

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



December 3, 2012

**Advice Letter 4110-E**

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

**Subject: Revisions to Electric Rule 21 and its Associated Forms Ordered by  
Paragraph 2 of Commission D.12-09-08**

Dear Mr. Cherry:

Advice Letter 4110-E is effective September 20, 2012.

Sincerely,

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

Edward F. Randolph, Director  
Energy Division

September 20, 2012

**Advice 4110-E**

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Revisions to Electric Rule 21 and its Associated Forms Ordered by  
Paragraph 2 of Commission Decision 12-09-018**

Pacific Gas and Electric Company ("PG&E") submits for filing revisions to its electric tariff sheets and forms. The affected tariff sheets and forms are listed on the enclosed Attachment 1.

**Purpose**

The purpose of this Advice Letter is to submit the reformed Electric Rule 21 and accompanying forms required by Ordering Paragraph (OP) 2 of Decision (D.)12-09-018, as well as other existing forms requiring updates to reflect the modified Electric Rule 21.

**Background**

Rulemaking (R.) 11-09-011 was opened on September 22, 2011, to review and revise the Electric Tariff Rule 21, the utilities' rules and regulations pertaining to the California Public Utilities Commission (CPUC) jurisdictional interconnection of generation and storage to the electric systems of PG&E, Southern California Edison, and San Diego Gas & Electric Company.

Parties to the rulemaking participated in related settlement discussions from August 2011 through February 2012. On March 16, 2012, a number of the parties entered into a Settlement that was filed with the Commission for approval.<sup>1</sup>

On September 13, 2012, the Commission issued D.12-09-018, approving the Settlement, which included in Attachment A the reformed Rule 21 Tariff; the Generator Interconnection Agreement for Exporting Generating Facilities Interconnecting Under the Fast Track Process; and the Exporting Generating Facility Interconnection Request

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<sup>1</sup> *Motion for Approval of Settlement Agreement Revising Distribution Level Interconnection Rules and Regulations.*

Additionally, PG&E has updated references to Rule 21 in numerous interconnection-related forms approved by the Commission (listed below) to reflect the changes to Rule 21, and to make minor, non-substantive corrections, and administrative updates.

Since the majority of the net energy metering (NEM) forms are substantially unchanged, for NEM projects underway PG&E will continue to accept the existing forms and transition to the updated forms for new projects.

### **Tariff Revisions**

The table below summarizes the tariff changes:

<b>Tariff</b>	<b>Tariff Name</b>
Rule 21	<b>Revised Rule 21 Tariff - Generating Facility Interconnections</b>
	<ul style="list-style-type: none"> <li>• Updated language included with the Settlement.</li> <li>• Customized for PG&amp;E.</li> </ul>
<b>New Form No.</b>	<b>Form Name / Change Description</b>
79-1144 (new)	<b>Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities Interconnecting Under the Fast Track Process</b>
	<ul style="list-style-type: none"> <li>• New form included with the Settlement.</li> <li>• Customized and formatted for PG&amp;E.</li> </ul>
79-1145 (new)	<b>Rule 21 Exporting Generator Interconnection Request</b>
	<ul style="list-style-type: none"> <li>• New form included with the Settlement.</li> <li>• Customized and formatted for PG&amp;E.</li> </ul>
<b>Existing Form No.</b>	<b>Form Name / Change Description</b>
79-973	<b>PG&amp;E Generating Facility Interconnection Agreement For Non-Export Generating Facilities</b>
	<ul style="list-style-type: none"> <li>• Adds automated document provision in footer.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing, and mail code address.</li> <li>• Modifies title font size as required, and wording, for clarification.</li> <li>• Maps specific Rule 21 Section references to new revised Rule 21 sections such as Definitions.</li> </ul>

79-974	<p><b>Generating Facility Interconnection Application For Non-Export Or Certain Net Energy Metered Generating Facilities (between 30 KW And 1,000 KW)</b></p> <ul style="list-style-type: none"> <li>• Adds Study Process Selection, Inadvertent Export identifiers and refers appropriate generators to the new Rule 21. Exporting Generating Facility Interconnection Request Form 79-1145.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Updates description of process for payment of fees.</li> <li>• Maps specific Rule 21 section references to new revised Rule 21 sections.</li> </ul>
79-978	<p><b>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</b></p> <ul style="list-style-type: none"> <li>• Adds automated document provision to footers, notice in insurance addresses.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Maps specific Rule 21 section references to new revised Rule 21 Section C, Definitions.</li> </ul>
79-988	<p><b>Generating Facility Interconnection Agreement (3rd Party Non-Exporting)</b></p> <ul style="list-style-type: none"> <li>• Adds automated document provision to footers.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Eliminates specific director's name.</li> <li>• Maps specific Rule 21 section references to new revised Rule 21 Section C, Definitions.</li> </ul>
79-992	<p><b>Customer Generation Agreement (3rd Party Generator On Premises, Non-Exporting)</b></p> <ul style="list-style-type: none"> <li>• Adds automated document provision to footers.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Eliminates specific director's name.</li> <li>• Maps specific Rule 21 section references to new revised Rule 21 Section C, Definitions.</li> </ul>

79-1069	<p><b>Generating Facility Interconnection Agreement (Multiple Tariff)</b></p> <ul style="list-style-type: none"> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Maps specific Rule 21 section references to new revised Rule. 21 sections</li> </ul>
79-1070	<p><b>Export Addendum To Generating Facility Interconnection Agreement For Non-Exporting Generating Facilities (Form 79-973) Generators Sized 2 Megawatts or Less</b></p> <ul style="list-style-type: none"> <li>• Adds automated document provision to footers.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> </ul>
79-1101	<p><b>Application and Interconnection Agreement for Customers with Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less</b></p> <ul style="list-style-type: none"> <li>• Adds automated document provision to footers, a Study Process selection identifier and a reference to the Rule 21 Exporting Generating Facility Interconnection Request, Form 79-1145.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Maps specific Rule 21 section references to new revised Rule 21 Section G.1.m.</li> </ul>
79-1109	<p><b>NEMVMASH - 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</b></p> <ul style="list-style-type: none"> <li>• Adds automated document provision to footers, a Study Process selection identifier and a reference to the Rule 21 Exporting Generating Facility Interconnection Request, Form 79-1145.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Maps specific Rule 21 section references to new revised Rule 21 Section G.1.m.</li> </ul>

79-1124	<p><b>NEMVMASH Eligible Low Income Development Virtual Net Energy Metering Application and Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 MW or Less</b></p> <ul style="list-style-type: none"> <li>• Adds automated document provision in footers, and Study Process selection identifier.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Maps specific references to new Revised Rule 21 Section G.1.m.</li> <li>• Removes obsolete language relating to NEMVMASH provision that ended 12/31/11.</li> </ul>
79-1125	<p><b>NEM / NEMVMASH Inspection Report</b></p> <ul style="list-style-type: none"> <li>• Adds automated document provision in footers.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Maps specific Rule 21 section references to new revised Rule 21 Section H.</li> </ul>
79-1131	<p><b>NEMV Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less</b></p> <ul style="list-style-type: none"> <li>• Adds Study Process Selection identifier and maps references to the Rule 21 Exporting Generating Facility Interconnection Request Form, 79-1145.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Maps specific Rule 21 section references mapped to new revised Rule 21 Section G.1.m.</li> </ul>
79-1137	<p><b>Interconnection Agreement For Net Energy Metering For A Renewable Electrical Generation Facility of 1,000 KW Or Less, Except Solar or Wind</b></p> <ul style="list-style-type: none"> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> <li>• Maps specific Rule 21 section references to new revised Rule 21 Section G.1.m.</li> </ul>
79-1142	<p><b>NEMV Interconnection Application for a Renewable Electrical Generation Facility of 1 Megawatt or Less</b></p> <ul style="list-style-type: none"> <li>• Adds of Study Process selection identifier and reference to the Rule 21 Exporting Generating Facility Interconnection Request Form 79-1145.</li> <li>• Corrects grammar, spelling, punctuation, formatting and/or spacing.</li> </ul>

In a new advice letter PG&E will be submitting a new form (79-1146) covering inadvertent export.

### **Protests**

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, by facsimile or electronically any of which must be received no later than **October 10, 2012**, which is twenty days from the date of this filing. The protest must state the grounds upon which it is based, including such items and financial and service impact, and should be submitted expeditiously. Protests should be mailed to:

CPUC Energy Division  
EDTariffUnit  
505 Van Ness Avenue, 4<sup>th</sup> Flr.  
San Francisco, CA, 94102

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

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

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

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

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

### **Effective Date**

PG&E submits this advice filing as a Tier 1 advice letter, in accordance with OP 2 of D.12-09-018, and request that this filing become effective on 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 list for **R.10-05-004, R.11-09-011 and R.11-05-005**. 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 script, followed by a forward slash and the initials 'sw'.

Vice President, Regulatory Relations

#### Attachments

cc: Rachel A. Peterson – Energy Division  
R.10-05-004  
R.11-09-011  
R.11-05-005

# 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: Shirley Wong

Phone #: (415) 972-5505

E-mail: slwb@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) #: **4110-E**

Tier: **1**

Subject of AL: **Revisions to Electric Rule 21 and its Associated Forms Ordered by Paragraph 2 of Commission Decision 12-09-018**

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 #: **Decision 12-09-018, OP 2**

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: September 20, 2012

No. of tariff sheets: **192**

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 - Generating Facility Interconnections, and related forms.**

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

Protests, dispositions, and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division

EDTariffUnit

505 Van Ness Ave., 4<sup>th</sup> Floor

San Francisco, CA 94102

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

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31865-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 1	30177-E
31866-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 2	30178-E
31867-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 3	30179-E
31868-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 4	30180-E
31869-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 5	30181-E
31870-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 6	30182-E
31871-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 7	30183-E
31872-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 8	30184-E
31873-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 9	30185-E
31874-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 10	30186-E
31875-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 11	30187-E
31876-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 12	30188-E

**ATTACHMENT 1  
Advice 4110-E**

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31877-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 13	30189-E
31878-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 14	30190-E
31879-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 15	30191-E
31880-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 16	30192-E
31881-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 17	30193-E
31882-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 18	30194-E
31883-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 19	30195-E
31884-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 20	30196-E
31885-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 21	30197-E
31886-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 22	30198-E
31887-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 23	30199-E
31888-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 24	30200-E

**ATTACHMENT 1  
Advice 4110-E**

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31889-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 25	30201-E
31890-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 26	30202-E
31891-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 27	30203-E
31892-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 28	30204-E
31893-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 29	30205-E
31894-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 30	30206-E
31895-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 31	30207-E
31896-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 32	30208-E
31897-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 33	30209-E
31898-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 34	30210-E
31899-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 35	30211-E
31900-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 36	30212-E

**ATTACHMENT 1  
Advice 4110-E**

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31901-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 37	30213-E
31902-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 38	30214-E
31903-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 39	30215-E
31904-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 40	30216-E
31905-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 41	30217-E
31906-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 42	30218-E
31907-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 43	30219-E
31908-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 44	30220-E
31909-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 45	30221-E
31910-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 46	30222-E
31911-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 47	30223-E
31912-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 48	30224-E

