe Operating Conditions shall mean 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.

WDT shall mean the Wholesale Distribution Tariff, the Distribution Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Article 2. Effective Date, Term, and Termination

2.1 Effective Date. This GIA shall become effective upon execution by the Parties.

2.2 Term of Agreement. Subject to the provisions of Article 2.3, this GIA shall remain in effect for a period of _____ (xx) years from the Effective Date and shall be automatically renewed for each successive one-year period thereafter.

2.3 Termination Procedures.

2.3.1 Written Notice. This GIA may be terminated by Interconnection Customer after giving Distribution Provider ninety (90) Calendar Days advance written notice, or by Distribution Provider after the Generating Facility permanently ceases Commercial Operation.

2.3.2 Default. Either Party may terminate this GIA in accordance with Article 17.

2.3.3 QF Status. If Rule 21 applicability for this interconnection is based on the Interconnection Customer maintaining QF status and selling all its exports to the grid to Distribution Provider under a PURPA PPA, then this provision applies and Distribution Provider may terminate this GIA if Interconnection Customer fails to maintain its QF status for the term of this GIA or upon termination of the Interconnection Customer's PURPA PPA.

2.3.3.1 If Section 2.3.3 applies, the Interconnection Customer is responsible for maintaining QF status and must notify Distribution Provider sixty (60) Calendar Days in advance of Interconnection Customer failing to maintain its QF status, selling to a third-party, or termination of its PURPA PPA. If Interconnection Customer fails to provide such notice, it is wholly responsible for any penalties incurred from any Governmental Authority or the CAISO, including penalties and charges incurred by the Distribution Provider as a result of this failure to notify the Distribution Provider.



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- 2.3.4** If Interconnection Customer is no longer eligible for a Rule 21 interconnection then Distribution Provider may terminate this Agreement.
- 2.3.5** Notwithstanding Articles 2.3.1 and 2.3.2, and 2.3.3, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, and the Interconnection Customer has fulfilled its termination cost obligations under Article 2.4.

2.4 Termination Costs. If a Party elects to terminate this Agreement pursuant to Article 2.3 above, each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges assessed by the other Party, as of the date of the non-terminating Party's receipt of such notice of termination, that are the responsibility of the Party under this GIA. In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this GIA:

- 2.4.1** With respect to any portion of Distribution Provider's Interconnection Facilities that have not yet been constructed or installed, Distribution Provider shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Distribution Provider shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Distribution Provider for any or all such costs of materials or equipment not taken by Interconnection Customer, Distribution Provider shall promptly refund such amounts to Interconnection Customer, less any costs, including penalties incurred by Distribution Provider to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this GIA or its GIA is terminated pursuant to Article 2.3 above, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Distribution Upgrades and Network Upgrades for which Distribution Provider has incurred expenses and has not been reimbursed by Interconnection Customer.



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- 2.4.2** Distribution Provider may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Distribution Provider shall be responsible for all costs associated with procuring such materials, equipment, or facilities.
- 2.4.3** With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this GIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.
- 2.5** **Disconnection.** Upon termination of this GIA, the Parties will take all appropriate steps to disconnect the Generating Facility from the Distribution System. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this GIA or such non-terminating Party otherwise is responsible for these costs under this GIA.
- 2.6** **Survival.** This GIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this GIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this GIA was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this GIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment.
- Article 3. [Intentionally Omitted]**
- Article 4. Scope of Service**
- 4.1** **Interconnection Service.** Interconnection Service allows Interconnection Customer to connect the Generating Facility to the Distribution System and be eligible to deliver the Generating Facility's output using the capacity of the Distribution System to the CAISO Grid. To the extent Interconnection Customer wants to receive Interconnection Service, Distribution Provider shall construct facilities identified in Appendices A and C that the Distribution Provider is responsible to construct.
- 4.2** **Provision of Service.** Distribution Provider shall provide Interconnection Service for the Generating Facility at the Point of Interconnection.
- 4.3** **Performance Standards.** Each Party shall perform all of its obligations under this GIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards,



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and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this GIA for its compliance therewith. If such Party is a Distribution Provider or Distribution Owner, then that Party shall amend the GIA.

- 4.4 No Distribution Service or Transmission Service.** The execution of this GIA does not constitute a request for, or the provision of, Distribution Service under any tariff or transmission service under any tariff.

Article 5. Interconnection Facilities Engineering, Procurement, and Construction

- 5.1 Options.** Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select the In-Service Date, Initial Synchronization Date, and Commercial Operation Date; and either Standard Option or Option to Build set forth below for completion of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades as set forth in Appendix A, Interconnection Facilities, Distribution Upgrades, and Network Upgrades, and such dates and selected option shall be set forth in Appendix B, Milestones.

5.1.1 Standard Option. Distribution Provider shall design, procure, and construct Distribution Provider's Interconnection Facilities and Distribution Upgrades using Reasonable Efforts to complete Distribution Provider's Interconnection Facilities and Distribution Upgrades by the dates set forth in Appendix B, Milestones. Network Upgrades shall be designed, procured, and constructed in accordance with the CAISO Tariff using Reasonable Efforts to complete Network Upgrades by the dates set forth in Appendix B, Milestones. Distribution Provider shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event Distribution Provider reasonably expects that it will not be able to complete Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades by the specified dates, Distribution Provider shall promptly provide written notice to Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.1.2 [Intentionally Omitted.]

5.1.3 Option to Build. If the dates designated by Interconnection Customer are not acceptable to Distribution Provider and if the Parties agree, Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of Distribution Provider's Interconnection Facilities



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and Stand Alone Network Upgrades. Interconnection Customer's Option to Build and any design, procurement, and construction pursuant to this option shall be subject to the approval of Distribution Provider and the provisions of Rule 21 Section I. Distribution Provider and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option. If Distribution Provider does not approve Interconnection Customer's Option to Build, the Standard Option applies.

5.2 General Conditions Applicable to Option to Build. If Interconnection Customer assumes responsibility for the design, procurement and construction of Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades,

(1) Interconnection Customer shall engineer, procure equipment, and construct Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Distribution Provider;

(2) Interconnection Customer's engineering, procurement and construction of Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law to which Distribution Provider would be subject in the engineering, procurement or construction of Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(3) Distribution Provider shall review and approve the engineering design, equipment acceptance tests, and the construction of Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(4) prior to commencement of construction, Interconnection Customer shall provide to Distribution Provider a schedule for construction of Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Distribution Provider;

(5) at any time during construction, Distribution Provider shall have the right to gain unrestricted access to Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(6) at any time during construction, should any phase of the engineering, equipment procurement, or construction of Distribution Provider's



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Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Distribution Provider, Interconnection Customer shall be obligated to remedy deficiencies in that portion of Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(7) Interconnection Customer shall indemnify Distribution Provider for claims arising from Interconnection Customer's construction of Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 Indemnity;

(8) Interconnection Customer shall transfer control of Distribution Provider's Interconnection Facilities to the Distribution Provider and shall transfer Operational Control of Stand Alone Network Upgrades to the CAISO;

(9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Distribution Provider's Interconnection Facilities and Stand-Alone Network Upgrades to Distribution Provider;

(10) Distribution Provider shall approve and accept for operation and maintenance Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2; and

(11) Interconnection Customer shall deliver to Distribution Provider "as-built" drawings, information, and any other documents that are reasonably required by Distribution Provider to assure that the Interconnection Facilities and Stand-Alone Network Upgrades are built to the standards and specifications required by Distribution Provider.

5.3 [Intentionally Omitted.]

5.4 Power System Stabilizers. The Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with Applicable Reliability Standards, the guidelines and procedures established by the Applicable Reliability Council, and in accordance with the provisions of Section 4.6.5.1 of the CAISO Tariff. Distribution Provider reserves the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Generating Facility. If the Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, Interconnection Customer shall immediately notify Distribution Provider and Distribution



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Provider's system operator, or its designated representative. The requirements of this paragraph shall not apply to wind generators of the induction type.

5.5 Equipment Procurement. If responsibility for construction of Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades is to be borne by Distribution Provider, then Distribution Provider shall commence design of Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

5.5.1 Distribution Provider has completed the Interconnection Studies pursuant to the Generator Interconnection Study Process Agreement for Transmission Cluster Study Process Applicants, or Distribution Provider has completed the Interconnection Studies pursuant to the Detailed Study Agreement for Independent Study Process or Distribution Group Study Process Applicants.

5.5.2 Distribution Provider has received written authorization to proceed with design and procurement from Interconnection Customer by the date specified in Appendix B, Milestones; and

5.5.3 Interconnection Customer has provided security to Distribution Provider in accordance with Article 11.5 by the dates specified in Appendix B, Milestones.

5.6 Construction Commencement. Distribution Provider shall commence construction of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

5.6.1 Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;

5.6.2 Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades;

5.6.3 Distribution Provider has received written authorization to proceed with construction from Interconnection Customer by the date specified in Appendix B, Milestones; and

5.6.4 Interconnection Customer has provided security to Distribution Provider in accordance with Article 11.5 by the dates specified in Appendix B, Milestones.



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- 5.7 Work Progress.** The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time, request a progress report from the other Party. If, at any time, Interconnection Customer determines that the completion of Distribution Provider's Interconnection Facilities will not be required until after the specified In-Service Date, Interconnection Customer will provide written notice to Distribution Provider of such later date upon which the completion of Distribution Provider's Interconnection Facilities will be required.
- 5.8 Information Exchange.** As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with Distribution Provider's Distribution System, and shall work diligently and in good faith to make any necessary design changes.
- 5.9 Limited Operation.** If any of Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Generating Facility, Distribution Provider shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Generating Facility and Interconnection Customer's Interconnection Facilities may operate prior to the completion of Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this GIA. Distribution Provider shall permit Interconnection Customer to operate the Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with the results of such studies.
- 5.10 Interconnection Customer's Interconnection Facilities ('ICIF').** Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.
- 5.10.1 Interconnection Customer's Interconnection Facility Specifications.** Interconnection Customer shall submit initial specifications for the ICIF, including System Protection Facilities, to Distribution Provider at least one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Distribution Provider shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Distribution



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Provider and comment on such specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

5.10.2 Distribution Provider's Review. Distribution Provider's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Distribution Provider, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Distribution Provider.

5.10.3 ICIF Construction. The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Interconnection Customer shall deliver to Distribution Provider "as-built" drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with Interconnection Customer's step-up transformers, the facilities connecting the Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Generating Facility. The Interconnection Customer shall provide Distribution Provider specifications for the excitation system, automatic voltage regulator, Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

5.10.4 Interconnection Customer to Meet Requirements of the Distribution Provider's Interconnection Handbook. The Interconnection Customer shall comply with the Distribution Provider's Interconnection Handbook. In the event of a conflict between the terms of this GIA and the terms of the Distribution Provider's Interconnection Handbook, the terms in this GIA shall govern.

5.11 Distribution Provider's Interconnection Facilities Construction. Distribution Provider's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Distribution Provider shall deliver to Interconnection Customer the



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following “as-built” drawings, information and documents for Distribution Provider's Interconnection Facilities: No as-built drawings will be provided.

Distribution Provider will obtain control for operating and maintenance purposes of Distribution Provider's Interconnection Facilities and Stand Alone Network Upgrades upon completion of such facilities. Pursuant to Article 5.2, the CAISO will obtain Operational Control of the Stand Alone Network Upgrades prior to the Commercial Operation Date.

- 5.12 Access Rights.** Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party (“Granting Party”) shall furnish at no cost to the other Party (“Access Party”) any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Generating Facility with the Distribution System; (ii) operate and maintain the Generating Facility, the Interconnection Facilities and the Distribution System; and (iii) disconnect or remove the Access Party’s facilities and equipment upon termination of this GIA. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party’s business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.
- 5.13 Lands of Other Property Owners.** If any part of Distribution Provider or Distribution Owner's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades is to be installed on property owned by persons other than Interconnection Customer or Distribution Provider or Distribution Owner, Distribution Provider or Distribution Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority, and to the extent consistent with state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove Distribution Provider or Distribution Owner's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades upon such property.
- 5.14 Permits.** Distribution Provider or Distribution Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Distribution Provider



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or Distribution Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to Distribution Provider's own, or an Affiliate's generation.

5.15 Early Construction of Base Case Facilities. Interconnection Customer may request Distribution Provider to construct, and Distribution Provider shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Distribution Upgrades required for Interconnection Customer to be interconnected to the Distribution System which are included in the Base Case of the Facilities Study for Interconnection Customer, and which also are required to be constructed for another Interconnection Customer, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date. Network Upgrades required for Interconnection Customer to be interconnected to the Distribution System shall be constructed in accordance with the CAISO Tariff. Interconnection Customer shall be responsible for all costs incurred pursuant to this Article 5.15.