**ATTACHMENT 1  
Advice 4110-E**

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31913-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 49	30225-E
31914-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 50	30226-E
31915-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 51	30227-E
31916-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 52	30228-E
31917-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 53	30229-E
31918-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 54	30230-E
31919-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 55	30231-E
31920-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 56	30232-E
31921-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 57	30233-E
31922-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 58	30234-E
31923-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 59	30235-E
31924-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 60	30236-E

**ATTACHMENT 1  
Advice 4110-E**

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31925-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 61	30237-E
31926-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 62	30238-E
31927-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 63	30239-E
31928-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 64	30240-E
31929-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 65	30241-E
31930-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 66	30242-E
31931-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 67	30243-E
31932-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 68	30244-E
31933-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 69	30245-E
31934-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 70	30246-E
31935-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 71	30247-E
31936-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 72	30248-E

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31937-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 73	30249-E
31938-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 74	30250-E
31939-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 75	30251-E
31940-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 76	
31941-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 77	
31942-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 78	
31943-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 79	
31944-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 80	
31945-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 81	
31946-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 82	
31947-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 83	
31948-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 84	

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	
31949-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 85	
31950-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 86	
31951-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 87	
31952-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 88	
31953-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 89	
31954-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 90	
31955-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 91	
31956-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 92	
31957-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 93	
31958-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 94	
31959-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 95	
31960-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 96	

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	
31961-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 97	
31962-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 98	
31963-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 99	
31964-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 100	
31965-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 101	
31966-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 102	
31967-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 103	
31968-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 104	
31969-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 105	
31970-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 106	
31971-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 107	
31972-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 108	

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	
31973-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 109	
31974-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 110	
31975-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 111	
31976-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 112	
31977-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 113	
31978-E*	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 114	
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Sheet 11

**B. APPLICABILITY**

(N)

**1. APPLICABILITY**

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

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

**2. DEFINITIONS**

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

(N)

(Continued)



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**GENERATING FACILITY INTERCONNECTIONS**

Sheet 12

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

(N)

**3. APPLICABLE CODES AND STANDARDS**

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

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

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

**C. DEFINITIONS**

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

**Added Facilities:** See Special Facilities.

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 13

C. DEFINITIONS (Cont'd.)

(N)

**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 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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 14

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 15

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 16

C. DEFINITIONS (Cont'd.)

(N)

**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.

**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.

**Dispute Resolution:** See Section K.

**Distribution Group Study Process:** The study process defined in Section F.3.b.

**Distribution Provider:** Pacific Gas and Electric Company

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 17

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 18

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 19

C. DEFINITIONS (Cont'd.)

(N)

**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.

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

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

**Initial Review:** See Section F.2.a.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 20

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 21

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 22

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 23

C. DEFINITIONS (Cont'd.)

(N)

**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 Appendix One.

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 24

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 25

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 26

C. DEFINITIONS (Cont'd.)

(N)

**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.

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

**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.

**Special Facilities:** As defined in Distribution Provider's Rule 2.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 27

C. DEFINITIONS (Cont'd.)

(N)

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

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

**Supplemental Review:** See Section F.2.c.

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

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
 GENERATING FACILITY INTERCONNECTIONS

Sheet 28

C. DEFINITIONS (Cont'd.)

(N)

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 29

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

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 30

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

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 31

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 32

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

(N)

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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 33

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

7. CONFIDENTIALITY (Cont'd.)

d. Required Disclosure

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

8. PRUDENT OPERATION AND MAINTENANCE REQUIRED

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 34

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

**9. CURTAILMENT AND DISCONNECTION**

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

**10. LOCAL FURNISHING BONDS**

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 35

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

11. COORDINATION WITH AFFECTED SYSTEMS

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

12. TRANSFERABILITY OF INTERCONNECTION REQUEST

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

13. SPECIAL PROVISIONS APPLICABLE TO NET ENERGY METERED APPLICANTS

Notwithstanding any other provision in this Rule:

1. 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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 36

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

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

2. 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 (twenty (20) Business Days), a System Impact Study (sixty (60) Calendar Days), and a Facilities Study (sixty (60) to ninety (90) Calendar Days depending on whether upgrades to the electric system are identified) as set out in Section F. The advance submission of the Interconnection Request will better accommodate Distribution Provider's review and studies in a manner consistent with the timelines established in this Rule that may be required to complete the processing for interconnection of non-inverter based Generators and/or Generators with non-Certified Equipment. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 37

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

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

3. 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.

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

**14. COMPLIANCE WITH ESTABLISHED TIMELINES**

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

**15. MODIFICATION OF TIMELINES**

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 38

**E. INTERCONNECTION REQUEST SUBMISSION PROCESS (N)**

**1. OPTIONAL PRE-APPLICATION REPORT**

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

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

- a. Total Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.
- b. Allocated Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.
- c. Queued Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.
- d. Available Capacity (MW) of substation/area bus or bank and circuit most likely to serve proposed site.
- e. Substation nominal distribution voltage or transmission nominal voltage if applicable.
- f. Nominal distribution circuit voltage at the proposed site. (N)

(Continued)







**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 41

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)
- 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 should pre-pay for Supplemental Review at the time the Interconnection Request is submitted.
- 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.

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 42

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

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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 43

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

(N)

2. INTERCONNECTION REQUEST PROCESS (Cont'd.)

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

TABLE E-1

Summary of Interconnection Request Fees, Deposits and Exemptions

<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 or the Distribution Group Study Process, \$10,000 for a System Impact Study and \$15,000 for a Facilities Study.  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 *

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

(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.)**

**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 Sections 2827, 2827.8, or 2827.10 are exempt from any costs associated with Interconnection Studies. Interconnection Study fees for solar Generating Facilities up to 1 MW interconnecting to the Distribution System that do not sell power to the grid will be waived up to the amount of \$5,000.

**a. Detailed Study Deposit**

**i) Detailed Study Deposit**

To proceed with Detailed Study, Applicant must submit a detailed study deposit.

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 45

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

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

a. Detailed Study Deposit (Cont'd.)

ii) Use of Detailed Study Deposit

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

The Detailed Study deposits shall be refundable as follows:

(1) Should an Interconnection Request be withdrawn by Applicant or be deemed withdrawn by Distribution Provider by written notice under Section F.6 on or before thirty (30) Calendar Days following the scoping meeting, Distribution Provider shall refund to Applicant any portion of Applicant's 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).

(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 Days following the results meeting for the Interconnection System Impact Study, Distribution Provider shall refund to Applicant the difference between (i) Applicant's detailed

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 46

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)
3. INTERCONNECTION REQUEST FEE AND STUDY DEPOSIT (Cont'd.)
- a. Detailed Study Deposit (Cont'd.)
- ii) Use of Detailed Study Deposit (Cont'd.)
- (2) study deposit and (ii) the greater of the costs Distribution Provider, CAISO, and third parties have incurred on Applicant's behalf or one-half of the original 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).
- (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, the detailed study deposit shall be non-refundable.
- (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). (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 47

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

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

iv) Special Circumstances

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 48

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

**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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 49

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

**4. INTERCONNECTION COST RESPONSIBILITY (Cont'd.)**

**c. Timing of Cost Identification**

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

**d. Producer Costs During Parallel Operation**

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

**e. Cost Allocation**

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. 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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 50

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

(N)

**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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 51

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

(N)

4. INTERCONNECTION COST RESPONSIBILITY (Cont'd.)

f. Summary Tables (Cont'd.)

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 52

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

5. INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION

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

a. Acknowledgement of Interconnection Request

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

b. Deficiencies in Interconnection Request

i) First Notification of Deficiency

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 53

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

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

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

**ii) Second Notification of Deficiency**

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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 54

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

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

c. Assignment of Queue Position

Distribution Provider shall assign a queue position to all non-Net Energy Metering Applicants. If there were no deficiencies in the Interconnection Request, the queue position will be based on the date Distribution Provider received the Interconnection Request. If there were deficiencies in the Interconnection Request, the queue position will be based on the date Distribution Provider determines an Interconnection Request to be complete and valid. Should Distribution Provider not meet any deadline for providing the first (Section E.5.b.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 Transmission Cluster Study Process, the queue position will be the applicable cluster's queue position.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 55

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

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

d. Publication of the Interconnection Queue

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

i) Interconnection Request and Queue Position Data

- (i) The assigned number, if any;
- (ii) the queue position;
- (iii) the date the Interconnection Request was received by Distribution Provider;
- (iv) the date the Interconnection Request was determined to be complete and valid;
- (v) the review process to which Applicant originally applied (Fast Track, Independent Study Process, Transmission Cluster Study Process);
- (vi) the original requested In-Service Date;
- (vii) the currently requested In-Service Date;
- (viii) the agreed-upon Commercial Operation Date or actual Commercial Operation Date.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 56

- E. INTERCONNECTION REQUEST SUBMISSION PROCESS (Cont'd.) (N)
- 5. INTERCONNECTION REQUEST VALIDATION AND ASSIGNMENT OF QUEUE POSITION (Cont'd.)
  - d. Publication of the Interconnection Queue (Cont'd.)
    - ii) Applicant Generating Facility/Storage System and Point of Interconnection Data
      - (ix) the maximum summer and winter MW electrical output;
      - (x) the type of generating or storage facility to be constructed;
      - (xi) the fuel source;
      - (xii) the proposed Point of Interconnection location by county;
      - (xiii) the proposed Point of Interconnection location by substation/area and, if applicable, circuit;
- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS
  - 1. OVERVIEW OF THE INTERCONNECTION REVIEW PROCESS
    - a. Valid Interconnection Request
 

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

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 57

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

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

b. Fast Track Review

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

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

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

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

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

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 58

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

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

c. Detailed Studies

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

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:

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 59

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
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 (ALJ) Division. The request may be made by electronic mail to [adr\\_program@cpuc.ca.gov](mailto:adr_program@cpuc.ca.gov), and shall state "Rule 21" in the subject line. The request shall contain the relevant facts of the timeline dispute. A copy of the request shall be sent to the Distribution Provider ombudsman. Provided that resources are available, the mediator assigned shall schedule a mediation with Applicant and Distribution Provider within ten (10) Business Days of receiving the request.
- At any time, Applicant may file a formal complaint before the Commission pursuant to California PUC section 1702 and Article 4 of the Commission's Rules of Practice and Procedure. (N)

(Continued)





**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 61

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

2. FAST TRACK INTERCONNECTION REVIEW PROCESS

a. Initial Review (Cont'd.)

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 62

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 63

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

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

c. Supplemental Review

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 64

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

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

c. Supplemental Review (Cont'd.)