5.16 [Intentionally Omitted.]

5.17 Taxes.

5.17.1 Interconnection Customer Payments Not Taxable. The Parties intend that all payments or property transfers made by Interconnection Customer to Distribution Provider for the installation of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and the Network Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

5.17.2 Representations and Covenants. In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Generating Facility will pass to another party prior to the transmission of the electricity on the Distribution System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to Distribution Provider for Distribution Provider's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of Distribution Provider's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Generating Facility. For this purpose, "de minimis amount"



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means no more than 5 percent of the total power flows in both directions, calculated in accordance with the “5 percent test” set forth in IRS Notice 88-129. This is not intended to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Distribution Provider’s request, Interconnection Customer shall provide Distribution Provider with a report from an independent engineer confirming its representation in clause (iii), above. Distribution Provider represents and covenants that the cost of Distribution Provider’s Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Distribution Provider. Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Distribution Provider from the cost consequences of any current tax liability imposed against Distribution Provider as the result of payments or property transfers made by Interconnection Customer to Distribution Provider under this GIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Distribution Provider.

Distribution Provider shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this GIA unless (i) Distribution Provider has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Distribution Provider should be reported as income subject to taxation or (ii) any Governmental Authority directs Distribution Provider to report payments or property as income subject to taxation; provided, however, that Distribution Provider may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Distribution Provider (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Distribution Provider for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Distribution Provider of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten year testing period and the applicable statute of limitation, as it may be extended by Distribution Provider upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event



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and the payment of any related indemnification obligations as contemplated by this Article 5.17.

5.17.4 Tax Gross-Up Amount. Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Distribution Provider, in addition to the amount paid for the Interconnection Facilities, Distribution Upgrades, and Network Upgrades, an amount equal to (1) the current taxes imposed on Distribution Provider ("Current Taxes") on the excess of (a) the gross income realized by Distribution Provider as a result of payments or property transfers made by Interconnection Customer to Distribution Provider under this GIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit Distribution Provider to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) Current Taxes shall be computed based on Distribution Provider's composite federal and state tax rates at the time the payments or property transfers are received and Distribution Provider will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Distribution Provider's anticipated tax depreciation deductions as a result of such payments or property transfers by Distribution Provider's current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Distribution Owner pursuant to this Article 5.17.4 can be expressed as follows: $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$. Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.17.5 Private Letter Ruling or Change or Clarification of Law. At Interconnection Customer's request and expense, Distribution Provider shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Distribution Provider under this GIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and



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accurate to the best of Interconnection Customer's knowledge. Distribution Provider and Interconnection Customer shall cooperate in good faith with respect to the submission of such request.

Distribution Provider shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS, that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Distribution Provider shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.17.6 Subsequent Taxable Events. If, within 10 years from the date on which the relevant Distribution Provider's Interconnection Facilities are placed in service, (i) Interconnection Customer Breaches the covenants contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii) this GIA terminates and Transmission Provider retains ownership of the Interconnection Facilities, Distribution Upgrades, and Network Upgrades, Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Distribution Provider, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

5.17.7 Contests. In the event any Governmental Authority determines that Distribution Provider's receipt of payments or property constitutes income that is subject to taxation, Distribution Provider shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Distribution Provider may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Distribution Provider may file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Distribution Provider reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Distribution Provider shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.



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Interconnection Customer shall pay to Distribution Provider on a periodic basis, as invoiced by Distribution Provider, Distribution Provider's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Distribution Provider may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Distribution Provider, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally-recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully-grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Distribution Provider for the tax at issue in the contest.

5.17.8 Refund. In the event that (a) a private letter ruling is issued to Distribution Provider which holds that any amount paid or the value of any property transferred by Interconnection Customer to Distribution Provider under the terms of this GIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Distribution Provider in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Distribution Provider under the terms of this GIA is not taxable to Distribution Provider, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Distribution Provider are not subject to federal income tax, or (d) if Distribution Provider receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Distribution Provider pursuant to this GIA, Distribution Provider shall promptly refund to Interconnection Customer the following:

- (i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,
- (ii) interest on any amounts paid by Interconnection Customer to Distribution Provider for such taxes which Distribution Provider did not submit to the taxing authority, calculated using an interest rate equal to one-twelfth of the Federal Reserve three-month Commercial paper Rate –



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Non-Financial, from the Federal Reserve Statistical Release H.15 (expressed as an annual rate) from the date payment was made by Interconnection Customer to the date Distribution Provider refunds such payment to Interconnection Customer, and

(iii) with respect to any such taxes paid by Distribution Provider, any refund or credit Distribution Provider receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to Distribution Provider for such overpayment of taxes (including any reduction in interest otherwise payable by Distribution Provider to any Governmental Authority resulting from an offset or credit); provided, however, that Distribution Provider will remit such amount promptly to Interconnection Customer only after and to the extent that Distribution Provider has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to Distribution Provider's Interconnection Facilities.

The intent of this provision is to leave the Parties, to the extent practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities, Distribution Upgrades, and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

5.17.9 Taxes Other Than Income Taxes. Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Distribution Provider may appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Distribution Provider for which Interconnection Customer may be required to reimburse Distribution Provider under the terms of this GIA. Interconnection Customer shall pay to Distribution Provider on a periodic basis, as invoiced by Distribution Provider, Distribution Provider's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Distribution Provider shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Distribution Provider for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Distribution Provider.



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5.17.10 Distribution Owners Who Are Not Distribution Providers. If Distribution Provider is not the same entity as the Distribution Owner, then (i) all references in this Article 5.17 to Distribution Provider shall be deemed also to refer to and to include the Distribution Owner, as appropriate, and (ii) this GIA shall not become effective until such Distribution Owner shall have agreed in writing to assume all of the duties and obligations of Distribution Provider under this Article 5.17 of this GIA.

5.18 Tax Status. Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this GIA is intended to adversely affect any Distribution Provider's tax exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

5.19 Modification.

5.19.1 General. Either Party may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, that Party shall provide to the other Party sufficient information regarding such modification so that the other Party may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be confidential hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Generating Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Distribution Provider shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Distribution System, Distribution Provider's Interconnection Facilities, Distribution Upgrades, or Network Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

5.19.2 Standards. Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed and operated in accordance with this GIA and Good Utility Practice.



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5.19.3 Modification Costs. Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Distribution Provider makes to Distribution Provider's Interconnection Facilities or the Distribution System to facilitate the interconnection of a third party to Distribution Provider's Interconnection Facilities or the Distribution System, or to provide transmission service to a third party under Distribution Provider's applicable tariffs. Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

Article 6. Testing and Inspection

- 6.1 Commissioning Testing and Pre-Commercial Operation Date Testing and Modifications.** Prior to commencing Parallel Operation of a Generating Facility with Distribution Provider's system, Commissioning Testing shall be conducted pursuant to Rule 21. However, Interconnection Customer shall not commence Parallel Operation of its Generating Facility unless it has received Distribution Provider's express written permission to do so. Prior to the Commercial Operation Date, Distribution Provider shall test Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades and Interconnection Customer shall test the Generating Facility and Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Generating Facility only if it has arranged for the delivery of such test energy.
- 6.2 Post-Commercial Operation Date Testing and Modifications.** Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Generating Facility with the Distribution System in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.
- 6.3 Right to Observe Testing.** Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities. The other Party has the right to observe such testing. Costs associated with this Article are subject to the relevant provisions of Rule 21.



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6.4 Right to Inspect. Each Party shall have the right, but shall have no obligation to: (i) observe the other Party's tests and/or inspection of any of its System Protection Facilities and other protective equipment, including Power System Stabilizers; (ii) review the settings of the other Party's System Protection Facilities and other protective equipment; and (iii) review the other Party's maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Party. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this GIA.

Article 7. Metering

7.1 General. Each Party shall comply with any Applicable Reliability Standards and the Applicable Reliability Council requirements. The Interconnection Customer shall comply with the provisions of Rule 21 regarding metering. Unless otherwise agreed by the Parties, Distribution Provider may install additional Metering Equipment at the Point of Interconnection prior to any operation of the Generating Facility and shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Generating Facility shall be measured at or, at Distribution Provider's option, compensated to, the Point of Interconnection. Interconnection Customer's access to meter data shall be provided in accordance with Rule 21. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

7.2 Check Meters. Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check the CAISO-poled meters or Distribution Provider's meters. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this GIA, except in the case that no other means are available on a temporary basis at the option of the Distribution Provider. The check meters shall be subject at all reasonable times to inspection and examination by Distribution Provider or its designee. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.



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7.3 Distribution Provider Retail Metering. Distribution Provider may install retail revenue quality meters and associated equipment, pursuant to the Distribution Provider's applicable retail tariffs.

Article 8. Communications

8.1 Interconnection Customer Obligations. Interconnection Customer shall maintain satisfactory operating communications with Distribution Provider's Distribution System dispatcher or representative designated by Distribution Provider. Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Interconnection Customer shall also provide the dedicated data circuit(s) necessary to provide Interconnection Customer data to Distribution Provider as set forth in Appendix D, Security Arrangements Details. The data circuit(s) shall extend from the Generating Facility to the location(s) specified by Distribution Provider. Any required maintenance of such communications equipment shall be performed by Interconnection Customer. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data.

8.2 Telemetry. The Parties shall comply with the provisions of the Rule 21 regarding telemetry.

Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

8.3 No Annexation. Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

Article 9. Operations

9.1 General. Each Party shall comply with Applicable Reliability Standards and the Applicable Reliability Council requirements. Each Party shall provide to the other Party all information that may reasonably be required by the other Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.



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9.2 [Intentionally Omitted.]

9.3 **Distribution Provider Obligations.** Distribution Provider shall cause the Distribution System and Distribution Provider's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this GIA. Distribution Provider may provide operating instructions to Interconnection Customer consistent with this GIA and Distribution Provider's operating protocols and procedures as they may change from time to time. Distribution Provider will consider changes to its operating protocols and procedures proposed by Interconnection Customer.

9.4 **Interconnection Customer Obligations.** Interconnection Customer shall at its own expense operate, maintain and control the Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA. Interconnection Customer shall operate the Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of the Control Area of which it is part, as such requirements are set forth in Appendix C, Interconnection Details, of this GIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Either Party may request that the other Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this GIA.

9.5 **Start-Up and Synchronization.** Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Generating Facility to Distribution Provider's Distribution System.

9.6 **Reactive Power.**

9.6.1 **Power Factor Design Criteria.** The Interconnection Customer shall design its Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection and the Generating Facility shall be capable of operating within a power factor range of 0.9 leading to 0.9 lagging, unless the Distribution Provider has established different requirements that apply to all similarly situated generators in the balancing authority area on a comparable basis. Operation outside this range is acceptable provided the reactive power of the Generating Facility is used to meet the reactive power needs of the Host Loads or that reactive power is otherwise provided under tariff by Distribution Provider. The Interconnection Customer shall notify Distribution Provider if it is using the Generating Facility for power factor correction. Unless otherwise agreed upon by the Interconnection Customer and Distribution Provider, Generating Facilities shall automatically regulate power factor, not voltage, while operating in parallel with Distribution Provider's Distribution System.



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9.6.2 Governors and Regulators. Whenever the Generating Facility is operated in parallel with the Distribution System and the speed governors (if installed on the generating unit pursuant to Good Utility Practice) and voltage regulators are capable of operation, Interconnection Customer shall operate the Generating Facility with its speed governors and voltage regulators in a manner consistent with Rule 21.

9.7 Outages and Interruptions.

9.7.1 Outages.

9.7.1.1 Outage Authority and Coordination. Each Party may in accordance with Good Utility Practice in coordination with the other Party remove from service any of its respective Interconnection Facilities, Distribution Upgrades, or Network Upgrades that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent an Emergency, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to schedule such removal on a date and time mutually acceptable to the Parties. In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Party of such removal.

9.7.1.2 Outage Schedules. Interconnection Customer shall submit its planned maintenance schedules for the Generating Facility to Distribution Provider for a minimum of a rolling twenty-four month period. Interconnection Customer shall update its planned maintenance schedules as necessary. Distribution Provider may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Distribution System and Transmission System. Distribution Provider shall compensate Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would have incurred absent Distribution Provider's request to reschedule maintenance. Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance activities. Distribution Provider shall have no obligation to pay Interconnection Customer any costs the Interconnection



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Customer incurs as the result of being directed by the CAISO to reschedule maintenance.