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

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

(N)

(Continued)







**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 67

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
- 2. FAST TRACK INTERCONNECTION REVIEW PROCESS (Cont'd.)
- e. Execution of the Generator Interconnection Agreement (Cont'd.)
  - negotiate concerning the cost estimate, or any disputed provisions of the appendices to a draft Generator Interconnection Agreement, for not more than ninety (90) Calendar Days after Distribution Provider provides Applicant with the Generator Interconnection Agreement. If Applicant determines that negotiations are at an impasse, it may request termination of the negotiations and initiate Dispute Resolution procedures pursuant to Section K. If Applicant fails to sign the Generator Interconnection Agreement or initiate Dispute Resolution within ninety (90) Calendar Days, the Interconnection Request shall be deemed withdrawn.
  - After Applicant, or a Producer where those are different entities, has executed the Generator Interconnection Agreement, Distribution Provider will commence design, procurement, construction and installation of Distribution Provider's Distribution Upgrades and/or Interconnection Facilities that have been identified in the Generator Interconnection Agreement. Distribution Provider and Producer will use good faith efforts to meet schedules in accordance with the requirements of the Generator Interconnection Agreement and estimated costs as appropriate. Producer is responsible for all costs associated with Parallel Operation to support the safe and reliable operation of the Distribution System and Transmission System as set forth in Section E.4.
  - Distribution Provider and Producer shall negotiate in good faith concerning a schedule for the construction of Distribution Provider's Interconnection Facilities and Distribution Upgrades. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 68

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

3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS

a. Detailed Study Track Selection Process

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 69

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

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 the data and analysis supporting the Screen R results in writing and provide Applicant the option to proceed to the Distribution Group Study Process. 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. 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 passes Screens Q and R, the Interconnection Request will be processed in accordance with Section F.3.d below.

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

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

b. Distribution Group Study Process

Interconnection Requests that would otherwise qualify for the Distribution Group Study Process will be studied under the Transmission Cluster Study pursuant to Section F.3.c except as described below:

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 70

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- b. Distribution Group Study Process (Cont'd.)
- i. If Applicant fails Screen R because there is only one (1) earlier-queued interconnection request with which Applicant is electrically interdependent and that is currently undergoing an independent study process, Distribution Provider shall notify Applicant at the same time that it provides the Screen R results of the expected completion date for the earlier-queued interconnection request. Distribution Provider shall provide Applicant the option of (1) waiting until the earlier-queued interconnection request has completed the independent study process and then initiating the Independent Study Process at that time, or (2) proceeding directly to the Transmission Cluster Study Process pursuant to Section F.3.c. If Applicant chooses option 1, the timeline for completing Applicant's Independent Study Process will not begin until the earlier-queued interconnection request has completed the independent study process.
- ii. At Distribution Provider's option, it may offer to study any Applicant that qualifies under this Section F.3.b under the Independent Study Process; provided that Applicant and Distribution Provider agree on a revised study timeline.
- c. Transmission Cluster Study Process
- 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. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 71

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

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

c. 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.

d. Independent Study Process

i) Scoping Meeting

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 72

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

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

d. Independent Study Process (Cont'd.)

i) Scoping Meeting (Cont'd.)

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 73

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

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

d. Independent Study Process (Cont'd.)

i) Scoping Meeting (Cont'd.)

Within fifteen (15) Business Days after the scoping meeting, Distribution Provider shall provide Applicant with 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 Study Agreement no later than thirty (30) Business Days after the scoping meeting, or the Interconnection Request shall be deemed withdrawn.

ii) Timing of the Interconnection System Impact Study Results.

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 74

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- d. 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.
- 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 System Impact Study, including assigned cost responsibility. Within five (5) Business Days of such request, Distribution Provider shall contact Applicant to establish a date agreeable to Applicant, Distribution Provider and the CAISO, if applicable, for the results meeting.
- iv) Initial Posting of Interconnection Financial Security.
- Applicant shall make its initial posting of Interconnection Financial Security in accordance with the requirements of Section F.4.b, within sixty (60) Calendar Days after being provided with the final Interconnection System Impact Study report, or its Interconnection Request shall be deemed withdrawn. The initial posting of Interconnection Financial Security will be based on the cost responsibility for Network Upgrades, Distribution Upgrades, and Distribution Provider's Interconnection Facilities set forth in the final Interconnection System Impact Study report. (N)

(Continued)





**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 76

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

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

d. Independent Study Process (Cont'd.)

v) Modifications (Cont'd.)

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

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

Proposed modifications determined not to be Material Modifications may still necessitate the need to re-evaluate the System Impact Study to determine modifications to the Interconnection Facilities and Distribution Upgrades. Distribution Provider will provide Applicant an estimate of time to complete the re-evaluation and the associated incremental cost required to complete the re-evaluation. Applicant may either accept the

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 77

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- d. Independent Study Process (Cont'd.)
- v) Modifications (Cont'd.)
- additional time and cost to complete the re-evaluation, withdraw the proposed modification request, or proceed with a new Interconnection Request for such modification. Applicant shall make such determination within ten (10) Business Days after being provided the Material Modification results.
- vi) Scope and Purpose of the Interconnection Facilities Study and Study Deposit.
- Within either (i) five (5) Business Days following the results meeting, or (ii) within twenty-five (25) Business Days of the receipt of the final Interconnection System Impact Study report if no Interconnection System Impact Study results meeting is held, Applicant shall submit to Distribution Provider the data required by Distribution Provider. At that time, for Generating Facilities 5 MW or less, Applicant shall also submit the Facilities Study deposit, as set out in Section E.3.a, unless the Facilities Study will be waived in accordance with Section F.3.d.vii.
- vii) Waiver of the Interconnection Facilities Study
- The Facilities Study may be waived if Distribution Provider and Applicant mutually agree to such waiver. Within thirty (30) Calendar Days after Distribution Provider provides the final Interconnection System Impact Study report to Applicant (if the Interconnection Facilities Study is waived), Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement. If Applicant chooses to forgo the
- (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 78

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- d. Independent Study Process (Cont'd.)
- vii) Waiver of the Interconnection Facilities Study. (Cont'd.)
- Facilities Study and move directly to a Generator Interconnection Agreement, Applicant must agree in writing to be responsible for all actual costs of all required facilities deemed necessary by Distribution Provider. Applicant is responsible for all costs associated with Parallel Operation to support the safe and reliable operation of the Distribution and Transmission System as set forth in Section E.4. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.
- viii) Timing of the Interconnection Facilities Study.
- The Interconnection Facilities Study shall be completed and provided to Applicant within sixty (60) Business Days after Applicant posts the initial Interconnection Financial Security in accordance with Section F.4.b where Distribution Upgrades or Network Upgrades are identified and, for Generating Facilities with a Gross Nameplate Rating of 5 MW or less, Applicant submits the Facilities Study deposit in accordance with Section E.3.a and F.3.d.vi. In cases where no Distribution Upgrades and/or Network Upgrades are identified and the required facilities are limited to Distribution Provider's Interconnection Facilities only, the Interconnection Facilities Study shall be completed within forty-five (45) Business Days after Applicant posts the initial Interconnection Financial Security and, for Generating Facilities with a Gross Nameplate Rating of 5 MW or less, Applicant submits the Facilities Study deposit.
- If applicable, Distribution Provider will share the applicable study results with the CAISO for review and comment, and will incorporate CAISO comments, if any, into the study report prior to issuing a final Interconnection Facilities Study report to Applicant. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 79

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- d. Independent Study Process (Cont'd.)
- viii) Timing of the Interconnection Facilities Study. (Cont'd.)
- Within thirty (30) Calendar Days after Distribution Provider provides the final Interconnection Facilities Study report to Applicant, or within thirty (30) Calendar Days of an Interconnection Facilities Study results meeting, if requested, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, unless Applicant requests an Interconnection Facilities Study results meeting. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement.
- At any time Distribution Provider determines that it will not meet the required time frame for completing the Interconnection Facilities Study, Distribution Provider shall notify Applicant in writing as to the status of the Interconnection Facilities Study and provide an estimated completion date with an explanation of the reasons why additional time is required.
- ix) Interconnection Facilities Study Results Meeting.
- If requested by Applicant, a results meeting shall be held among Distribution Provider, the CAISO, if applicable, and Applicant to discuss the results of the Interconnection Facilities Study, including assigned cost responsibility. Within five (5) Business Days of the request, Distribution Provider shall contact Applicant to establish a date agreeable to Applicant, Distribution Provider and the CAISO, if applicable, for the results meeting. Within thirty (30) Calendar Days after the Interconnection Facilities Study results meeting, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices, to Applicant. Refer to Section F.3.e for cost responsibility and time frames for completing the Generator Interconnection Agreement. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 80

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- d. Independent Study Process (Cont'd.)
- x) Second and Third Postings of Interconnection Financial Security
- Applicant will post its second and third postings of Interconnection Financial Security as set forth in Sections F.4.c and F.4.d based on the cost responsibility for Network Upgrades, Distribution Upgrades, and Distribution Provider's Interconnection Facilities set forth in the final Interconnection Facilities Study, or the final Interconnection System Impact Study if the Interconnection Facilities Study is waived in accordance with Section F.3.d.vii.
- e. Generator Interconnection Agreement
- i) Tender
- Within thirty (30) Calendar Days after the later of i) Distribution Provider provides the final Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived) to Applicant, or ii) the Interconnection Facilities Study results meeting, Distribution Provider shall tender a draft Generator Interconnection Agreement, together with draft appendices. Applicant shall provide written comments, or notification of no comments, to the draft appendices within thirty (30) Calendar Days.
- ii) Negotiation
- Notwithstanding Section F.3.e.i, at the request of Applicant, Distribution Provider shall begin negotiations with Applicant concerning the appendices to the Generator Interconnection Agreement at any time after Distribution Provider provides Applicant with the final Interconnection Facilities Study report (or (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 81

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

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

e. Generator Interconnection Agreement (Cont'd.)

ii) Negotiation (Cont'd.)

final Interconnection System Impact Study report if the Interconnection Facilities Study is waived). 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 Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived). 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.

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 Interconnection Facilities Study report (or final Interconnection System Impact Study report if the Interconnection Facilities Study is waived), 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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 82

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
- 3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- e. Generator Interconnection Agreement (Cont'd.)
- 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 Interconnection Facilities Study results meeting or the System Impact Study results meeting if the Facilities Study is waived. Interconnection Requests under the Independent Study Process will not be granted extensions except in circumstances beyond the control of Producer. This provision has no impact on any power purchase agreement terms
- 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.

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 83

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

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

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

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

4. INTERCONNECTION FINANCIAL SECURITY

a. Types of Interconnection Financial Security.

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 84

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
3. DETAILED STUDY INTERCONNECTION REVIEW PROCESS (Cont'd.)
- (c) a cash deposit standing to the credit of Distribution Provider and in an interest-bearing escrow account maintained at a bank or financial institution that is reasonably acceptable to Distribution Provider;
- Interconnection Financial Security instruments as listed above shall be in such form as Distribution Provider may reasonably require from time to time by notice to Applicants, or in such other form as has been evaluated and approved as reasonably acceptable by Distribution Provider.
- Distribution Provider shall require the use of standardized forms of Interconnection Financial Security to the greatest extent possible. If at any time the guarantor of the Interconnection Financial Security fails to maintain the credit rating required by this Section F.4.a, Applicant shall provide to Distribution Provider replacement Interconnection Financial Security meeting the requirements of this Section F.4.a within five (5) Business Days of the change in credit rating.
- Interest on a cash deposit standing to the credit of Distribution Provider in an interest-bearing escrow account under subpart (d) of this Section F.4.a will accrue to Applicant's benefit.
- b. Initial Posting of Interconnection Financial Security
- On or before sixty (60) Calendar Days after publication of the final Interconnection System Impact Study report, Applicant must post, with notice to Distribution Provider, two separate Interconnection Financial Security instruments. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 85

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

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

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 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.

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 for Network Upgrades, or (ii) \$20,000 per MW of electrical output of the Small Generating Facility or the amount of megawatt increase in the generating capacity of each existing Generating Facility as listed by Applicant in its Interconnection Request.

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 86

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

c. Second Posting of Interconnection Financial Security

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 87

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

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

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

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

d. Third Posting of Interconnection Financial Security.

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 88

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

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

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

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

e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security.

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 89

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

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

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

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

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

(1) Failure to Secure a Power Purchase Agreement.

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 90

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)
- e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security. (Cont'd.)
- i) Conditions for Partial Recovery of Interconnection Financial Security Upon Withdrawal of Interconnection Request or Termination of Generator Interconnection Agreement. (Cont'd.)
- (2) Failure to Secure a Necessary Permit.
- At the time of withdrawal of the Interconnection Request or termination of the Generator Interconnection Agreement, Applicant demonstrates to Distribution Provider that it has received a final denial from the primary issuing Governmental Authority of any permit or other authorization necessary for the construction or operation of the Generating Facility.
- (3) Increase in the Cost of Distribution Provider's Interconnection Facilities or Distribution Upgrades.
- Applicant withdraws the Interconnection Request or terminates the Generator Interconnection Agreement based on an increase of: (i) more than 30% or \$300,000, whichever is greater, in the estimated cost of Distribution Provider's Interconnection Facilities; or (ii) more than 30% or \$300,000, whichever is greater, in the estimated cost of Distribution Upgrades allocated to Applicant from the Interconnection System Impact Study to the Interconnection Facilities Study. This Section F.4.e.i.(3) shall not apply if the cause of the cost increase under (i) or (ii) above is the result of a change requested by Applicant pursuant to Section F.3.d.v. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 91

- F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont'd.) (N)
4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)
- e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security. (Cont'd.)
- i) Conditions for Partial Recovery of Interconnection Financial Security Upon Withdrawal of Interconnection Request or Termination of Generator Interconnection Agreement. (Cont'd.)
- (4) Material Change in Applicant's Interconnection Facilities Created by Distribution Provider's Change in the Point of Interconnection.
- Applicant withdraws the Interconnection Request or terminates the Generator Interconnection Agreement based on a material change from the Interconnection System Impact Study in the Point of Interconnection for the Generating Facility mandated by Distribution Provider and included in the final Interconnection Facilities Study. A material change in the Point of Interconnection shall be where the Point of Interconnection has moved to (i) a different substation, (ii) a different line on a different right of way, or (iii) a materially different location than previously identified on the same line.
- ii) Schedule for Determining Non-Refundable Portion of the Interconnection Financial Security for Network Upgrades.
- (1) Up to One Hundred Twenty (120) Calendar Days After 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 (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 92

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

- e. General Effect of Withdrawal of Interconnection Request or Termination of the Generator Interconnection Agreement on Interconnection Financial Security. (Cont'd.)
- ii) Schedule for Determining Non-Refundable Portion of the Interconnection Financial Security for Network Upgrades (Cont'd.)

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 93

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 94

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

4. INTERCONNECTION FINANCIAL SECURITY (Cont'd.)

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

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

(3) After Commencement of Construction Activities.

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

(4) Notification and Accounting by Distribution Provider.

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 95

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

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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 96

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

(N)

6. WITHDRAWAL

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

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

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

(N)

(Continued)

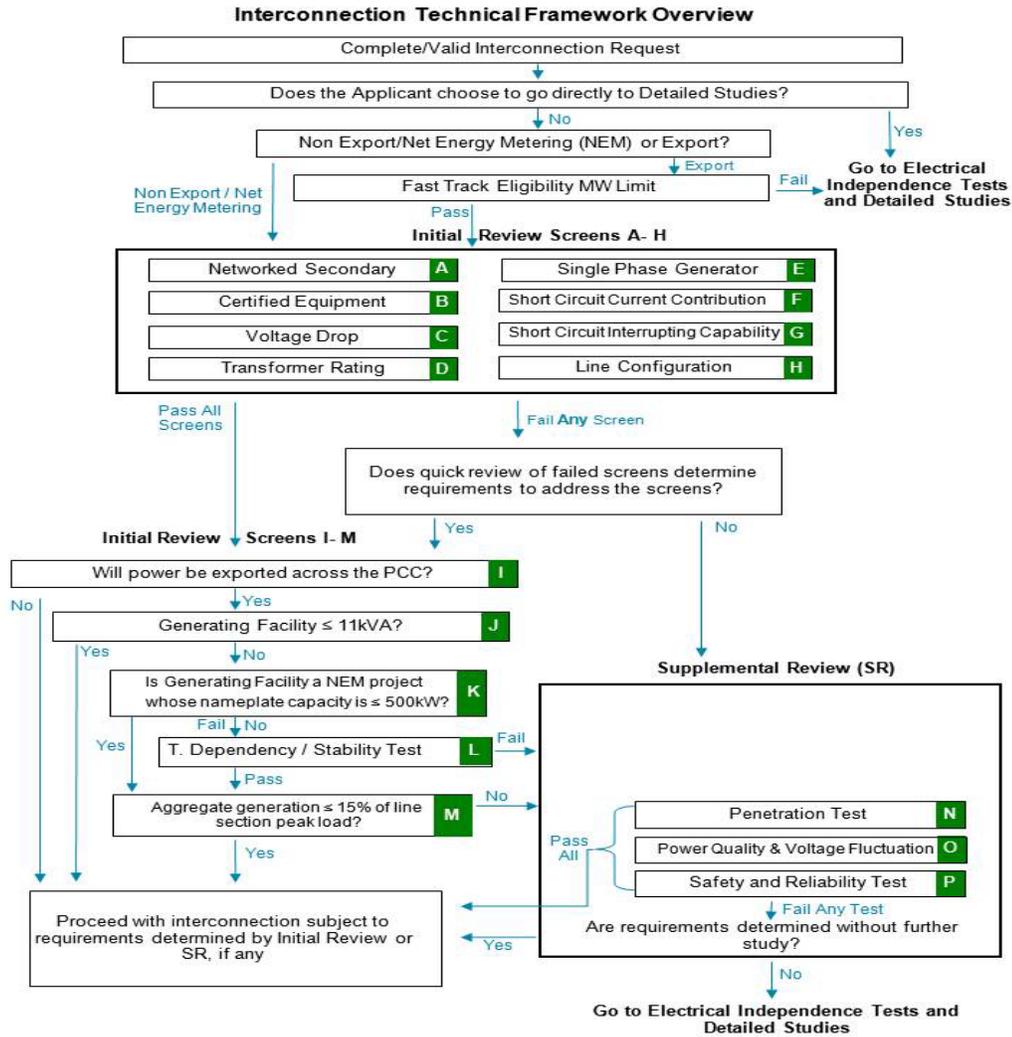


**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 97

**G. ENGINEERING REVIEW DETAILS**

(N)



(N)

(Continued)



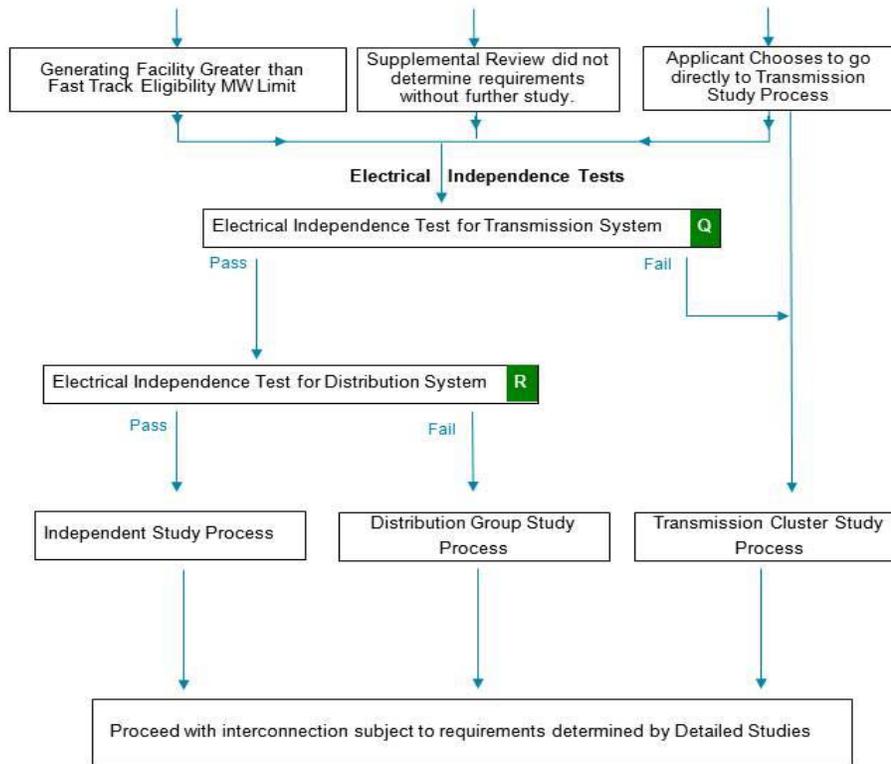
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**GENERATING FACILITY INTERCONNECTIONS**

Sheet 98

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

**Interconnection Technical Framework- Overview**



(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 99

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS

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

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

1. Replace an overloaded distribution transformer with a larger transformer.
  2. Replace overloaded secondary conductors with larger conductor.
  3. Determine if phase balancing on the transformer is possible with minimal review.
  4. If possible without further study check if the Generating Facility will actually overstress equipment.
- a. Screen A: Is the PCC on a Networked Secondary System?

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 100

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

(N)

**1. INITIAL REVIEW SCREENS (Cont'd.)**

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

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

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

**b. Screen B: Is Certified Equipment used?**

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 101

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

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

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

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

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

Significance:

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 102

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 103

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 104

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 105

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

(N)

**1. INITIAL REVIEW SCREENS (Cont'd.)**

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

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

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

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

**Table G-1**  
**Type of Interconnection**

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 106

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 107

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 108

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

Option 5: Inadvertent Export as described in Appendix One.

Significance:

1. If it can be assured that the Generating Facility will not export power, Distribution Provider's Distribution or Transmission System does not need to be studied for load-carrying capability or Generating Facility power flow effects on Distribution Provider voltage regulators.
2. This Screen permits the use of reverse-power or minimum-power relaying as a Non-Islanding Protective Function (Option 1, 2, and 3).
3. This Screen allows, under certain defined conditions, for Generating Facilities that incorporate Certified Non-Islanding protection to qualify for interconnection through the Fast Track process without implementing reverse power or minimum power Protective Functions (Option 3).