9.7.1.3 Outage Restoration. If an outage on a Party's Interconnection Facilities, Distribution Upgrades, or Network Upgrades adversely affects the other Party's operations or facilities, the Party that owns or controls the facility that is out of service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. The Party that owns or controls the facility that is out of service shall provide the other Party, to the extent such information is known, information on the nature of the Emergency, an estimated time of restoration, and any corrective actions required. Initial verbal notice shall be followed up as soon as practicable with written notice explaining the nature of the outage.

9.7.2 Interruption of Service. If required by Good Utility Practice to do so, Distribution Provider may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Distribution Provider's ability to perform such activities as are necessary to safely and reliably operate and maintain the Distribution System and Transmission System. The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2:

9.7.2.1 The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

9.7.2.2 Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Distribution System;

9.7.2.3 When the interruption or reduction must be made under circumstances which do not allow for advance notice, Distribution Provider shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. Telephone notification shall be followed by written notification as soon as practicable;

9.7.2.4 Except during the existence of an Emergency, when the interruption or reduction can be scheduled without advance notice, Distribution Provider shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify Interconnection Customer of the



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expected duration. Distribution Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the interruption or reduction during periods of least impact to Interconnection Customer and Distribution Provider;

9.7.2.5 The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Generating Facility, Interconnection Facilities, and the Distribution System and Transmission System to their normal operating state, consistent with system conditions and Good Utility Practice.

9.7.3 [Intentionally Omitted.]

9.7.4 **System Protection and Other Control Requirements.**

9.7.4.1 System Protection Facilities. Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Generating Facility or Interconnection Customer's Interconnection Facilities. Distribution Provider shall install at Interconnection Customer's expense any System Protection Facilities that may be required on Distribution Provider's Interconnection Facilities, Distribution System, or the Transmission System as a result of the interconnection of the Generating Facility and Interconnection Customer's Interconnection Facilities.

9.7.4.2 Each Party's protection facilities shall be designed and coordinated with other systems in accordance with Applicable Reliability Standards, Applicable Reliability Council criteria, and Good Utility Practice.

9.7.4.3 Each Party shall be responsible for protection of its facilities consistent with Good Utility Practice.

9.7.4.4 Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of Interconnection Customer's units.



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9.7.4.5 Each Party will test, operate and maintain System Protection Facilities in accordance with Good Utility Practice and, if applicable, the requirements of the Distribution Provider's Interconnection Handbook.

9.7.4.6 Prior to the In-Service Date, and again prior to the Commercial Operation Date, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice, the standards and procedures of the Distribution Provider, including, if applicable, the requirements of the Distribution Provider's Interconnection Handbook, and following any apparent malfunction of the System Protection Facilities, each Party shall perform both calibration and functional trip tests of its System Protection Facilities. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated.

9.7.5 Requirements for Protection. In compliance with Good Utility Practice and, if applicable, the requirements of the Distribution Provider's Interconnection Handbook, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Generating Facility to any short circuit occurring on the Distribution System not otherwise isolated by Distribution Provider's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the Distribution System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Generating Facility and the Distribution System at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Generating Facility and Interconnection Customer's other equipment if conditions on the Distribution System could adversely affect the Generating Facility.

9.7.6 Power Quality. Neither Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard or any alternative Applicable Reliability Standard or Applicable Reliability Council standard. In the



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event of a conflict among ANSI Standard C84.1-1989, or any applicable superseding electric industry standard, or any alternative Applicable Reliability Standard or Applicable Reliability Council standard, the alternative Applicable Reliability Standard or Applicable Reliability Council standard shall control.

9.8 Switching and Tagging Rules. Each Party shall provide the other Party a copy of its switching and tagging rules that are applicable to the other Party's activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

9.9 Use of Interconnection Facilities by Third Parties.

9.9.1 Purpose of Interconnection Facilities. Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Generating Facility to the Distribution System and shall be used for no other purpose.

9.9.2 Third Party Users. If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use Distribution Provider's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Distribution Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Distribution Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to CPUC for resolution if the third party user is seeking a CPUC-jurisdictional use and by FERC if the third party user is seeking a FERC-jurisdictional use. Interconnection Customer agrees to be bound by any such resolution by FERC.

9.10 Disturbance Analysis Data Exchange. The Parties will cooperate with one another in the analysis of disturbances to either the Generating Facility or Distribution Provider's



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Distribution System and Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice.

Article 10. Maintenance

- 10.1 Distribution Provider Obligations.** Distribution Provider shall maintain the Distribution System, Transmission System and Distribution Provider's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA.
- 10.2 Interconnection Customer Obligations.** Interconnection Customer shall maintain the Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this GIA.
- 10.3 Coordination.** The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Generating Facility and the Interconnection Facilities.
- 10.4 Secondary Systems.** Each Party shall cooperate with the other in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Party. Each Party shall provide advance notice to the other Party before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.
- 10.5 Operating and Maintenance Expenses.** Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Distribution Provider's Interconnection Facilities.

Article 11. Performance Obligations

- 11.1 Interconnection Customer Interconnection Facilities.** Interconnection Customer shall design, procure, construct, install, own and/or control Interconnection Customer



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Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at its sole expense.

- 11.2 Distribution Provider's Interconnection Facilities.** Distribution Provider or Distribution Owner shall design, procure, construct, install, own and/or control the Distribution Provider's Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at the sole expense of the Interconnection Customer.
- 11.3 Network Upgrades and Distribution Upgrades.** Distribution Provider or Distribution Owner shall design, procure, construct, install, and own the Distribution Upgrades described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades. Network Upgrades shall be designed, procured, and constructed in accordance with the CAISO Tariff. The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades or Network Upgrades.
- 11.4 Transmission Credits.**

11.4.1 Repayment of Amounts Advanced for Network Upgrades.

11.4.1.1 To the extent that the CAISO Tariff provides for cash repayment to interconnection customers for contribution to the cost of Network Upgrades, Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to Distribution Provider and Affected System Operator, if any, for the Network Upgrades, including any tax gross-up or other tax-related payments associated with Network Upgrades, and not refunded to Interconnection Customer pursuant to Article 5.17.8 or otherwise, to be paid to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under Distribution Provider's Tariff and Affected System's Tariff for transmission services with respect to the Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 C.F.R. §35.19a(a)(2)(iii) from the date of any payment for Network Upgrades through the date on which the Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. Interconnection Customer may assign such repayment rights to any person. To the extent that the CAISO Tariff does not provide for cash repayment to interconnection customers for contribution to the cost of Network Upgrades, Interconnection Customer is not entitled to a cash repayment for amounts paid to the Distribution Provider and Affected



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System operator for Network Upgrades, and no cash repayment shall be made pursuant to this Agreement.

11.4.1.2 If the Interconnection Customer is entitled to a cash repayment pursuant to Article 11.4.1.1, the Interconnection Customer, Distribution Provider, and Affected System Operator may adopt any alternative payment schedule that is mutually agreeable so long as Distribution Provider and Affected System Operator take one of the following actions no later than five years from the Commercial Operation Date: (1) return to Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that Distribution Provider or Affected System Operator will continue to provide payments to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the Commercial Operation Date.

11.4.1.3 If the Generating Facility fails to achieve Commercial Operation, but it or another generating facility is later constructed and makes use of the Network Upgrades, Distribution Provider and Affected System Operator shall at that time reimburse Interconnection Customer for the amounts advanced for the Network Upgrades if the Interconnection Customer is entitled to a cash repayment pursuant to Article 11.4.1.1. Before any such reimbursement can occur, the Interconnection Customer, or the entity that ultimately constructs the generating facility, if different, is responsible for identifying the entity to which reimbursement must be made.

11.4.2 Special Provisions for Affected Systems. Unless Distribution Provider provides, under the GIA, for the repayment of amounts advanced to Affected System Operator for Network Upgrades, Interconnection Customer and Affected System Operator shall enter into an agreement that provides for such repayment. The agreement shall specify the terms governing payments to be made by Interconnection Customer to the Affected System Operator as well as the repayment by the Affected System Operator.

11.4.3 Notwithstanding any other provision of this GIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that Interconnection Customer, shall be entitled to, now or in



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the future under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Generating Facility.

- 11.5 Provision of Interconnection Financial Security.** The Interconnection Customer is obligated to provide all necessary Interconnection Financial Security required under Rule 21 Section F.4 if studied under the Independent Study Process or Distribution Group Study Process. The Interconnection Customer is obligated to provide all necessary Interconnection Financial Security required under Section 4.23 of the GIP if studied under the Transmission Cluster Study Process.

Article 12. Invoice

- 12.1 General.** Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this GIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.
- 12.2 Final Invoice.** Within twelve (12) months after completion of the construction of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and the Network Upgrades, Distribution Provider shall provide an invoice of the final cost of the construction of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Distribution Provider shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.
- 12.3 Payment.** Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by either Party will not constitute a waiver of any rights or claims either Party may have under this GIA.



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12.4 Disputes. In the event of a billing dispute between Distribution Provider and Interconnection Customer, Distribution Provider shall continue to provide Interconnection Service under this GIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Distribution Provider or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Distribution Provider may provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated using an interest rate equal to 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).

Article 13. Emergencies Consistent with Rule 21

13.1 Emergencies. Emergencies shall be handled in a manner consistent with Rule 21.

Article 14. Regulatory Requirements and Governing Law

14.1 Regulatory Requirements. Each Party's obligations under this GIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this GIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978.

14.2 Governing Law.

14.2.1 The validity, interpretation and performance of this GIA and each of its provisions shall be governed by the laws of the state of California, without regard to its conflicts of law principles.

14.2.2 This GIA is subject to all Applicable Laws and Regulations.

14.2.3 Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.



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Article 15. Notices.

15.1 General. Unless otherwise provided in this GIA, any notice, demand or request required or permitted to be given by either Party to the other and any instrument required or permitted to be tendered or delivered by either Party in writing to the other shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for Delivery of Notices and Billings.

Either Party may change the notice information in this GIA by giving five (5) Business Days written notice prior to the effective date of the change.

15.2 Billings and Payments. Billings and payments shall be sent to the addresses set out in Appendix F.

15.3 Alternative Forms of Notice. Any notice or request required or permitted to be given by a Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

15.4 Operations and Maintenance Notice. Each Party shall notify the other Party in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

Article 16. Uncontrollable Force

16.1 Uncontrollable Force.

16.1.1 Economic hardship is not considered an Uncontrollable Force event.

16.1.2 Neither Party shall be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Uncontrollable Force. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of an Uncontrollable Force shall give notice and the full particulars of such Uncontrollable Force to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars



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of the Uncontrollable Force, the time and date when the Uncontrollable Force occurred and when the Uncontrollable Force is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

Article 17. Default

17.1 Default

17.1.1 General. No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of an Uncontrollable Force as defined in this GIA or the result of an act of omission of the other Party. Upon a Breach, the non-breaching Party shall give written notice of such Breach to the breaching Party. Except as provided in Article 17.1.2, the breaching Party shall have thirty (30) Calendar Days from receipt of the Default notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Default notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

17.1.2 Right to Terminate. If a Breach is not cured as provided in this article, or if a Breach is not capable of being cured within the period provided for herein, the non-breaching Party shall have the right to declare a Default and terminate this GIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this GIA, to recover from the breaching Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this GIA.

Article 18. Indemnity, Consequential Damages and Insurance

18.1 Indemnity. The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations



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under this GIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnified Party.

18.1.1 Indemnified Person. If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

18.1.2 Indemnifying Party. If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

18.1.3 Indemnity Procedures. Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply, the Indemnified Person shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Person and



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its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

18.2 Consequential Damages. In no event shall either Party be liable under any provision of this GIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

18.3 Insurance. Each party shall, at its own expense, maintain in force throughout the period of this GIA, and until released by the other Party, the following minimum insurance coverages, with insurers authorized to do business in the state where the Point of Interconnection is located:

18.3.1 Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

18.3.2 Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.

18.3.3 Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars



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(\$1,000,000) per occurrence for bodily injury, including death, and property damage.

- 18.3.4** Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of One Million Dollars (\$1,000,000) per MW, of Generating Facility capacity, rounded up to the nearest MW, per occurrence, up to a maximum of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.3.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this GIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.
- 18.3.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.
- 18.3.7** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this GIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.
- 18.3.8** The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this GIA.
- 18.3.9** Within ten (10) Calendar Days following execution of this GIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance



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policy and in any event within ninety (90) Calendar Days thereafter, each Party shall provide certification of all insurance required in this GIA, executed by each insurer or by an authorized representative of each insurer.

18.3.10 Notwithstanding the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program; provided that, such Party's senior secured debt is rated at investment grade or better by Standard & Poor's and that its self-insurance program meets the minimum insurance requirements of Articles 18.3.2 through 18.3.8. For any period of time that a Party's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.3.2 through 18.3.9. In the event that a Party is permitted to self-insure pursuant to this article, it shall notify the other Party that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.

18.3.11 The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this GIA.

Article 19. Assignment

19.1 Assignment. This GIA may be assigned by either Party only with the written consent of the other; provided that either Party may assign this GIA without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this GIA; and provided further that Interconnection Customer shall have the right to assign this GIA, without the consent of Distribution Provider, for collateral security purposes to aid in providing financing for the Generating Facility, provided that Interconnection Customer will promptly notify Distribution Provider of any such assignment. Any financing arrangement entered into by Interconnection Customer pursuant to this article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Distribution Provider of the date and particulars of any such exercise of assignment right(s), including providing the Distribution Provider with proof that it meets the requirements of Articles 11.5 and 18.3. Any attempted assignment that violates this article is void and ineffective. Any assignment under this GIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.



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Article 20. Severability

20.1 Severability. If any provision in this GIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this GIA; provided that if Interconnection Customer (or any third party, but only if such third party is not acting at the direction of Distribution Provider) seeks and obtains such a final determination with respect to any provision of the Option to Build (Article 5.1.3), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1).

Article 21. Comparability

21.1 Comparability. The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

Article 22. Confidentiality

22.1 Definition of Confidential Information. The confidentiality provisions applicable to this Agreement are set forth in Rule 21, Section D.7 (Confidentiality) and in the following provisions included in this Article.

22.1.1 Release of Confidential Information. Neither Party shall release or disclose Confidential Information to any other person, employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Article and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article.

22.1.2 Rights. Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.



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22.1.3 No Warranties. By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

22.1.4 Standard of Care. Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination; however, in no case shall a Party use less than reasonable care in protecting Confidential Information. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this Agreement or its regulatory requirements.

22.1.5 Order of Disclosure. If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

22.1.6 Remedies. The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Article. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article.



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Article 23. Environmental Releases

23.1 Each Party shall notify the other Party, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Party copies of any publicly available reports filed with any Governmental Authorities addressing such events.

Article 24. Information Requirements

24.1 Information Acquisition. Distribution Provider and Interconnection Customer shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

24.2 Information Submission by Distribution Provider. The initial information submission by Distribution Provider shall occur no later than one hundred eighty (180) Calendar Days prior to Trial Operation and shall include Distribution System and Transmission System information necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise agreed to by the Parties. On a monthly basis Distribution Provider shall provide Interconnection Customer a status report on the construction and installation of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report; (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

24.3 Updated Information Submission by Interconnection Customer. The updated information submission by Interconnection Customer, including manufacturer information, shall occur no later than one hundred eighty (180) Calendar Days prior to the Trial Operation. If studied under the Transmission Cluster Study Process, Interconnection Customer shall submit a completed copy of the Generating Facility data requirements contained in Appendix 1 to the GIP. If studied under Independent Study Process or the Distribution Group Study Process, Interconnection Customer shall submit a completed copy of the Generating Facility data requirements contained in the Rule 21 Interconnection Request for Exporting Generating Facilities. It shall also include any additional information provided to Distribution Provider for the Interconnection Studies.



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Information in this submission shall be the most current Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Distribution Provider standard models. If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information.

If Interconnection Customer's data is materially different from what was originally provided to Distribution Provider pursuant to the Detailed Study Agreement between Distribution Provider and Interconnection Customer, then Distribution Provider will conduct appropriate studies to determine the impact on Distribution Provider Distribution System and Transmission System based on the actual data submitted pursuant to this Article 24.3. The Interconnection Customer shall not begin Trial Operation until such studies are completed.

24.4 Information Supplementation. Prior to the Trial Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all “as-built” Generating Facility information or “as-tested” performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. The Interconnection Customer shall conduct tests on the Generating Facility as required by Good Utility Practice such as an open circuit “step voltage” test on the Generating Facility to verify proper operation of the Generating Facility’s automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent change in Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Generating Facility’s terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Generating Facility terminal or field voltages is provided. Generating Facility testing shall be conducted and results provided to Distribution Provider for each individual generating unit in a station.

Subsequent to the Commercial Operation Date, Interconnection Customer shall provide Distribution Provider any information changes due to equipment replacement, repair, or adjustment. Distribution Provider shall provide Interconnection Customer any information changes due to equipment replacement, repair or adjustment in the directly connected substation or any adjacent Distribution Provider-owned substation that may affect Interconnection Customer’s Interconnection Facilities equipment ratings,



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protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.

Article 25. Information Access and Audit Rights

25.1 Information Access. Each Party (the “disclosing Party”) shall make available to the other Party information that is in the possession of the disclosing Party and is necessary in order for the other Party to: (i) verify the costs incurred by the disclosing Party for which the other Party is responsible under this GIA; and (ii) carry out its obligations and responsibilities under this GIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this GIA.

25.2 Reporting of Non-Uncontrollable Force Events. Each Party (the “notifying Party”) shall notify the other Party when the notifying Party becomes aware of its inability to comply with the provisions of this GIA for a reason other than an Uncontrollable Force event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this article shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this GIA.

25.3 Audit Rights. Subject to the requirements of confidentiality under Article 22 of this GIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party, to audit at its own expense the other Party’s accounts and records pertaining to either Party’s performance or either Party’s satisfaction of obligations under this GIA. Such audit rights shall include audits of the other Party’s costs, calculation of invoiced amounts, Distribution Provider's efforts to allocate responsibility for interruption or reduction of generation on the Distribution System, and each Party’s actions in an Emergency. Any audit authorized by this article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party’s performance and satisfaction of obligations under this GIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

25.4 Audit Rights Periods.

25.4.1 Audit Rights Period for Construction-Related Accounts and Records.

Accounts and records related to the design, engineering, procurement, and



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construction of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Network Upgrades shall be subject to audit for a period of twenty-four months following Distribution Provider's issuance of a final invoice in accordance with Article 12.2.

25.4.2 Audit Rights Period for All Other Accounts and Records. Accounts and records related to either Party's performance or satisfaction of all obligations under this GIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four months after the event for which the audit is sought.

25.5 Audit Results. If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party together with those records from the audit which support such determination.

Article 26. Subcontractors

26.1 General. Nothing in this GIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this GIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this GIA in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

26.2 Responsibility of Principal. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this GIA. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Distribution Provider be liable for the actions or inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this GIA. Any applicable obligation imposed by this GIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

26.3 No Limitation by Insurance. The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.



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Article 27. Disputes

27.1 Disputes. Any dispute arising between Distribution Provider and an Interconnection Customer studied under the Independent Study Process or Distribution Group Study Process regarding a Party's performance of its obligations under this Agreement or requirements related to the interconnection of the Generating Facility shall be resolved according to the procedures in Rule 21. Any dispute arising between Distribution Provider and an Interconnection Customer studied under the Transmission Cluster Study Process regarding a Party's performance of its obligations pursuant to the WDT (e.g., any dispute regarding the Application Process, the Transmission Cluster Study Process, including the cost allocation of upgrades, the classification of upgrades as either Distribution Upgrades or Network Upgrades, posting of financial security and refunds) will be resolved pursuant to dispute resolution procedures in the WDT. Any other dispute arising between Distribution Provider and an Interconnection Customer studied under the Transmission Cluster Study Process regarding a Party's performance of its obligations related to this Agreement or requirements related to the interconnection of the Generating Facility shall be resolved according to the procedures in Rule 21.

Article 28. Representations, Warranties, and Covenants

28.1 General. Each Party makes the following representations, warranties and covenants:

28.1.1 Good Standing. Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this GIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this GIA.

28.1.2 Authority. Such Party has the right, power and authority to enter into this GIA, to become a Party hereto and to perform its obligations hereunder. This GIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

28.1.3 No Conflict. The execution, delivery and performance of this GIA does not violate or conflict with the organizational or formation documents, or bylaws or



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operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

28.1.4 Consent and Approval. Such Party has sought or obtained, or, in accordance with this GIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this GIA, and it will provide to any Governmental Authority notice of any actions under this GIA that are required by Applicable Laws and Regulations.

Article 29. [Reserved]

Article 30. Miscellaneous

30.1 Binding Effect. This GIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

30.2 Conflicts. In the event of a conflict between this GIA and Rule 21, the terms and provisions of Rule 21 shall prevail. For Interconnection Customers studied under the Transmission Cluster Study Process, in the event of a conflict between applicable provisions of the WDT and Rule 21, the provisions of the WDT shall prevail with respect to parts of the interconnection process performed under the WDT; Rule 21 shall prevail with respect to all other matters.

30.3 Rules of Interpretation. This GIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this GIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this GIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this GIA or such Appendix to this GIA, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this GIA as a whole and not to any particular Article or other provision hereof or thereof; (7) "including" (and with



RULE 21

GENERATOR INTERCONNECTION AGREEMENT (GIA) FOR EXPORTING GENERATING FACILITIES INTERCONNECTING UNDER THE INDEPENDENT STUDY, DISTRIBUTION STUDY, OR TRANSMISSION CLUSTER PROCESS

correlative meaning “include”) means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, “from” means “from and including”, “to” means “to but excluding” and “through” means “through and including”.

- 30.4 Entire Agreement.** This GIA, including all incorporated tariff provisions and the Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this GIA. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party’s compliance with its obligations under this GIA.
- 30.5 No Third Party Beneficiaries.** This GIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.
- 30.6 Waiver.** The failure of a Party to this GIA to insist, on any occasion, upon strict performance of any provision of this GIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.
- Any waiver at any time by either Party of its rights with respect to this GIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this GIA. Termination or Default of this GIA for any reason by Interconnection Customer shall not constitute a waiver of Interconnection Customer’s legal rights to obtain an interconnection from Distribution Provider. Any waiver of this GIA shall, if requested, be provided in writing.
- 30.7 Headings.** The descriptive headings of the various Articles of this GIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this GIA.
- 30.8 Multiple Counterparts.** This GIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.
- 30.9 Amendment.** The Parties may by mutual agreement amend this GIA by a written instrument duly executed by the Parties.



*Pacific Gas and
Electric Company*

**RULE 21
GENERATOR INTERCONNECTION AGREEMENT
(GIA) FOR EXPORTING GENERATING
FACILITIES INTERCONNECTING UNDER THE
INDEPENDENT STUDY, DISTRIBUTION STUDY,
OR TRANSMISSION CLUSTER PROCESS**

- 30.10 Modification by the Parties.** The Parties may by mutual agreement amend the Appendices to this GIA by a written instrument duly executed by the Parties. Such amendment shall become effective and a part of this GIA upon satisfaction of all Applicable Laws and Regulations.
- 30.11 Incorporation of Rule 21 into Agreement and CPUC Modification.** Rule 21, subject to any modifications the CPUC may direct in the exercise of its jurisdiction, is incorporated in its entirety into this GIA. Unless otherwise ordered by the CPUC, this GIA at all times shall be subject to such modifications as the CPUC may direct from time to time in the exercise of its jurisdiction. Notwithstanding the foregoing, if provisions of this GIA or the Parties' obligations are dictated by the WDT or the results of the Transmission Cluster Study process under the WDT (e.g., provisions related to the classification of upgrades as either Distribution Upgrades or Network Upgrades and the allocation of costs of facilities), they are not subject to modification by the CPUC.
- 30.12 No Partnership.** This GIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.



Pacific Gas and Electric Company

**RULE 21
GENERATOR INTERCONNECTION AGREEMENT
(GIA) FOR EXPORTING GENERATING
FACILITIES INTERCONNECTING UNDER THE
INDEPENDENT STUDY, DISTRIBUTION STUDY,
OR TRANSMISSION CLUSTER PROCESS**

IN WITNESS WHEREOF, the Parties have executed this GIA in duplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

_____,
Interconnection Customer

By: _____

Name: _____

Title: _____

Date: _____

Pacific Gas and Electric Company,

By: _____

Name: _____

Title: _____

Date: _____



**RULE 21
GENERATOR INTERCONNECTION AGREEMENT
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INDEPENDENT STUDY, DISTRIBUTION STUDY,
OR TRANSMISSION CLUSTER PROCESS**

Appendix A to GIA

Interconnection Facilities, Network Upgrades and Distribution Upgrades

1. Interconnection Facilities:

(a) [insert Interconnection Customer's Interconnection Facilities]:

(b) [insert Distribution Provider's Interconnection Facilities]:

2. Network Upgrades:

(a) [insert Stand Alone Network Upgrades]:

(b) [insert Other Network Upgrades]:

3. Distribution Upgrades:



**RULE 21
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Appendix B to GIA

Milestones



*Pacific Gas and
Electric Company*

**RULE 21
GENERATOR INTERCONNECTION AGREEMENT
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FACILITIES INTERCONNECTING UNDER THE
INDEPENDENT STUDY, DISTRIBUTION STUDY,
OR TRANSMISSION CLUSTER PROCESS**

Appendix C to GIA

Interconnection Details



RULE 21 GENERATOR INTERCONNECTION AGREEMENT (GIA) FOR EXPORTING GENERATING FACILITIES INTERCONNECTING UNDER THE INDEPENDENT STUDY, DISTRIBUTION STUDY, OR TRANSMISSION CLUSTER PROCESS

Appendix D to GIA

Security Arrangements Details

Infrastructure security of Distribution System and Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day Distribution System reliability and operational security. The CPUC will expect the CAISO, all transmission providers, market participants, and interconnection customers interconnected to the Distribution System and Transmission System to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.