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 109

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 110

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 111

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

1. INITIAL REVIEW SCREENS (Cont'd.)

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

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

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

2. SUPPLEMENTAL REVIEW SCREENS

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

1. Replacing a fixed capacitor bank with a switched capacitor bank.
2. Adjustment of line regulation settings.
3. Simple reconfiguration of the distribution circuit.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 112

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

a. Screen N: Penetration Test

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 113

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

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

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

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

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

b. Screen O: Power Quality and Voltage Tests

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 114

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

b. Screen O: Power Quality and Voltage Tests

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

- c) Can it be determined within the Supplemental Review that the harmonic levels meet IEEE 519 limits at the Point of Common Coupling (PCC)?
- If yes to all of the above (pass), continue to Screen P.
  - If no to any of the above (fail), a quick review of the failure may determine the requirements to address the failure; otherwise Electrical Independence Tests and Detailed Studies are required. Continue to Screen P. (Note: If Electrical Independence tests and Detailed Studies are required, Applicants will continue to the Electrical Independence Tests and Detailed Studies after review of the remaining Supplemental Review Screens.)

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

c. Screen P: Safety and Reliability Tests

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 115

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 116

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

2. SUPPLEMENTAL REVIEW SCREENS (Cont'd.)

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

- 4. Does the Generating Facility incorporate a time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time?
- 5. Is operational flexibility reduced by the proposed Generating Facility, such that transfer of the line section(s) of the Generating Facility to a neighboring distribution circuit/substation may trigger overloads or voltage issues?
- 6. Does the Generating Facility utilize Certified anti-islanding functions and equipment?

3. DETAILED STUDY SCREENS

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 117

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

3. DETAILED STUDY SCREENS (Cont'd.)

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

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 118

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

3. DETAILED STUDY SCREENS (Cont'd.)

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

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

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

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 119

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

3. DETAILED STUDY SCREENS (Cont'd.)

c. Independent Study Process Interconnection Studies

The Interconnection Studies shall consist of an Interconnection System Impact Study and an Interconnection Facilities Study. 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, 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 Section F.3.d above.

i) Interconnection System Impact Study.

(1) Scope of the Interconnection System Impact Study.

The Interconnection System Impact Study may consist of a localized short circuit analysis, a stability 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 that requires the upgrades. Short circuit duty impacts to the CAISO Controlled Grid are appropriately evaluated only in the Transmission Cluster Study Process as set forth in Section F.3.c. The short circuit duty contribution of any Interconnection Requests studied in the Independent Study Process 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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 120

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

3. DETAILED STUDY SCREENS (Cont'd.)

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

i) Interconnection System Impact Study. (Cont'd.)

(1) Scope of the Interconnection System Impact Study. (Cont'd.)

The Interconnection System Impact Study shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested Interconnection Service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the Interconnection.

The Interconnection System Impact Study shall provide a list of Distribution Provider's Interconnection Facilities, Distribution Upgrades, and Reliability Network Upgrades that are required as a result of the Interconnection Request along with a non-binding good faith estimate of cost responsibility and the amount of construction time required.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 121

G. ENGINEERING REVIEW DETAILS (Cont'd.)

(N)

3. DETAILED STUDY SCREENS (Cont'd.)

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

ii) Interconnection Facilities Study.

(1) Scope and Purpose of the Interconnection Facilities Study.

The Interconnection Facilities Study shall specify and estimate the cost of the equipment, engineering, procurement, and construction work (including overheads) needed to implement the conclusions of the Interconnection System Impact 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 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.

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS

This section is consistent with the requirements of ANSI/IEEE 1547-2003 Standard for Interconnecting Distributed Resources with Electric Power Systems (IEEE 1547). Exceptions are taken to IEEE 1547 Clauses 4.1.4.2 Distribution Secondary Spot Networks and Clauses 4.1.8.1 or 5.1.3.1, which address Protection from Electromagnetic Interference. These are being studied for inclusion in a subsequent version of this Rule. Also, Rule 21 does not adopt the Generating Facility power limitation of 10 MW incorporated in IEEE 1547.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 122

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (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:

- (1) Over and under voltage trip functions and over and under frequency trip functions;
- (2) A voltage and frequency sensing and time-delay function to prevent the Generating Facility from energizing a de-energized Distribution or Transmission System circuit and to prevent the Generating Facility from reconnecting with Distribution Provider's Distribution or Transmission System unless Distribution Provider's Distribution System service voltage and frequency is within the ANSI C84.1-1995 Table 1 Range B voltage Range of 106 volts to 127 volts (on a 120 volt basis), inclusive, and a frequency range of 59.3 Hz to 60.5 Hz, inclusive, and are stable for at least 60 seconds; and

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 123

- H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (Cont'd.)
1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)
- a. Protective Functions Required (Cont'd.)
- (3) A function to prevent the Generating Facility from contributing to the formation of an Unintended Island, and cease to energize Distribution Provider's Distribution System within two seconds of the formation of an Unintended Island.
- The Generating Facility shall cease to energize Distribution Provider's Distribution System for faults on Distribution Provider's Distribution System circuit to which it is connected (IEEE 1547-4.2.1). The Generating Facility shall cease to energize Distribution Provider's Distribution circuit prior to re-closure by Distribution Provider's Distribution System equipment (IEEE 1547-4.2.2).
- b. Momentary Paralleling Generating Facilities
- With Distribution Provider's approval, the transfer switch or scheme used to transfer Producer's loads from Distribution Provider's Distribution or Transmission System to Producer's Generating Facility may be used in lieu of the Protective Functions required for Parallel Operation. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 124

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

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

c. Suitable Equipment Required

Circuit breakers or other interrupting equipment located at the Point of Common Coupling (PCC) must be Certified or "Listed" (as defined in Article 100, the Definitions Section of the National Electrical Code) as suitable for their intended application. This includes being capable of interrupting the maximum available fault current expected at their location. Producer's Generating Facility and Interconnection Facilities shall be designed so that the failure of any single device or component shall not potentially compromise the safety and reliability of Distribution Provider's Distribution and Transmission System. The Generating Facility paralleling-device shall be capable of withstanding 220% of the Interconnection Facility rated voltage (IEEE 1547-4.1.8.3). The Interconnection Facility shall have the capability to withstand voltage and current surges in accordance with the environments defined in IEEE Std C62.41.2-2002 or IEEE Std C37.90.1-2002 as applicable and as described in L.3.e (IEEE 1547-4.1.8.2).

d. Visible Disconnect Required

When required by Distribution Provider's operating practices, Producer shall furnish and install a ganged, manually-operated isolating switch (or a comparable device mutually agreed upon by Distribution Provider and Producer) near the Point of Interconnection to isolate the Generating Facility from Distribution Provider's Distribution or Transmission System. The device does not have to be rated for load break nor provide over-current protection.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 125

- H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (Cont'd.)
- 1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)
- d. Visible Disconnect Required (Cont'd.)
- The device must:
- (1) allow visible verification that separation has been accomplished. (This requirement may be met by opening the enclosure to observe contact separation.)
- (2) include markings or signage that clearly indicates open and closed positions.
- (3) a) for Emergency purposes be capable of being reached quickly and conveniently 24 hours a day by Distribution Provider personnel for construction, operation, maintenance, inspection, testing or to isolate the Generating Facility from Distribution Provider's Distribution or Transmission System without obstacles or requiring those seeking access to obtain keys, special permission, or security clearances.
- (3) b) for Non-Emergency purposes be capable of being reached during normal business hours. Distribution Provider, where possible, will provide notice to Customer for gaining access to Customer's premises.
- (4) be capable of being locked in the open position (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 126

- H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (Cont'd.)
1. GENERAL INTERCONNECTION AND PROTECTIVE FUNCTION REQUIREMENTS (Cont'd.)
- d. Visible Disconnect Required (Cont'd.)
- (5) be clearly marked on the submitted single line diagram and its type and location approved by Distribution Provider prior to installation. If the device is not adjacent to the PCC, permanent signage must be installed at a Distribution Provider approved location providing a clear description of the location of the device. If the switch is not accessible outside the locked premises, signage with contact information and a Distribution Provider approved locking device for the premises shall be installed.
- Generating Facilities with Non-Islanding inverters totaling one (1) kilovolt-ampere (kVA) or less are exempt from this requirement.
- e. Drawings Required
- Prior to Parallel Operation or Momentary Parallel Operation of the Generating Facility, Distribution Provider shall approve Producer's Protective Function and control diagrams. Generating Facilities equipped with Protective Functions and a control scheme previously approved by Distribution Provider for system-wide application or only Certified Equipment may satisfy this requirement by reference to previously approved drawings and diagrams.
- f. Generating Facility Conditions Not Identified
- In the event this Rule does not address the Interconnection conditions for a particular Generating Facility, Distribution Provider and Producer may agree upon other arrangements. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 127

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

2. PREVENTION OF INTERFERENCE

Producer shall not operate Generating or Interconnection Facilities that superimpose a voltage or current upon Distribution Provider's Distribution or Transmission System that interferes with Distribution Provider operations, service to Distribution Provider Customers, or communication facilities. If such interference occurs, Producer must diligently pursue and take corrective action at its own expense after being given notice and reasonable time to do so by Distribution Provider. If Producer does not take corrective action in a timely manner, or continues to operate the facilities causing interference without restriction or limit, Distribution Provider may, without liability, disconnect Producer's facilities from Distribution Provider's Distribution or Transmission System, in accordance with Section D.9 of this Rule. To eliminate undesirable interference caused by its operation, each Generating Facility shall meet the following criteria:

a. Voltage Regulation

The Generating Facility shall not actively regulate the voltage at the PCC while in parallel with Distribution Provider's Distribution System. The Generating Facility shall not cause the service voltage at other customers to go outside the requirements of ANSI C84.1-1995, Range A (IEEE 1547-4.1.1).

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 128

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 129

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

2. PREVENTION OF INTERFERENCE (Cont'd.)

b. Voltage Trip Setting (Cont'd.)

ii) Generating Facilities (greater than 30 kVA)

Distribution Provider may have specific operating voltage ranges for Generating Facilities with Gross Ratings greater than 30 kVA, and may require adjustable operating voltage settings. In the absence of such requirements, the Generating Facility shall be capable of operating at a range between 88% and 110% of the applicable interconnection voltage. Voltage shall be detected at either the PCC or the Point of Interconnection, with settings compensated to account for the voltage at the PCC. However, the voltage range at the PCC, with the generator on-line, shall stay within +/-5% of nominal.

iii) Voltage Disturbances

Whenever Distribution Provider's Distribution System voltage at the PCC varies from and remains outside normal (Nominally 120 volts) for the predetermined parameters set forth in Table H-1, the Generating Facility's Protective Functions shall cause the Generator(s) to become isolated from Distribution Provider's Distribution System:

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 130

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

(N)

**2. PREVENTION OF INTERFERENCE (Cont'd.)**

**b. Voltage Trip Setting (Cont'd.)**

**iii) Voltage Disturbances (Cont'd.)**

Table H.1: Voltage Trip Settings for Generating Facilities*			
Voltage at Point of Common Coupling (the ranges below are used to trip the generator during abnormal distribution system conditions)		Maximum Trip Time**	
Assuming 120 Volt Base	% of Nominal Voltage	# of Cycles (Assuming 60 Hz Nominal)	Seconds
Less than 60 volts	Less than 50%	10 Cycles	0.16 Seconds
Greater than or equal to 60 volts but less than 106 volts	Greater than or equal to 50% but less than 88%	120 Cycles	2 Seconds
Greater than 132 volts but less than or equal to 144 volts	Greater than 110% but less than or equal to 120%	60 Cycles	1 Second
Greater than 144 volts	Greater than 120%	10 Cycles	0.16 Seconds
*For Generating Facilities with a Rating greater than 30 kVA, set points shall be field adjustable and different voltage set points and trip times from those in Table H.1 may be negotiated with Distribution Provider			
** "Maximum Trip Time" refers to the time between the onset of the abnormal condition and the Generating Facility ceasing to energize Distribution Provider's Distribution System. Protective Function equipment and circuits may remain connected to Distribution Provider's Distribution System to allow sensing of electrical conditions for use by the "reconnect" feature. The purpose of the allowed time delay is to allow for a Generating Facility to minimize tripping during short term system disturbances. Set points shall not be user adjustable for generating facilities less than 30 kW.			

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 131

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (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.

(N)

(Continued)





**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 133

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

(N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

f. Frequency (Cont'd.)

***Table H.2***  
***Frequency Trip Settings***

<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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 134

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

(N)

2. PREVENTION OF INTERFERENCE (Cont'd.)

g. Harmonics

When the Generating Facility is serving balanced linear loads, harmonic current injection into Distribution Provider's Distribution or Transmission System at the PCC shall not exceed the limits stated in Table H.3. The harmonic current injections shall be exclusive of any harmonic currents due to harmonic voltage distortion present in Distribution Provider's Distribution or Transmission System without the Generating Facility connected (IEEE 1547-4.3.3.). The harmonic distortion of a Generating Facility shall be evaluated using the same criteria as for the Host Loads.

**Table H.3**

**Maximum harmonic current distortion in percent of current (I) [1,2]**

Individual harmonic order, h (odd harmonics) [3]	h<11	11≤h<17	17≤h<23	23≤h<35	35≤h	Total demand distortion
Max Distortion (%)	4.0	2.0	1.5	0.6	0.3	5.0

[1] – IEEE1547-4.3.3

[2] – I = the greater of the maximum Host Load current average demand over 15 or 30 minutes without the GF, or the GF rated current capacity (transformed to the PCC when a transformer exists between the GF and the PCC).

[3] – Even harmonics are limited to 25% of the odd harmonic limits above.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 135

- H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (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. (N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 136

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 137

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 138

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 139

H. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS (N)  
 (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 140

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

3. NET GENERATION OUTPUT METERING

Generating Facility customers may be required to install Net Generation Output Metering for evaluation, monitoring, and verification purposes and to determine applicable standby and non-bypassable charges as defined in Distribution Provider's tariffs, to satisfy applicable California Independent System Operator (CAISO) reliability requirements, and for Distribution System planning and operations.

However, Generating Facility customers do not need to install Net Generation Output Metering where less intrusive and/or more cost effective options, for Producer/Customer, are available for providing generator data to Distribution Provider. These Generating Facilities may opt to have Distribution Provider estimate load data in accordance with Distribution Provider's applicable tariffs to determine or meet applicable standby and non-bypassable and other applicable charges and tariff requirements. However, if a Generating Facility customer objects to Distribution Provider's estimate of the Generator(s) output, the customer may elect to install the Net Generation Output Metering, or have Distribution Provider install Net Generation Output Metering at the customer's expense.

(a) All metering options available to the customer must conform to the requirements set forth in Distribution Provider's Rule 22. If Distribution Provider does not receive meter data in accordance with Rule 22, Distribution Provider shall have the right to install Distribution Provider-owned Net Generation Output Metering at the customer's expense. The relevant factors in determining the need for Net Generation Output Metering are as listed below:

- (a) Data requirements in proportion to need for information;
- (b) Producer's election to install equipment that adequately addresses Distribution Provider's operational requirements;

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 141

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

3. NET GENERATION OUTPUT METERING (Cont'd.)

- (c) Accuracy and type of required Metering consistent with purposes of collecting data;
- (d) Cost of Metering relative to the need for and accuracy of the data;
- (e) The Generating Facility's size relative to the cost of the Metering/monitoring;
- (f) Other means of obtaining the data (e.g. Generating Facility logs, proxy data, etc.);
- (g) Requirements under any Generator Interconnection Agreement with Producer.

The requirements in this Section may not apply to Metering of Generating Facilities operating under Distribution Provider's Net Energy Metering tariff pursuant to California PUC section 2827, et seq. Nothing in this Section J.3 supersedes Section D.4, Compliance with Laws, Rules and Tariff Schedules.

Distribution Provider will report to the Commission or designated authority, on a quarterly basis, the rationale for requiring Net Generation Output Metering equipment in each instance along with the size and location of the facility.

4. POINT OF COMMON COUPLING (PCC) METERING

For purposes of assessing Distribution Provider's charges for retail service, Producer's PCC Metering shall be reviewed by Distribution Provider, and if required, replaced to ensure that it will appropriately measure electric power according to the provisions of the Customer's electric service Tariff. Where required, the Customer's existing meter may be replaced with a bi-directional meter so that power deliveries to and from Producer's site can be separately recorded. Alternately,

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 142

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

4. POINT OF COMMON COUPLING (PCC) METERING (Cont'd.)

Producer may, at its sole option and cost, require Distribution Provider to install multi-metering equipment to separately record power deliveries to Distribution Provider's Distribution System and retail purchases from Distribution Provider. Where necessary, such PCC Metering shall be designed to prevent reverse registration.

Generating Facilities for Net Energy Metering under PUC sections 2827, et seq. shall have metering provided pursuant to the terms of the applicable Net Energy Metering Tariff Schedule.

5. TELEMETERING

If the nameplate rating of the Generating Facility is 1 MW or greater, Telemetering equipment at the Net Generation Output Metering location may be required at Producer's expense. If the Generating Facility is Interconnected to a portion of Distribution Provider's Distribution System operating at a voltage below 10 kV, then Telemetering equipment may be required on Generating Facilities 250 kW or greater. Distribution Provider shall only require Telemetering to the extent that less intrusive and/or more cost effective options for providing the necessary data in real time are not available. Distribution Provider will report to the Commission or designated authority, on a quarterly basis, the rationale for requiring Telemetering equipment in each instance along with the size and location of the facility.

6. LOCATION

Where Distribution Provider-owned Metering is located on Producer's premises, Producer shall provide, at no expense to Distribution Provider, a suitable location for all such Metering Equipment.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 143

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

(N)

7. COSTS OF METERING

Producer will bear all costs of the Metering required by this Rule, including the incremental costs of operating and maintaining the Metering Equipment.

8. MULTIPLE TARIFF METERING

The requirements of Section J.3 may not apply where a Generating Facility includes multiple generators eligible for service under more than one Net Energy Metering (NEM) tariff schedule (e.g. NEM, BG-NEM, FC-NEM), or where a Generating Facility consists of one or more NEM-eligible generators in combination with one or more non-NEM eligible generators without Non-Export relays ("Reverse Power Protection"). To ensure proper tariff administration, metering will be required at the PCC and at each of the NEM eligible generator groups eligible for service under the same NEM tariff schedule. For combinations of multiple NEM eligible generators under different tariffs, billing administration and metering requirements will be as specified in the appropriate NEM tariff schedule.

Where a Generating Facility consists of one or more NEM eligible generator groups in combination with one or more non-NEM generators, metering of the non-NEM generators is not required, except as specified in Section J.3.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 144

**K. DISPUTE RESOLUTION PROCESS**

(N)

In addition to the informal procedures for timeline-related disputes set out in Section F.1.d, the following procedures will apply for disputes arising from this Rule:

**1. SCOPE**

The Commission shall have initial jurisdiction to interpret, add, delete or modify any provision of this Rule or of any agreements entered into between Distribution Provider and Applicant or Producer to implement this tariff ("Implementing Agreements") and to resolve disputes regarding Distribution Provider's performance of its obligations under Commission-jurisdictional tariffs, the applicable agreements, and requirements related to the interconnection of Applicant's or Producer's Generating Facility or Interconnection Facilities pursuant to this Rule.

**2. PROCEDURES**

Any dispute arising between Distribution Provider and Producer (individually referred to in Section K as "Party" and collectively "the Parties") regarding Distribution Provider's or Producer's performance of its obligations under its tariffs, the Implementing Agreements, and requirements related to the interconnection of Producer's Facilities pursuant to this Rule shall be resolved according to the following procedures:

- a. The dispute shall be documented in a written notice ("notice") by the aggrieved Party to the other Party containing the relevant known facts pertaining to the dispute, the specific dispute and the relief sought, and express notice by the aggrieved Party that it is invoking the procedures under this Section. The notice shall be sent to the Party's email address and physical address set forth in the Generator Interconnection Agreement or Interconnection Request, if there is no Generator Interconnection Agreement. A copy of the notice shall also be sent to the Energy Division, Office of the Director, at the Commission. The receiving Party shall acknowledge the notice within five (5) Calendar Days of its receipt.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 145

K. DISPUTE RESOLUTION PROCESS (Cont'd.)

(N)

2. PROCEDURES (Cont'd.)

- a. Upon the aggrieved Party notifying the other Party of the dispute, each Party must designate a representative with the authority to make decisions for its respective Party to review the dispute within seven (7) Calendar Days. In addition, upon receipt of the notice, Distribution Provider shall provide the aggrieved Party with all relevant regulatory and/or technical details and analysis regarding any Distribution Provider interconnection requirements under dispute within twenty-one (21) Calendar Days.

Within forty-five (45) Calendar Days of the date of the notice, the Parties' authorized representatives will be required to meet and confer to try to resolve the dispute. Parties are expected to operate in good faith and use best efforts to resolve the dispute.

- b. If a resolution is not reached in forty-five (45) Calendar Days from the date of the notice, either 1) a Party may request to continue negotiations for an additional forty-five (45) Calendar Days or 2) the Parties may by mutual agreement make a written request for mediation to the ADR Coordinator in the Commission's ALJ Division. The request may be submitted by electronic mail to [adr\\_program@cpuc.ca.gov](mailto:adr_program@cpuc.ca.gov). Alternatively, both Parties by mutual agreement may request mediation from an outside third-party mediator with costs to be shared equally between the Parties.
- c. At any time, either Party may file a formal complaint before the Commission pursuant to California PUC section 1702 and Article 4 of the Commission's Rules of Practice and Procedure.

Nothing in this section shall be construed to limit the rights of any Party to exercise rights and remedies under Commission law.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 146

**K. DISPUTE RESOLUTION PROCESS (Cont'd.)**

(N)

**3. PERFORMANCE DURING DISPUTE**

Pending resolution of any dispute under this Section, the Parties shall proceed diligently with the performance of their respective obligations under this Rule 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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 147

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

(N)

1. INTRODUCTION (Cont'd.)

The tests described here, together with the technical requirements in Section H of this Rule, are intended to provide assurance that the Generating Facility's equipment will not adversely affect Distribution Provider's Distribution or Transmission System and that a Generating Facility will cease providing power to Distribution Provider's Distribution or Transmission System under abnormal conditions. The tests were developed assuming a low level of Generating Facility penetration or number of connections to Distribution Provider's Distribution or Transmission System. At high levels of Generating Facility penetration, additional requirements and corresponding test procedures may need to be defined.