**RULE 21
GENERATOR INTERCONNECTION AGREEMENT
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Appendix E to GIA

Commercial Operation Date

This Appendix E is a part of the GIA between Distribution Provider and Interconnection Customer.

[Date]

[Distribution Provider Address]

Re: _____ Generating Facility

Dear _____:

On **[Date]** **[Interconnection Customer]** has completed Trial Operation of Unit No. ____.
This letter confirms that **[Interconnection Customer]** commenced Commercial Operation of Unit
No. ____ at the Generating Facility, effective as of **[Date plus one day]**.

Thank you.

[Signature]

[Interconnection Customer Representative]



RULE 21
GENERATOR INTERCONNECTION AGREEMENT
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OR TRANSMISSION CLUSTER PROCESS

Appendix F to GIA

Addresses for Delivery of Notices and Billings

Notices:

Distribution Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Billings and Payments:

Distribution Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Alternative Forms of Delivery of Notices (telephone, facsimile or email):

Distribution Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]



**RULE 21
GENERATOR INTERCONNECTION AGREEMENT
(GIA) FOR EXPORTING GENERATING
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INDEPENDENT STUDY, DISTRIBUTION STUDY,
OR TRANSMISSION CLUSTER PROCESS**

Appendix G to GIA

**Interconnection Customer's Share of Costs of Distribution Upgrades and Network
Upgrades for Applicable Project Group**



ELECTRIC SAMPLE FORM 79-1162
RULE 21 DETAILED STUDY AGREEMENT

Sheet 1 (N)
(N)

Please Refer to Attached
Sample Form

(N)
(N)



RULE 21 DETAILED STUDY AGREEMENT

THIS DETAILED STUDY AGREEMENT (“AGREEMENT”) is made and entered into this ___ day of _____, 20__ by and between _____, a organized and existing under the laws of the State of _____, ("Applicant,") and Pacific Gas and Electric Company, a corporation, existing under the laws of the State of California, ("Distribution Provider "). Applicant and Distribution Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Distribution Provider, as a public utility in the State of California subject to the jurisdiction of the California Public Utilities Commission (“Commission”), provides non-discriminatory access to generating facilities wishing to interconnect to its Distribution System or Transmission System under the provisions of Rule 21 of its Tariffs; and

WHEREAS, Applicant is proposing to develop a Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Applicant dated _____ ; and

WHEREAS, Applicant desires to interconnect the Generating Facility with the Distribution System or Transmission System pursuant to the Independent Study Process, or Distribution Group Study Process [check one]; and

WHEREAS, the Applicant has requested Distribution Provider to perform Interconnection Studies to assess the system impact of interconnecting the Generating Facility to the Distribution System, Transmission System and any Affected Systems and to specify and estimate the cost of the equipment, engineering, procurement and construction work needed on the Distribution Provider’s electric system to physically and electrically connect the Generating Facility to the Distribution Provider’s Distribution System or Transmission System in accordance with Good Utility Practice;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Distribution Provider's Rule 21.
- 2.0 Applicant elects and Distribution Provider shall cause to be performed Interconnection Studies consistent with Section F.3.b of Rule 21 for Interconnection Requests evaluated under the Independent Study Process or Section F.3.c of Rule 21 for Interconnection Requests evaluated under the Distribution Group Study Process.



- 3.0 The scope of the Interconnection Studies shall be subject to the assumptions set forth in Attachments A and, if applicable, Attachment B to this Agreement.
- 4.0 The Interconnection Studies will be based upon the technical information provided by Applicant in the Interconnection Request, as may be modified as the result of the Scoping Meeting, or other permitted modifications in accordance with Section F.3.b or Section F.3.c of Rule 21, as applicable. Any technical data supplied by Applicant is assumed to be complete and accurate. Distribution Provider is not required to verify any information or data provided by Applicant as part of the Interconnection Studies. Distribution Provider reserves the right to request additional technical information from Applicant as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Studies. Applicant shall provide the requested technical information to Distribution provider within thirty (30) Calendar Days of a written request for such information. Distribution Provider may suspend the Interconnection Studies until such information is provided and the due date for completion of the Interconnection Studies may be adjusted to reflect the suspension period. If Applicant modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the Interconnection Studies may be modified as specified in Rule 21.
- 5.0 The Interconnection Study report for each Interconnection Study shall provide the information specified in Rule 21.
- 6.0 Applicant shall provide Interconnection Financial Security in accordance with Rule 21 Section F.4, including Section F.4.b which requires the Applicant to provide the initial Interconnection Financial Security on or before sixty (60) Calendar Days after being provided with the final Interconnection System Impact Study report or DGS Phase I Interconnection Study report, as applicable.
- 7.0 For Interconnection Requests evaluated under the Independent Study Process, unless the Parties agree to waive the Facilities Study in accordance with Section F.3.b.vii of Rule 21, Applicant shall submit to the Distribution Provider (1) the data required by the Distribution Provider within (i) five (5) Business Days following the Interconnection System Impact Study results meeting, or (ii) within twenty-five (25) Business Days of the issuance of the final Interconnection System Impact Study report if no Interconnection System Impact Study results meeting is held, and (2) the Facilities Study deposit, if required, within (i) ten (10) Business Days following the Interconnection System Impact Study results meeting, or (ii) within twenty five (25) Business Days of the issuance of the final



Interconnection System Impact Study report if no Interconnection System Impact Study results meeting is held, in accordance with Section F.3.b.vi of Rule 21.

For Interconnection Requests evaluated under the Distribution Group Study Process, unless the Parties agree to waive the DGS Phase II Interconnection Study in accordance with Section F.3.c.ix of Rule 21, Applicant shall submit to the Distribution Provider (1) the data required by the Distribution Provider within (i) five (5) Business Days following the DGS Phase I Interconnection Study results meeting, or (ii) within thirty (30) Calendar Days of the issuance of the final DGS Phase I Interconnection Study report if no DGS Phase I Interconnection Study results meeting is held, and (2) the DGS Phase II Interconnection Study deposit, if required, within thirty (30) Business Days of the issuance of the final DGS Phase I Interconnection Study report in accordance with Section F.3.c.viii of Rule 21.

- 8.0 Upon completion of the Interconnection Studies, Distribution Provider shall charge and Applicant shall pay the actual costs of the Interconnection Studies pursuant to Section E.3.a of Rule 21.
- 9.0 The Distribution Provider may provide copies of the Interconnection Studies results to the CAISO, an Affected System Operator and the Western Electricity Coordinating Council. Requests for review and input from any Affected System Operators or the Western Electricity Coordinating Council may arrive at any time prior to interconnection.
- 10.0 Substantial portions of technical data and assumptions used to perform the Interconnection Studies, such as system conditions, existing and planned generation, and unit modeling, may change, other than changes described in Section 4, after the Distribution Provider provides the Interconnection Studies results to the Applicant. Interconnection Studies results will reflect available data at the time the Distribution Provider provides the Interconnection Study reports to the Applicant. If new data is provided after Distribution Provider has begun work on the Interconnection Studies, Distribution Provider is not responsible for updating the Interconnection Studies to reflect new information or a change in information used in the Interconnection Studies. Distribution Provider may determine that a new study, or revision or reevaluation of the Interconnection Studies is required. In that event, Applicant shall either enter into a separate agreement providing that it shall reimburse Distribution Provider for the costs of such new or revised study or its Interconnection Request will be deemed withdrawn. The Distribution Provider shall not be responsible for any additional costs, including, without limitation, costs of new or additional facilities, system upgrades, or schedule changes, that may be required as a result of changes in such data and assumptions.



- 11.0 The Distribution Provider shall maintain records and accounts of all costs incurred in performing the Interconnection Studies in sufficient detail to allow verification of all costs incurred, including associated overheads. The Applicant shall have the right, upon reasonable notice, at the Distribution Provider's offices and at its own expense, to audit the Distribution Provider's records as necessary and as appropriate in order to verify costs incurred by the Distribution Provider. Any audit requested by the Applicant shall be completed, and written notice of any audit dispute provided to the Distribution Provider, within one hundred eighty (180) Calendar Days following receipt by the Applicant of the Distribution Provider's notification of the final costs of the Interconnection Studies.
- 12.0 In accordance with Section F.6 of Rule 21, the Applicant may withdraw its Interconnection Request at any time by written notice to the Distribution Provider. Upon receipt of such notice, this Agreement shall terminate, subject to the requirements of Section D.7 and E.3.a of Rule 21.
- 13.0 This Agreement shall become effective upon the date the fully executed Agreement and the Detailed Study deposit as required by Section E.3.a are received by the Distribution Provider. If the Distribution Provider does not receive the fully executed Agreement and Detailed Study deposit within thirty (30) Business Days after the scoping meeting pursuant to Section F.3.b of Rule 21 for Interconnection Requests evaluated under the Independent Study Process or, in the case of Interconnection Requests evaluated under the Distribution Group Study Process, the earlier of (i) thirty (30) Business Days after the scoping meeting or (ii) the start date of the DGS Phase I Interconnection Study pursuant to F.3.c of Rule 21, then the Interconnection Request will be deemed withdrawn.
- 14.0 Miscellaneous.
- 14.1 Dispute Resolution. Any dispute arising out of or in connection with the Agreement shall be subject to the dispute resolution provisions of Rule 21.
- 14.2 Confidentiality. Confidential Information shall be treated in accordance with Section D.7 of Rule 21.
- 14.3 Binding Effect. This Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.



- 14.4 Conflicts. In the event of a conflict between the body of this Agreement and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed the final intent of the Parties.
- 14.5 Rules of Interpretation. This Agreement, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Agreement, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this Agreement), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any applicable laws and regulations means such applicable laws and regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article or Section of this Agreement or such Appendix to this Agreement, or such Section of Rule 21 or such Appendix to Rule 21, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this Agreement as a whole and not to any particular Article Section, or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".
- 14.6 Entire Agreement. This Agreement, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.



- 14.7 No Third Party Beneficiaries. This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.
- 14.8 Waiver. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.
- Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of this Agreement. Termination or default of this Agreement for any reason by the Applicant shall not constitute a waiver of the Applicant's legal rights to obtain an interconnection from the Distribution Provider. Any waiver of this Agreement shall, if requested, be provided in writing.
- 14.9 Headings. The descriptive headings of the various Articles and Sections of this Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Agreement
- 14.10 Multiple Counterparts. This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.
- 14.11 Amendment. The Parties may by mutual agreement amend this Agreement by a written instrument duly executed by both of the Parties.
- 14.12 Modification by the Parties. The Parties may by mutual agreement amend the Appendices to this Agreement by a written instrument duly executed by both of the Parties. Such amendment shall become effective and a part of this Agreement upon satisfaction of all applicable laws and regulations.



- 14.13 No Partnership. This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party.
- 14.14 Assignment. This Agreement may be assigned by a Party only with the written consent of the other Party; provided that a Party may assign this Agreement without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement; and provided further that the Applicant shall have the right to assign this Agreement, without the consent of the other Party, for collateral security purposes to aid in providing financing for the Generating Facility, provided that the Applicant will require any secured party, trustee or mortgagee to notify the other Party of any such assignment. Any financing arrangement entered into by the Applicant pursuant to this Section will provide that prior to or upon the exercise of the secured Party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the other Party of the date and particulars of any such exercise of assignment right(s). Any attempted assignment that violates this Section is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.
- 14.15 This Agreement is subject to the applicable provisions of PG&E's tariffs, including Rule 21, as filed and authorized by the California Public Utilities Commission ("CPUC"). This Agreement shall at all times be subject to such changes or modifications by the CPUC, as the CPUC may, from time to time, direct in the exercise of its jurisdiction.



IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Applicant]

By: _____

Printed Name: _____

Title: _____

Date: _____

Pacific Gas and Electric Company

By: _____

Printed Name: _____

Title: _____

Date: _____



RULE 21 DETAILED STUDY AGREEMENT

ATTACHMENT A

ASSUMPTIONS USED IN CONDUCTING THE INTERCONNECTION SYSTEM IMPACT STUDY OR DGS PHASE I INTERCONNECTION STUDY

The Interconnection System Impact Study or DGS Phase I Interconnection Study will be based upon the information set forth in the Interconnection Request and agreed upon in the Scoping Meeting held on _____, subject to any modifications in accordance with Section F.3.b or Section F.3.c, as applicable, of Rule 21, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

Additional Comments:



RULE 21 DETAILED STUDY AGREEMENT

ATTACHMENT B

DATA FORM TO BE PROVIDED BY APPLICANT

This Attachment B is to be used when Applicant opts for a Rule 21 interconnection at transmission voltage.

If applicable, this Attachment is to be provided prior to the commencement of the Interconnection Facilities Study or DGS Phase II Interconnection Study.

Generating Facility size (MW): _____

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new ring bus or existing Distribution Provider station. Number of generation connections: _____

On the one line diagram indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one line diagram indicate the location of auxiliary power. (Minimum load on CT/PT)
Amps

Will an alternate source of auxiliary power be available during CT/PT maintenance?
 Yes No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? Yes No (Please indicate on one line diagram).

What type of control system or PLC will be located at Applicant's Generating Facility?

What protocol does the control system or PLC use?



RULE 21 DETAILED STUDY AGREEMENT

ATTACHMENT B

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

_____ Bus length
from generation to interconnection station:

Line length from interconnection station to Distribution Provider's transmission line.

Tower number observed in the field. (Painted on tower leg)* _____

Number of third party easements required for transmission lines*:

* To be completed in coordination with Distribution Provider.

Is the Generating Facility in the Distribution Provider's service area?

____ Yes ____ No Local provider: _____

Please provide proposed schedule dates:

Environmental survey start: Date _____

Environmental impact report submittal: Date _____

Procurement of project equipment: Date _____

Begin Construction Date: _____

Generator step-up transformer
receives back feed power Date: _____

Generation Testing Date: _____

Commercial Operation Date: _____



ELECTRIC SAMPLE FORM 79-1163
RULE 21
PRE-APPLICATION REPORT REQUEST

Sheet 1 (N)
(N)
(N)

Please Refer to Attached
Sample Form

(N)
(N)



RULE 21 PRE-APPLICATION REPORT REQUEST

Upon receipt of a completed Pre-Application Report Request and a non-refundable processing fee of \$300, the Distribution Provider shall provide pre-application data described below within 10 business days of receipt.

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 line 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.
- 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.



RULE 21
PRE-APPLICATION REPORT REQUEST

1. This Pre-Application Report Request is for (check only one):
- A proposed new Generating Facility.
 - An increase in the generating capacity or a Material Modification of an existing Generating Facility.

- This Pre-Application Report Request is for (check only one):
- A project that **will export** power to the PG&E system.
 - A project that **will not export** power to the PG&E system.

2. Applicant provides the following information (**if available**):
- a. Approximate proposed Point of Interconnection. 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. In the case of an existing Generating Facility, the name and specific location, including the county, of the existing Generating Facility;

Project Name:

Project Location:

Street Address:

City:

County:

Zip Code:

Latitude (in degrees/minutes/seconds OR 6 decimal places):

Longitude (in degrees/minutes/seconds OR 6 decimal places):

Utility Equipment Number [nearest one (ex. pole number 1234567E, transformer number T12345)]:

Meter Badge Number (Old meter #'s are 6 characters – one alpha numeric interspersed. New Smart Meters start with 100, followed by 7 digits – 10 characters total.):

Account Number (ex. 012345678-9):

Proposed Nominal Service Voltage (ex. 480V, 12kV, etc.):



RULE 21
PRE-APPLICATION REPORT REQUEST

b. **Attach copy of site map for proposed project.** Site map should show:

- True north
- Proposed project location, including general area of project
- Proposed service point location
- Major roads, streets and/or highways

c. Generation Technology, Fuel Source (i.e., gas turbine, hydro turbine, wind turbine, etc.) and optionally MW;

<input type="checkbox"/> Cogeneration	_____ MW	Fuel Source: _____
<input type="checkbox"/> Reciprocating Engine	_____ MW	Fuel Source: _____
<input type="checkbox"/> Biomass	_____ MW	Fuel Source: _____
<input type="checkbox"/> Steam Turbine	_____ MW	
<input type="checkbox"/> Gas Turbine	_____ MW	Fuel Source: _____
<input type="checkbox"/> Wind Turbine	_____ MW	
<input type="checkbox"/> Hydro Turbine	_____ MW	
<input type="checkbox"/> Inverter Based: (e.g., Photovoltaic, Fuel Cell)	_____ MW	
	If Fuel Cell, please describe primary fuel source: _____	
<input type="checkbox"/> Combined Cycle	_____ MW	Fuel Source: _____
<input type="checkbox"/> Other (please describe):	_____	

d. Name, address, telephone number, and e-mail address of applicant (primary person who will be contacted);

Name:
 Title:
 Company Name:
 Street Address:
 City, State:
 Zip Code:
 Phone Number:
 Fax Number:
 Email Address:

3. Non-Refundable processing fee of \$300 as specified in Rule 21 is required to complete this Pre-Application Report Request. **DO NOT SEND THE APPLICATION FEE WITH THIS PRE-APPLICATION REQUEST. PG&E WILL INVOICE APPLICANT FOR THE FEE ONCE THIS APPLICATION IS RECEIVED** (Any checks/monies submitted with this Pre-Application Report Request will be returned to the sender and may result in a delay in this request).



RULE 21
PRE-APPLICATION REPORT REQUEST

4. This Pre-Application Report Request shall be submitted with attachments to:

Electronically to (preferred): gen@pge.com

OR by mail to:

Pacific Gas and Electric Company
Attn: Manager, Generation Interconnection Services
P.O. Box 770000
Mail Code N7L
San Francisco, California, 94177

Overnight address: 245 Market Street Mail Code N7L San Francisco, CA 94105

OR by facsimile to:
415-973-3064

5. I understand that the contents of the Pre-Application Report are confidential and shall not be disclosed to anyone who is not an employee or other representative (including consultants) of the company or corporation I am employed with.

6. This Pre-Application Report Request is submitted by:

Legal name of applicant: _____

By (signature): _____

Name (type or print): _____

Title: _____

Date: _____

Phone Number: _____



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Advice Letter No: 4437-E
 Decision No. 14-04-003

Issued by
Brian K. Cherry
 Vice President
 Regulatory Relations

Date Filed June 9, 2014
 Effective July 9, 2014
 Resolution No. _____

ATTACHMENT 2

Ordering Paragraph / Con. of Law	Rule 21 Section	Changes to Rule 21 Pursuant to D.14-04-003 (redline reflects changes compared to Attachment A to D.14-04-003, PG&E's and SDG&E's February 19, 2013 draft tariff proposal)	Comments
OP 1.b	E.2.c	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.	Two fixed date windows
OP 1.c	F. 3.c.xvi	If during any six month period, the number of Interconnection Requests exceeds by fifty (50) percent the number of active Interconnection Requests 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 DGS Phase I Interconnection Study pursuant to Section F.3.b-#c.iv will increase from sixty (60) Business Days to one hundred twenty (120) Business Days. The time to complete the DGS Phase II Interconnection Study pursuant to Section F.3.b-viii.c.x will increase from sixty (60) Business Days to one hundred twenty (120) Calendar Business 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. <u>Distribution Provider will notify Applicants in the Distribution Study Group in writing after commencement of DGS Phase I Interconnection Study of the extension.</u>	Events triggering extension
OP 1.d.	E. 4.e	<u>For cost allocation under the Fast Track Process or the Independent Study Process:</u> Except where exempt by law or Commission decision, costs triggered by an Interconnection Request under the Fast Track Process or the Independent Study Process are the responsibility of the triggering Interconnection Request, or For cost allocation under in the case of the Distribution Group Study Process, the responsibility of the triggering Interconnection Request(s). <u>The costs of Interconnection Facilities will be assigned to the triggering Interconnection Request.</u> The costs of Distribution Upgrades or Network Upgrades identified through a Distribution Group Study shall be assigned-allocated among to all the Interconnection Requests in a Distribution Study Group pro-rata based on <u>nameplate kilovolt amperes (kVA) and, in some instances, as determined by Distribution Provider, also based on an Applicant's specific each Interconnection Request's contributions to the need for the upgrade costs.</u> <u>Costs for upgrades will be allocated based upon an Applicant's specific contributions to a particular upgrade only if the Distribution Provider determines that; based on overall fairness to the Distribution Study Group, the individual applicant, rather than the Distribution Study Group, should be responsible for the costs.</u> <u>Cost allocation within the Distribution Study Group will not always align with cost contribution under a per kVA plus specific contribution allocation method. The DGS Phase I and Phase II study reports will indicate how cost allocation is determined. Examples of the possible types of shared costs include but may not be limited to: upgraded transformers, reconductoring, circuit switchers, and breakers. Costs triggered by an Interconnection Request under this Rule that transitions to the Transmission Cluster Study Process are allocated pursuant to the terms of Distribution Provider's WDAT or other applicable tariff</u>	Cost Allocation
OP 1.e	E.3.a.ii (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 I Interconnection Study, <u>or thirty (30) Calendar Days after issuance of the final Interconnection System Impact Study report or DGS Phase I Interconnection Study report if a results meeting is not held,</u> the Detailed Study deposit shall be non-refundable and shall be applied to the Interconnection Study cost of the Distribution Study Group pursuant to Section E.3.a.iii.	The point deposits are forfeited.

OP 1.e	E.3.a.iii (2)	<p><u>(2) Forfeited study deposit for Distribution Group Study Process. Non-refundable Detailed Study deposits, as pursuant to Section E.3.a.ii, for a Distribution Group Study Process Interconnection Request, shall be applied to the costs associated with any following Interconnection Study or restudy work performed by Distribution Provider, CAISO, or third party for the withdrawn Interconnection Request's Distribution Study Group. Any remaining proceeds of the Detailed Study deposit, after the withdrawn Interconnection Request's Distribution Study Group has completed all relevant Interconnection Studies or restudies, or all Interconnection Requests associated with the specific Distribution Study Group have withdrawn, not otherwise applied to costs incurred, or irrevocably committed to be incurred for the Interconnection Studies or restudies, shall be allocated to individual Applicants on a kVA basis who have remained in the Distribution Study Group by executing a Generator Interconnection Agreement. Such funds shall be allocated to Applicants sixty (60) calendar days following the conclusion of the Generator Interconnection Agreement negotiation pursuant to Section F.3.e.ii. If no Applicants remain in the Distribution Study Group, such funds shall escheat to the State pursuant to the Unclaimed Property Law commencing with the California Code of Civil Procedure § 1500.</u></p>	How forfeited funds are handled
OP 1.e	F.3.c.xv	<p><u>If a restudy is required following the issuance of the final DGS Phase II Interconnection Study, or the final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived, due to a project withdrawal, Distribution Provider shall notify the remaining Applicant(s) in writing. The Restudy report shall be completed and provided to each Applicant remaining in the Distribution Group within sixty (60) Calendar Business 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.</u></p>	Deleted the Re-evaluation section (Section F.3.b.x of the February 19 version) and revised this section to establish 60-day restudy timeline
OP 1.f	Appendix A	<p><i>List of forms</i></p>	Identifies the name and Form number of all Commission approved forms that are relevant to Rule 21
OP 1.f	Table E-1 Footnote	<p><u>*Optional \$1,000 additional fault current study fee pursuant to Section F.2.c.ii</u></p>	Revised to provide applicants with option of requesting the utility to determine whether the proposed interconnection requires a Direct Transfer Trip.
OP 1.f	F. 2.c.ii	<p><u>If the Applicant chooses to move to Supplemental Review, they have the option to elect that the Distribution Provider provide a fault current study as part of the Supplemental Review. This fault current study would extend the Supplemental Review time by up to ten (10) Business Days, and would require an additional nonrefundable fee of \$1,000.</u></p>	Revised to provide applicants with option of requesting the utility to determine whether the proposed interconnection requires a Direct Transfer Trip. The proposed tariff language for F.2.c(ii) was developed through the California Energy Commission's Synchronous Generator Working Group.
OP 1.f	F. 2.c.ii	<p><u>This fault current study will determine if the Generating Facility can detect phase and ground faults on the Distribution Provider's Distribution System or the distribution feeder breaker where the Applicant proposes to connect the Generating Facility. The result of the fault current study will determine if direct transfer trip (DTT) will be required from the Distribution System to the Generating Facility site. Note that for Applicants proposing to interconnect to the Distribution System where there is expected to be power backfeed to the Transmission System, DTT from the transmission may still be required and a Detailed Interconnection Study will be required to make this determination. Should the Applicant request a Supplemental Review results meeting, as described in Section F.2d, the optional fault current study analysis and related results shall, at the Applicant's request, be reviewed to determine what modifications, if any, may permit the Generating Facility to be connected safely and reliably. The Applicant must provide the following data to Distribution Provider when requesting Supplemental Review in order to select this option: Generator: MVA Rating; kV Rating; Base MVA; Base kV; Xd" (direct axis subtransient reactance); Xd' (direct axis transient reactance); Xd (Synchronous reactance); X2 (Negative Sequence reactance); X0 (Zero Sequence reactance)</u></p>	Revised to provide applicants with option of requesting the utility to determine whether the proposed interconnection requires a Direct Transfer Trip.

OP 1.f	F.2.c.ii	<u>The Applicant must provide the following data to Distribution Provider when requesting Supplemental Review in order to select this option: Generator: MVA Rating, kV Rating, Base MVA, Base kV, Xd" (direct axis subtransient reactance), Xd' (direct axis transient reactance), Xd (Synchronous reactance), X2 (Negative Sequence reactance), X0 (Zero Sequence reactance); XFMR Data: Winding configuration (delta-Wye grd or Wye grd-Delta), MVA Rating, KV Rating, Base MVA, Base KV, Z1 HV -LV, Z0 HV-LV; Line Data: Impedance data for line from XFMR to POI (if applicable), Z1, Z0; POI Location:</u>	Revised to provide applicants with option of requesting the utility to determine whether the proposed interconnection requires a Direct Transfer Trip.
CL11	Throughout the tariff	The Independent Study Process is now Section F.3.b. The Distribution Group Study Process is now Section F.3.c. The Transmission Study Process is now Section F.3.d.	This is not a substantive change. Shifted the order of the Detailed Study Interconnection Review Processes to promote clarity and consistency.
CL 11	C. Definitions	Distribution Group Study: An interconnection engineering study as defined in Section F.3.b of a group comprised of Interconnection Requests that will be studied pursuant to Section F.3.b because the pass Screen Q as a group and fail Screen R results demonstrate ing they are electrically interdependent in accordance with Section F.3.c	Revised for clarity
CL 11	C. Definitions	Inadvertent Export: <u>The unscheduled and uncompensated export of real power from a Generating Facility (GF) for a duration exceeding two seconds but less than 60 seconds. See Section M.</u>	Added definition from Section M to Definitions section for clarity
CL 11	C. Definitions	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.	Deleted since definition has been replaced with Detailed Study Agreement
CL 11	D.13.b	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), an Interconnection System Impact Study (sixty (60) Calendar Business Days), and an Interconnection 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.	Revised for clarity
CL 11	E.2.c.i	Interconnection Requests for the Independent Study Process will be accepted throughout the year, except during the Distribution Group Study windows described below. All Detailed Study Interconnection Requests (except those applying directly to the Transmission Cluster Study Process) submitted during the Distribution Group Study Windows will be processed as Distribution Group Study Process Applicants.	Revised to clarify how all Interconnection Requests received during the DGS window will be handled.
CL 11	E.3.a.ii	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 either the issuance of the final study applicable to the Interconnection Request execution of the Generator or Interconnection Agreement or project withdrawal as described in more detail below. The interconnection study costs for a Distribution Study Group shall be allocated equally among the Interconnection Requests within the Distribution Study Group, except as provided in (3) below	Revised to account for 90 days GIA negotiation period, as well as for clarity and consistency
CL 11	E.3.a.ii(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 I Interconnection Study, or thirty (30) Calendar Days after issuance of the final Interconnection System Impact Study report or DGS Phase I Interconnection Study report if a results meeting is not held, the Detailed Study deposit shall be non-refundable	Revised for clarity and consistency.
CL 11	E.5.c	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 derived 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.	Clarify queue position of the Distribution Study Group.
CL 11	E.5.d	the review process to which Applicant originally applied, and is currently assigned (Fast Track, Independent Study Process, Distribution Group Study Process, or WDT Cluster Study Process)	Revised for clarity

CL 11	F.2.a	No changes may be made to the planned Point of Interconnection or Generating Facility size included in the Interconnection Request during the Initial Review <u>Fast Track</u> 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	Revised for clarity and efficiency, and consistent with PG&E's/SDG&E's February 25, 2014 Comments (referenced on p. 34 of D.14-04-003).
CL 11	F.2.b	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) <u>ten (10)</u> 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) <u>ten (10)</u> Business Days to respond. If Applicant fails to notify Distribution Provider within five (5) <u>ten (10)</u> 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.	Revised to allow additional time for Applicants during Initial Review, consistent with PG&E's/SDG&E's February 25, 2014 Comments (referenced on p. 34 of D.14-04-003)
CL 11	F.3.a	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 all Detailed Study Applicants, as well as Applicants that applied for have failed Fast Track initial review and/or supplemental review 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.	Revised for clarity and efficiency.
CL 11	F.3.a	If Applicant fails Screen Q, Distribution Provider shall provide the data and analysis supporting Screen Q results in writing. <u>The Interconnection Request will be processed in accordance with Section F.3.ed below.</u> 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.	Revised for clarity and efficiency.
CL 11	F.3.a	<u>If Applicant passes Screen Q, but fails Screen R, Distribution Provider shall provide data and analysis supporting the Screen R results in writing</u>	Revised for clarity and consistency
CL 11	F.3.a	Applicant shall notify Distribution provider <u>Provider</u> within twenty (20) Business days following such notification whether it would like to (i) proceed to the Distribution Group Study Process or (ii) withdraw the Interconnection Request. Applicant may request one extension of no more than twenty (20) Business Days to respond. <u>However, Applicant's decision must be received prior to the close of a given Distribution Group Study Window, to participate in that Distribution Study Group. If the decision is received after the close of a particular Distribution Group Study Window, then Applicant's Interconnection Request will be included in the next available Distribution Group Study Window. If Applicant fails to notify Distribution Provider within twenty (20) Business Days of receiving Screen R results, or at the end of the extension, if one was requested, the Interconnection Request shall be deemed withdrawn.</u>	Revised for clarity and efficiency.
CL 11	F.3.a	<u>A Distribution Study Group will be comprised of all Interconnection Requests that are determined to be electrically interdependent based on results of Screen R. A Distribution Study Group may contain only one Interconnection Request.</u>	Revised for clarity
CL 11	F.3.a	<u>Applicant(s) that opt to proceed to the Distribution Group Study Process will be re-evaluated under Screen Q. If the Distribution Study Group fails Screen Q, the Applicants will be required to withdraw and move to the Transmission Cluster Process</u>	Revised pursuant to PG&E March 22, 2013 Comments
CL 11	F.3.a	<u>If Applicant passes Screens Q and R, the Interconnection Request will be processed in accordance with Section F.3.b below.</u>	Revised for clarity

CL 11	F.3.b.i	<p>Within fifteen (15) Business Days after the scoping meeting, Distribution Provider shall provide Applicant with a 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. Applicant shall execute and deliver to Distribution Provider the Independent Study Process Detailed Study Agreement no later than thirty (30) Business Days after the scoping meeting, or the Interconnection Request shall be deemed withdrawn</p>	Revised for clarity
CL 11	F.3.b.iii	<p>If requested by an Applicant <u>shall request a results meeting within ten (10) Business Days of the issuance of the final Interconnection System Impact Study report. This results meeting, if requested, a results meeting</u> shall be held among Distribution Provider, the CAISO, if applicable, and Applicant to discuss the results of the Interconnection System Impact 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. <u>If Applicant does not request a results meeting within the specified time above, the results meeting will be deemed waived.</u></p>	Revised for clarity and efficiency
CL 11	F.b.v	<p>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. <u>For any modifications other than those permitted above,</u> 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 <u>ten (10)</u> 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</p>	Revised for clarity
CL 11	F.3.b.vi	<p>Within either (i) five (5) Business Days following the results meeting, or (ii) within twenty-five (25) Business Days of the issuance 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. <u>Within either (i) ten (10) Business Days following the results meeting, or (ii) within twenty-five (25) Business Days of the issuance of the final Interconnection System Impact Study report</u> At that time, for Generating Facilities 5 MW or less, Applicant shall also submit the <u>Interconnection</u> Facilities Study deposit, as set out in Section E.3.a, unless the <u>Interconnection</u> Facilities Study will be waived in accordance with Section F.3.b.vii</p>	Revised for clarity
CL 11	F.3.b.vii	<p><u>The Interconnection Facilities Study may be waived if Distribution Provider and Applicant mutually agree to such waiver within either (i) five (5) Business Days following the Interconnection System Impact Study results meeting, or (ii) within twenty-five (25) Business Days of the issuance of the final Interconnection System Impact Study report if no Interconnection System Impact Study results meeting is held.</u> The Facilities Study may be waived if Distribution Provider and Applicant mutually agree to such waiver. <u>Within thirty (30) Calendar Days after Distribution Provider and Applicant mutually agree to waive the Interconnection Facilities Study provides the final Interconnection System Impact Study report to Applicant (if the Interconnection Facilities Study results meeting,</u> 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 <u>Interconnection</u> 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. <u>Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.</u></p>	Revised for clarity and efficiency
CL 11	F.3.b.viii	<p>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 issues 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.</p>	Revised for clarity

CL 11	F.3.c.i	Applicants that apply for the Independent Study Process that pass Screen Q but fail Screen R will be eligible for inclusion in a Distribution Study Group. Applicant must submit all materials required to complete their Interconnection Request no later than ten (10) business Business days Days after the close of the relevant Distribution Group Study window. This includes notification from Applicant that they want to proceed with the Distribution Group Study Process, if applicable, <u>in accordance with Section F.3.a.</u>	Revised for clarity
CL 11	F.3.c.i	Distribution Provider shall perform a Screen Q analysisn-Ellec trical Independence Test for the Distribution Study G group within twentythirty (230) Business Days of the close of the window, using best available information about projects that have entered the Distribution G group S study P rocess under Rule 21 and the WDT.	Revised for clarity
CL 11	F.3.c.ii,	During the meeting, Applicant shall designate-confirm its Point of Interconnection. The duration of the meeting shall be only what is sufficient to accomplish its purpose.	Revised for clarity and consistency
CL 11	F.3.c.ii	Applicant shall execute and deliver to Distribution Provider the Detailed Study Agreement no later than thirty (30) Business Days after the scoping meeting <u>or the</u> start date of the DGS Phase I Interconnection Study, <u>whichever is earlier,</u> or the Interconnection Request shall be deemed withdrawn	Revised for clarity and efficiency
CL 11	F.3.c.iii	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-may send to each Applicant in a Distribution Group- Study Group a list of the Interconnection Requests in its Distribution Group- Study Group .	Revised for efficiency and consistency
CL 11	F.3.c.v	If requested by an Applicant in a Distribution Study Group <u>or Distribution Provider</u> , a results meeting shall be held among Distribution Provider, the CAISO, if applicable, and the Applicant to discuss the results of the DGS Phase I Interconnection 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 <u>or the Distribution Provider has requested wants to have a</u> results meeting, it must be completed within thirty (30) Calendar Days <u>after issuance</u> of the final DGS Phase I Interconnection Study <u>report</u> , unless otherwise <u>mutually</u> agreed upon by the Distribution Provider and Applicant.	Revised for clarity and efficiency
CL 11	F.3.c.v	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	Revised for accuracy and clarity.
CL 11	F.3.c.v	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, <u>or the Generator Interconnection Agreement (in accordance with Section F.3.e.iii) if the DGS Phase II Interconnection Study is waived in accordance with Section F.3.c.ix,</u> 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.	Revised for clarity and consistency

CL 11	F.3.c.v	Within five (5) Business Days following the DGS Phase I Interconnection Study results meeting, the Applicant shall submit to the Distribution Provider all requested information. <u>If no DGS Phase I Interconnection Study results meeting is held, Applicant shall submit to Distribution Provider any requested information within thirty (30) Calendar Days of the receipt of the final DGS Phase I Interconnection Study report.</u>	Revised for consistency
CL 11	F.3.c.vii	At the DGS Phase I Interconnection Study results meeting, <u>if elected by Applicant or Distribution Provider,</u> Applicant should be prepared to discuss any desired modifications to the Interconnection Request. After the publication of the final DGS Phase I Interconnection Study report, but no later than five (5) Business Days following the DGS Phase I Interconnection 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.	Revised for clarity
CL 11	F.3.c.vii	Modifications permitted under this Section F.3.b.c.vii 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. <u>For any modifications other than those permitted above,</u> 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 <u>ten (10) Business Days</u> 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.b.c.vii, shall constitute a Material Modification.	Revised for clarity
CL 11	F.3.c.viii	Within either (i) five (5) Business Days following the DGS Phase I Interconnection Study results meeting, or (ii) within thirty (30) Calendar Days of the receipt of the final DGS Phase I Interconnection Study report if no DGS Phase I Interconnection Study results meeting is held, whichever is earlier, Applicant shall submit to Distribution Provider the data required by Distribution Provider. <u>Within thirty (30) Business Days of the issuance of the final DGS Phase I Interconnection Study report</u> At that time, for Generating Facilities 5 MW or less, Applicant shall also submit the DGS Phase II Interconnection Study deposit, as set out in Section E.3.a, <u>unless the DGS Phase II Interconnection Study will be waived in accordance with Section F.3.c.ix.</u>	Revised for clarity
CL 11	F.3.c.ix	<u>The DGS Phase II Interconnection Study may be waived if Distribution Provider and all Applicants included in the DGS Phase I Interconnection Study mutually agree to such waiver within thirty (30) Calendar Days of the issuance of the DGS Phase I Interconnection Study report. Within thirty (30) Calendar Days after Distribution Provider and Applicants agree to waive the DGS Phase II Interconnection Study, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, to Applicant. 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</u>	Revised to permit waiver of DGS Phase II Interconnection Study. This is intended to add efficiency to the DGSP
CL 11	F.3.c.x	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 of the issuance of the final DGS Phase I Interconnection Study 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	Revised pursuant to PG&E's March 22, 2013 Comments
CL 11	F.3.c.xi	<u>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</u>	Moved from Section F.3.c.xii to Section F.3.c.xi
CL 11	F.3.c.xiii	Each Applicant in a Distribution Study Group will post its second posting prior to one hundred twenty (120) Calendar Days after issuance 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 Study, <u>or the final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived in accordance with Section F.3.c.ix</u>	Revised for consistency and clarity.