Section L also provides criteria for "Certifying" Generators or inverters. Once a Generator or inverter has been Certified per this Rule, it may be considered suitable for Interconnection with Distribution Provider's Distribution or Transmission System. Subject to the exceptions described in Section L, Distribution Provider will not repeat the design review or require retesting of such Certified Equipment. It should be noted that the Certification process is intended to facilitate Generating Facilities Interconnections. Certification is not a prerequisite to interconnect a Generating Facility.

The revisions made to this Rule relative to IEEE 1547-2003 has resulted in changes in set points, test criteria, test procedures, and other requirements that will impact previously certified or listed equipment as well as equipment currently under evaluation. These changes were made to provide consistency with IEEE 1547. Equipment that is certified or that has been submitted to a NRTL for testing prior to the adoption of the revised Underwriters Laboratories (UL) 1741 standard titled "Inverters, Converters, Controllers and Interconnection Systems Equipment for use with Distributed Energy Resources" and that subsequently meets the previous Rule 21 certification requirements will continue to be accepted as Certified Equipment for Interconnection Requests submitted through May 7, 2007, the effective date of the revised "UL 1741."

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 148

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

(N)

2. CERTIFIED AND NON-CERTIFIED INTERCONNECTION EQUIPMENT

a. Certified Equipment

Equipment tested and approved (i.e. "Listed") by an accredited NRTL as having met both the Type Testing and Production Testing requirements described in this document is considered to be Certified Equipment for purposes of Interconnection with Distribution Provider's Distribution or Transmission System. Certification may apply to either a pre-packaged system or an assembly of components that address the necessary functions. Type Testing may be done in the manufacturer's factory or test laboratory, or in the field. At the discretion of the testing laboratory, field-certification may apply only to the particular installation tested. In such cases, some or all of the tests may need to be repeated at other installations.

When equipment is Certified by a NRTL, the NRTL shall provide to the manufacturer, at a minimum, a Certificate with the following information for each device:

Administrative:

- (1) The effective date of Certification or applicable serial number (range or first in series), and/or other proof that certification is current;
- (2) Equipment model number(s) of the Certified equipment;
- (3) The software version utilized in the equipment, if applicable;
- (4) Test procedures specified (including date or revision number); and
- (5) Laboratory accreditation (by whom and to what standard).

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 149

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

(N)

2. CERTIFIED AND NON-CERTIFIED INTERCONNECTION EQUIPMENT (Cont'd.)

a. Certified Equipment (Cont'd.)

Technical (As appropriate):

- (1) Device ratings (kW, kV, Volts, amps, etc.);
- (2) Maximum available fault current in amps;
- (3) In-rush Current in amps;
- (4) Trip points, if factory set (trip value and timing);
- (5) Trip point and timing ranges for adjustable settings;
- (6) Nominal power factor or range if adjustable;
- (7) If the equipment is Certified as Non-Exporting and the method used (reverse power or underpower); and
- (8) If the equipment is Certified as Non-Islanding

It is the responsibility of the equipment manufacturer to ensure that Certification information is made publicly available by the manufacturer, the testing laboratory, or by a third party.

b. Non-Certified Equipment

For non-Certified equipment, some or all of the tests described in this Rule may be required by Distribution Provider for each Generating and/or Interconnection Facility. The manufacturer or a laboratory acceptable to Distribution Provider may perform these tests. Test results for non-Certified equipment must be submitted to Distribution Provider for the Supplemental Review. Approval by Distribution Provider for equipment used in a particular Generating and/or Interconnection Facility does not guarantee Distribution Provider's approval for use in other Generating and/or Interconnection Facilities.

(N)

(Continued)





**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 151

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

(N)

3. TYPE TESTING (Cont'd.)

a. Type Tests and Criteria for Interconnection Equipment Certification (Cont'd.)

**Table L.1**  
Type Test and Requirements for Interconnection Equipment Certification

Type Test	Reference (1)	Inverter	Synchronous Generator	Induction Generator
Distribution Provider Interaction	UL 1741 – 39	X	X	X
DC Isolation	UL 1741 – 40.1	X	—	—
Simulated PV Array (Input) Requirements	UL 1741 – 41.2	X	—	—
Dielectric Voltage Withstand	UL 1741 – 44	X	X	X
Power Factor	UL 1741 – 45.2.2	X	X	X
Harmonic Distortion	UL 1741 – 45.4	X	X	X
DC Injection	UL 1741 – 45.5	X	—	—
Distribution Provider Voltage and Frequency Variation	UL 1741 – 46.2	X	X	X
Reset Delay	UL 1741 – 46.2.3	X	X	X
Loss of Control Circuit	UL 1741 – 46.4	X	X	X
Short Circuit	UL 1741 – 47.3	X	X	X
Load Transfer	UL 1741 – 47.7	X	X	X
Surge Withstand Capability	[L.3.e	X	X	X
Anti-Islanding	L.3.b	(2)	(2)	(2)
Non-Export	L.3.c	(3)	(3)	(3)
In-rush Current	-L.3.d	—	—	(4)
Synchronization	L.3.f]	(5)	X	(5)

Table Notes: (1) References are to section numbers in either UL 1741 (Inverters, Converters and Charge Controllers for Use in Independent Power Systems) or this Rule. References in UL 1741 to "photovoltaics" or "inverter" may have to be adapted to the other technologies by the testing laboratory to appropriately apply in the tests to other technologies.  
 (2) Required only if Non-Islanding designation  
 (3) Required only if Non-Export designation is desired.  
 (4) Required for Generators that use Distribution Provider power to motor to speed.  
 (5) Required for all self-excited induction Generators as well as Inverters that operate as voltage sources when connected to Distribution Provider's Distribution or Transmission System.  
 X = Required  
 - = Not Required

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 152

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

(N)

3. TYPE TESTING (Cont'd.)

a. Type Tests and Criteria for Interconnection Equipment Certification (Cont'd.)

Table L.2 Type Tests Sequence for Interconnection Equipment Certification

<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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 153

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

(N)

3. TYPE TESTING (Cont'd.)

d. In-rush Current Test

Generation equipment that utilizes Distribution Provider power to motor up to speed will be tested using the procedure defined in Section L.7.b to determine the maximum current drawn during this startup process. The resulting In-rush Current is used to estimate the Starting Voltage Drop.

e. Surge Withstand Capability Test

The interconnection equipment shall be tested for the surge withstand requirement in Section H.1.c in all normal operating modes in accordance with IEEE Std C62.45-2002 for equipment rates less than 1000 V to confirm that the surge withstand capability is met by using the selected test level(s) from IEEE Std C62.41.2-2002. Interconnection equipment rated greater than 1000 V shall be tested in accordance with manufacturer or system integrator designated applicable standards. For interconnection equipment signal and control circuits, use IEEE Std C37.90.1-2002. These tests shall confirm the equipment did not fail, did not misoperate, and did not provide misinformation (IEEE 1547-5.1.3.2).

The location/exposure category for which the equipment has been tested shall be clearly marked on the equipment label or in the equipment documentation. External surge protection may be used to protect the equipment in harsher location/exposure categories.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 154

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

(N)

3. TYPE TESTING (Cont'd.)

f. Synchronization Test

This test is applied to synchronous Generators, self-excited induction generators, and inverters capable of operating as voltage-source while connected to Distribution Provider's Distribution or Transmission System. The test is also applied to the resynchronization Function (transition from stand-alone to parallel operation) on equipment that provides such functionality. This test may not need to be performed on both the synchronization and re-synchronization functions if the manufacturers can verify to the satisfaction of the testing organization that monitoring and controls hardware and software are common to both functions. This test is not necessary for induction generators or current-source inverters. Instead, the In-rush Current test Section L.3.d shall be applied to those generators.

This test shall demonstrate that at the moment of the paralleling-device closure, all three synchronization parameters in Table L.3 are within the stated limits. This test shall also demonstrate that if any of the parameters are outside of the limits stated in the table, the paralleling-device shall not close (IEEE 1547-5.1.2A). The test will start with only one of the three parameters: (1) voltage difference between Generating Facility and Distribution Provider's Distribution or Transmission System; (2) frequency difference; or (3) phase angle outside of the synchronization specification. Verify that the Generating Facility is brought within specification prior to synchronization. Repeat the test five times for each of the three parameters. For manual synchronization with synch check or manual control with auto synchronization, the test must verify that paralleling does not occur until the parameters are brought within specifications.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 155

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

(N)

3. TYPE TESTING (Cont'd.)

f. Synchronization Test (Cont'd.)

**Table L.3**  
**Synchronization Parameter Limits [1]**

Aggregate Rating of Generator Units (kVA)	Frequency Difference	Voltage Difference ( $\Delta f$ , Hz)	Phase Angle ( $\Delta V$ , %)	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).

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 156

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

(N)

5. COMMISSIONING TESTING

a. Commissioning Testing

Commissioning Testing, where required, will be performed on-site to verify protective settings and functionality. Upon initial Parallel Operation of a Generating Facility, or any time interface hardware or software is changed that may affect the functions listed below, a Commissioning Test must be performed. An individual qualified in testing protective equipment (professional engineer, factory-certified technician, or licensed electrician with experience in testing protective equipment) must perform Commissioning Testing in accordance with the manufacturer's recommended test procedure to verify the settings and requirements per this Rule.

Distribution Provider may require written Commissioning test procedure be submitted to Distribution Provider at least 10 working days prior to the performance of the Commissioning Test. Distribution Provider has the right to witness Commissioning Test. Distribution Provider may also require written certification by the installer describing which tests were performed and their results. Protective Functions to be tested during commissioning, particularly with respect to non-Certified equipment, may consist of the following:

- (1) Over and under voltage
- (2) Over and under frequency
- (3) Anti-Islanding function (if applicable)
- (4) Non-Exporting function (if applicable)
- (5) Inability to energize dead line

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 157

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

(N)

5. COMMISSIONING TESTING (Cont'd.)

a. Commissioning Testing (Cont'd.)