CL 11	F.3.e.i	<p>The Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, within thirty (30) Calendar Days of the following: <u>1) Agreement by the Distribution Provider and Applicant to waive the Interconnection Facilities Study in accordance with Section F.3.b.vii. 2) Provision Issuance</u> of the final Interconnection Facilities Study report (or results meeting, if held) to Applicant, <u>3) Agreement by the Distribution Provider and all Applicants included in a DGS Phase I Interconnection Study to waive the DGS Phase II Interconnection Study in accordance with Section F.3.c.ix. ii) Provision of the final Interconnection System Impact Study report (or results meeting, if held) to Applicant, 4) iii) Provision Issuance</u> of the final DGS Phase II Interconnection Study report to each Applicant in the Distribution Study Group (or results meeting, if held)</p>	<p>Revised for clarity and consistency. This revision is substantively similar to PG&E's/SDG&E's February 25, 2014 Comments (referenced on p. 34 of D.14-04-003) and updated to reflect the timeline where Applicants and Distribution Provider agree to waive the Interconnection Facilities Study.</p>
CL 11	F.3.e.ii	<p>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 (<u>or the final DGS Phase I Interconnection Study report if the DGS Phase II Interconnection Study is waived</u>) 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 (<u>or the final DGS Phase I Interconnection Study report if the DGS Phase II Interconnection Study is waived</u>) 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 Requests 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 Commercial Operation Date 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.</p>	<p>Revised for consistency</p>
CL 11	F.3.e.ii	<p>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 (<u>or the final DGS Phase I Interconnection Study report if the DGS Phase II Interconnection Study is waived</u>) 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</p>	<p>Revised for consistency; redundant language deleted.</p>
CL 11	F.3.e.iii	<p>The Commercial Operation Date will be agreed upon in the executed Generator Interconnection Agreement. Reasonable Commercial Operation Dates will be discussed at <u>the DGS Phase II Interconnection Study results meeting, or the DGS Phase I Interconnection Study results meeting if the DGS Phase II Interconnection Study results meeting is waived, in the case of the Distribution Group Study Process, the Interconnection Facilities Study results meeting, or the Interconnection System Impact Study results meeting if the Interconnection Facilities Study is waived in the case of the Independent Study Process.</u> 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 any 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</p>	<p>Revised for clarity and consistency.</p>
CL 11	F.4.b	<p>On or before sixty (60) Calendar Days after <u>the</u> publication of <u>either</u> the final Interconnection System Impact Study report, <u>or the final DGS Phase I Interconnection Study report</u>, Applicant must post, with notice to Distribution Provider, two separate Interconnection Financial Security instruments</p>	<p>Revised for clarity and consistency.</p>
CL 11	F.4.b	<p>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 or <u>final</u> DGS Phase I Interconnection Study in the case of the Distribution Group Study Process for Distribution Provider's Interconnection Facilities and Distribution Upgrades</p>	<p>Revised for clarity</p>

CL 11	F.4.b	<u>If required by Distribution Provider</u> , 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	Revised for efficiency
CL 11	F.4.c	On or before one hundred twenty (120) Calendar Days after publication -issuance of the final DGS Phase II Interconnection Study report (<u>or final DGS Phase I Interconnection Study Report if the DGS Phase II Interconnection Study is waived</u>) 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.	Revised for clarity
CL 11	F.4.c	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 (<u>or final DGS Phase I Interconnection Study if the DGS Phase II Interconnection study is waived</u>) in the case of the <u>Distribution Group Study Process</u> , 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) <u>in the case of the Independent Study Process</u> , for Distribution Provider's Interconnection Facilities and Distribution Upgrades.	Revised for clarity and consistency
CL 11	F.4.c	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 -issuance of the final DGS Phase II Interconnection Study report (<u>or final DGS Phase I Interconnection Study report if the DGS Phase II Interconnection Study is waived</u>) <u>in the case of the Distribution Group Study Process</u> or final Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived) <u>in the case of the Independent Study Process</u> , 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.	Revised for clarity and consistency
CL 11	F.4.d	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 (<u>or the final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived</u>) <u>in the case of the Distribution Group Study Process</u> 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) <u>in the case of the Independent Study Process</u> .	Revised for clarity and consistency.
CL 11	F.4.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 (<u>or the final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived</u>) <u>in the case of the Distribution Group Study Process</u> 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) <u>in the case of the Independent Study Process</u> .	Revised for clarity and consistency.
CL 11	F.4.f	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 <u>DGS Phase II Interconnection study (or final DGS Phase I Interconnection Study if the DGS Phase II Interconnection Study is waived)</u> , Distribution Provider shall remit to Applicant the excess amount.	Revised for consistency and accuracy

CL 11	F.4.f.i	<p><u>j) 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.f. 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.</u></p>	Added for clarity and consistency
CL 11	F.5.b	<p>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 Business 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.</p>	Revised for consistency, and consistent with PG&E's/SDG&E's February 25, 2014 Comments (referenced on p. 34 of D.14-04-003)
CL 11	F.6	<p>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 is<u>will</u> not <u>required to</u> be considered in any ongoing Interconnection Study during the Dispute Resolution process.</p>	Revised for efficiency
CL 11	G (Flowchart)	<p><i>See revised tariff.</i></p>	Revised for clarity and consistency.
CL 11	G.3.c	<p>The Interconnection Studies shall consist of an Interconnection System Impact Study and an Interconnection Facilities Study for the Independent Study Process referred or to as the DGS Phase I Interconnection Study and the 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-c above. The estimated costs of short circuit related upgrades and shared interconnection facilities, if any, identified through a Distribution Group Study shall be assigned as provided in E.4.e 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 based on 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.</p>	Revised for clarity and consistency.
CL 11	G.3.c.ii.1	<p>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 analyses in the Interconnection Facilities System Impact Study (or DGS Phase II Interconnection Study) in the case of the Distribution Group Study Process will <u>be updated</u> as necessary <u>in the Interconnection Facilities Study (or DGS Phase II Interconnection Study)</u>, 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</p>	Revised for clarity and consistency.

CL 11	K.3	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.	Revised for clarity and consistency
CL 11	F.3.b.iv; F.3.b.v; F.3.b.vi; F.3.b.vii; F.3.b.vii; F.3.c.xiii; F.3.e.i; F.4.c	Replaced the terms "provided," "publication," and/or "receipt" with the term "issuance."	Revised for clarity and consistency.
CL 11	M. Appendix One	Replaced "Appendix One" with "INADVERTENT EXPORT"	Renamed Appendix One as Section M

ATTACHMENT 3

PROCEDURES FOR TRANSITIONING INTERCONNECTION REQUESTS SUBMITTED PRIOR TO THE EFFECTIVE DATE OF THE REVISED RULE 21 TARIFF

I. Objective

- a. The objective of this transition plan is to set forth procedures for the transition of existing Rule 21 Interconnection Requests that may be eligible for the Distribution Group Study Process to the Revised Rule 21¹

II. Definitions

- a. Capitalized terms shall have the meaning set forth in the Revised Rule 21

III. Transition of Interconnection Requests of Existing Rule 21 Applicants

a. General:

- i. The tariff sections referred to here are for convenience and do not imply that other applicable provisions of the Revised Rule 21 do not apply.
- ii. Section references refer to the Revised Rule 21 unless otherwise noted.

b. Applicants that have a queue date on or before the Effective Date of the Revised Rule 21, and pass Screen Q but fail Screen R, shall be processed as follows:

- i. If Applicant elected to proceed directly to the Transmission Cluster Study Process and withdrew from Rule 21 on or before the Effective Date of the Revised Rule 21, Applicant shall continue to be processed pursuant to Section F.3.d (Transmission Cluster Study Process).
- ii. If Applicant elected to proceed under the Independent Study Process and executed an Independent Study Process Study Agreement on or before the Effective Date of the Revised Rule 21, Applicant shall continue to be processed pursuant to Section F.3.b (Independent Study Process).
- iii. All other Applicants shall be processed pursuant to Section F.3.c (Distribution Group Study Process).

c. Notification:

- i. Within 10 Business Days of the Effective Date of the Revised Rule 21, PG&E shall provide written notice to all Applicants subject to Section III.b.iii of this transition plan: (1) providing the Applicant a copy of this transition plan; (2) confirming the Applicant's applicable Detailed Study Interconnection Review Process; and (3) citing the Rule 21 Detailed Study Interconnection Review Process provisions now applicable to the Applicant.²

¹ "Revised Rule 21" refers to the version of Rule 21 submitted via Advice Letter on June 9, 2014 pursuant to Decision 14-04-003.

² As of June 9, 2014, PG&E has no Interconnection Requests that would be subject to this transition plan.

**PG&E Gas and Electric
Advice Filing List
General Order 96-B, Section IV**

AT&T	Douglass & Liddell	Occidental Energy Marketing, Inc.
Alcantar & Kahl LLP	Downey & Brand	OnGrid Solar
Anderson & Poole	Ellison Schneider & Harris LLP	Pacific Gas and Electric Company
BART	G. A. Krause & Assoc.	Praxair
Barkovich & Yap, Inc.	GenOn Energy Inc.	Regulatory & Cogeneration Service, Inc.
Bartle Wells Associates	GenOn Energy, Inc.	SCD Energy Solutions
Braun Blaising McLaughlin, P.C.	Goodin, MacBride, Squeri, Schlotz & Ritchie	SCE
CENERGY POWER	Green Power Institute	SDG&E and SoCalGas
California Cotton Ginners & Growers Assn	Hanna & Morton	SPURR
California Energy Commission	In House Energy	San Francisco Public Utilities Commission
California Public Utilities Commission	International Power Technology	Seattle City Light
California State Association of Counties	Intestate Gas Services, Inc.	Sempra Utilities
Calpine	K&L Gates LLP	SoCalGas
Casner, Steve	Kelly Group	Southern California Edison Company
Center for Biological Diversity	Linde	Spark Energy
City of Palo Alto	Los Angeles County Integrated Waste Management Task Force	Sun Light & Power
City of San Jose	Los Angeles Dept of Water & Power	Sunshine Design
Clean Power	MRW & Associates	Tecogen, Inc.
Coast Economic Consulting	Manatt Phelps Phillips	Tiger Natural Gas, Inc.
Commercial Energy	Marin Energy Authority	TransCanada
Cool Earth Solar, Inc.	McKenna Long & Aldridge LLP	Utility Cost Management
County of Tehama - Department of Public Works	McKenzie & Associates	Utility Power Solutions
Crossborder Energy	Modesto Irrigation District	Utility Specialists
Davis Wright Tremaine LLP	Morgan Stanley	Verizon
Day Carter Murphy	NLine Energy, Inc.	Water and Energy Consulting
Defense Energy Support Center	NRG Solar	Wellhead Electric Company
Dept of General Services	Nexant, Inc.	Western Manufactured Housing Communities Association (WMA)
Division of Ratepayer Advocates	North America Power Partners	