- (6) Time delay on restart after Distribution Provider source is stable
- (7) Distribution Provider system fault detection (if used)
- (8) Synchronizing controls (if applicable)
- (9) Other Interconnection Protective Functions that may be required as part of the Generator Interconnection Agreement

Commissioning Test shall include visual inspections of the interconnection equipment and protective settings to confirm compliance with the interconnection requirements.

b. Review, Study, and Additional Commissioning Test Verification Costs

A Producer shall be responsible for the reasonably incurred costs of the reviews, studies and additional Commissioning Test verifications conducted pursuant to Section E of this Rule. If the initial Commissioning Test verification is not successful through no fault of Distribution Provider, Distribution Provider may impose upon Producer a cost based charge for subsequent Commissioning Test verifications. All Costs for additional Commissioning Test verifications shall be paid by Producer within thirty days of receipt of Distribution Provider's invoice. The invoice provided by Distribution Provider shall consist of the hourly rate multiplied by the hours incurred by Distribution Provider and will separately specify the amount of time spent on-site from that spent in roundtrip travel to the Commissioning Test site. Additional cost, if any, will be specified on the invoice. If the initial Commissioning Test verification is not successful through the fault of Distribution Provider, that visit will not be considered the initial Commissioning Test verification.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 158

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

(N)

5. COMMISSIONING TESTING (Cont'd.)

c. Other Checks and Tests

Other checks and tests that may need to be performed include:

- (1) Verifying final Protective Function settings
- (2) Trip test (L.5.g)
- (3) In-service tests (L.5.h)

d. Certified Equipment

Generating Facilities qualifying for interconnection through the Fast Track process incorporate Certified Equipment that have, at a minimum, passed the Type Tests and Production Tests described in this Rule and are judged to have little or no potential impact on Distribution Provider's Distribution or Transmission System. For such Generating Facilities, it is necessary to perform only the following tests:

- (1) Protective Function settings that have been changed after Production Testing will require field verification. Tests shall be performed using injected secondary frequencies, voltages and currents, applied waveforms, at a test connection using a Generator to simulate abnormal Distribution Provider voltage or frequency, or varying the set points to show that the device trips at the measured (actual) Distribution Provider voltage or frequency.
- (2) The Non-Islanding function shall be checked by operating a load break disconnect switch to verify the Interconnection equipment ceases to energize Distribution Provider's Distribution or Transmission System and does not re-energize it for the required time delay after the switch is closed.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 159

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

(N)

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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 160

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

(N)

5. COMMISSIONING TESTING (Cont'd.)

g. Trip Tests

Interconnection Protective Functions and devices (e.g. reverse power relays) that have not previously been tested as part of the Interconnection Facilities with their associated interrupting devices (e.g. contactor or circuit breaker) shall be trip tested during commissioning. The trip test shall be adequate to prove that the associated interrupting devices open when the protective devices operate. Interlocking circuits between Protective Function devices or between interrupting devices shall be similarly tested unless they are part of a system that has been tested and approved during manufacturing.

h. In-service Tests

Interconnection Protective Functions and devices that have not previously been tested as part of the Interconnection Facilities with their associated instrument transformers or that are wired in the field shall be given an in-service test during commissioning. This test will verify proper wiring, polarity, CT/PT ratios, and proper operation of the measuring circuits. The in-service test shall be made with the power system energized and carrying a known level of current. A measurement shall be made of the magnitude and phase angle of each Alternating Current (AC) voltage and current connected to the protective device and the results compared to expected values. For protective devices with built-in Metering Functions that report current and voltage magnitudes and phase angles, or magnitudes of current, voltage, and real and reactive power, the metered values may be used for in-service testing. Otherwise, portable ammeters, voltmeters, and phase-angle meters shall be used.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 161

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

(N)

6. PERIODIC TESTING

Periodic Testing of Interconnection-related Protective Functions shall be performed as specified by the manufacturer, or at least every four years. All Periodic Tests prescribed by the manufacturer shall be performed. Producer shall maintain Periodic Test reports or a log for inspection by Distribution Provider. Periodic Testing conforming to Distribution Provider test intervals for the particular Line Section may be specified by Distribution Provider under special circumstances, such as high fire hazard areas. Batteries used to activate any Protective Function shall be checked and logged once per month for proper voltage. Once every four years, the battery must be either replaced or a discharge test performed.

7. TYPE TESTING PROCEDURES NOT DEFINED IN OTHER STANDARDS

This Section describes the additional Type Tests necessary to qualify a device as Certified under this Rule. These Type Tests are not contained in Underwriters Laboratories UL 1741 Standard *Inverters, Converters and Controllers for Use in Independent Power Systems*, or other referenced standards.

a. Non-Exporting Test Procedures

The Non-Exporting test is intended to verify the operation of relays, controllers and inverters designed to limit the export of power and certify the equipment as meeting the requirements of Screen I, Options 1 and 2, of the review process. Tests are provided for discrete relay packages and for controllers and inverters with the intended Functions integrated.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 162

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

(N)

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

a. Non-Exporting Test Procedures (Cont'd.)

i) Discrete Reverse Power Relay Test

This version of the Non-Exporting test procedure is intended for discrete reverse power and underpower relay packages provided to meet the requirements of Options 1 and 2 of Screen I. It should be understood that in the reverse power application, the relay will provide a trip output with power flowing in the export (toward Distribution Provider's Distribution or Transmission System) direction.

Step 1: Power Flow Test at Minimum, Midpoint and Maximum Pickup Level Settings

Determine the corresponding secondary pickup current for the desired export power flow of 0.5 secondary watts (the minimum pickup setting, assumes 5 amp and 120V CT/PT secondary). Apply nominal voltage with minimum current setting at zero (0) degrees phase angle in the trip direction. Increase the current to pickup level. Observe the relay's (LCD or computer display) indication of power values. Note the indicated power level at which the relay trips. The power indication should be within 2% of the expected power. For relays with adjustable settings, repeat this test at the midpoint, and maximum settings. Repeat at phase angles of 90, 180 and 270 degrees and verify that the relay does not operate (measured watts will be zero or negative).

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 163

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

(N)

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

a. Non-Exporting Test Procedures (Cont'd.)

i) Discrete Reverse Power Relay Test (Cont'd.)

Step 2: Leading Power Factor Test

Apply rated voltage with a minimum pickup current setting (calculated value for system application) and apply a leading power factor load current in the non-trip direction (current lagging voltage by 135 degrees). Increase the current to relay rated current and verify that the relay does not operate. For relays with adjustable settings, this test should be repeated at the minimum, midpoint, and maximum settings.

Step 3: Minimum Power Factor Test

At nominal voltage and with the minimum pickup (or ranges) determined in Step 1, adjust the current phase angle to 84 or 276 degrees. Increase the current level to pickup (about 10 times higher than at 0 degrees) and verify that the relay operates. Repeat for phase angles of 90, 180 and 270 degrees and verify that the relay does not operate.

Step 4: Negative Sequence Voltage Test

Using the pickup settings determined in Step 1, apply rated relay voltage and current at 180 degrees from tripping direction, to simulate normal load conditions (for three-phase relays, use Ia at 180, Ib at 60 and Ic at 300 degrees). Remove phase-1 voltage and observe that the relay does not operate. Repeat for phases-2 and 3.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 164

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

(N)

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

a. Non-Exporting Test Procedures (Cont'd.)

i) Discrete Reverse Power Relay Test (Cont'd.)

Step 5: Load Current Test

Using the pickup settings determined in Step 1, apply rated voltage and current at 180 degrees from the tripping direction, to simulate normal load conditions (use Ia at 180, Ib at 300 and Ic at 60 degrees). Observe that the relay does not operate.

Step 6: Unbalanced Fault Test

Using the pickup settings determined in Step 1, apply rated voltage and 2 times rated current, to simulate an unbalanced fault in the non-trip direction (use Va at 0 degrees, Vb and Vc at 180 degrees, Ia at 180 degrees, Ib at 0 degrees, and Ic at 180 degrees). Observe that the relay, especially single phase, does operate properly.

Step 7: Time Delay Settings Test

Apply Step 1 settings and set time delay to minimum setting. Adjust the current source to the appropriate level to determine operating time, and compare against calculated values. Verify that the timer stops when the relay trips. Repeat at midpoint and maximum delay settings.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 165

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

(N)

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

a. Non-Exporting Test Procedures (Cont'd.)

i) Discrete Reverse Power Relay Test (Cont'd.)

Step 8: Dielectric Test

Perform the test described in IEC 414 using 2 kV RMS for 1 minute.

Step 9: Surge Withstand Test

Perform the surge withstand test described in IEEE C37.90.1.1989 or the surge withstand capability test described in L.3.e.

ii) Discrete Underpower Relay Test

This version of the Non-Exporting test procedure is intended for discrete underpower relay packages and meets the requirements of Option 2 of Screen I. A trip output will be provided when import power (toward Producer's load) drops below the specified level.

Note: For an underpower relay, pickup is defined as the highest power level at which the relay indicates that the power is less than the set level.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 166

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

(N)

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

a. Non-Exporting Test Procedures (Cont'd.)

ii) Discrete Underpower Relay Test (Cont'd.)

Step 1: Power Flow Test at Minimum, Midpoint and Maximum  
 Pickup Level Settings

Determine the corresponding secondary pickup current for the  
 desired power flow pickup level of 5% of peak load minimum  
 pickup setting. Apply rated voltage and current at 0 (zero)  
 degrees phase angle in the direction of normal load current.

Decrease the current to pickup level. Observe the relay's (LCD or  
 computer display) indication of power values. Note the indicated  
 power level at which the relay trips. The power indication should  
 be within 2% of the expected power. For relays with adjustable  
 settings, repeat the test at the midpoint, and maximum settings.  
 Repeat at phase angles of 90, 180 and 270 degrees and verify  
 that the relay operates (measured watts will be zero or negative).

Step 2: Leading Power Factor Test

Using the pickup current setting determined in Step 1, apply rated  
 voltage and rated leading power factor load current in the normal  
 load direction (current leading voltage by 45 degrees). Decrease  
 the current to 145% of the pickup level determined in Step 1 and  
 verify that the relay does not operate. For relays with adjustable  
 settings, repeat the test at the minimum, midpoint, and maximum  
 settings.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 167

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

(N)

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

a. Non-Exporting Test Procedures (Cont'd.)

ii) Discrete Underpower Relay Test (Cont'd.)

Step 3: Minimum Power Factor Test

At nominal voltage and with the minimum pickup (or ranges) determined in Step 1, adjust the current phase angle to 84 or 276 degrees. Decrease the current level to pickup (about 10% of the value at 0 degrees) and verify that the relay operates. Repeat for phase angles 90, 180 and 270 degrees and verify that the relay operates for any current less than rated current.

Step 4: Negative Sequence Voltage Test

Using the pickup settings determined in Step 1, apply rated relay voltage and 25% of rated current in the normal load direction, to simulate light load conditions. Remove phase 1 voltage and observe that the relay does not operate. Repeat for Phases-2 and 3.

Step 5: Unbalanced Fault Test

Using the pickup settings determined in Step 1, apply rated voltage and two times rated current, to simulate an unbalanced fault in the normal load direction (use Va at 0 degrees, Vb and Vc at 180 degrees, Ia at 0 degrees, Ib at 180 degrees, and Ic at 0 degrees). Observe that the relay (especially single-phase types) operates properly.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 168

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

(N)

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

a. Non-Exporting Test Procedures (Cont'd.)

ii) Discrete Underpower Relay Test (Cont'd.)

Step 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.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 169

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

(N)

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

a. Non-Exporting Test Procedures (Cont'd.)

iii) Tests for Inverters and Controllers with Integrated Functions

Inverters and controllers designed to provide reverse or underpower functions shall be tested to certify the intended operation of this function. Two methods are acceptable:

Method 1: If the inverter or controller utilizes external current/voltage measurement to determine the reverse or underpower condition, then the inverter or controller shall be functionally tested by application of appropriate secondary currents and potentials as described in the Discrete Reverse Power Relay Test, Section L.7.a.i of this Rule.

Method 2: If external secondary current or voltage signals are not used, then unit-specific tests must be conducted to verify that power cannot be exported across the PCC for a period exceeding two seconds. These may be factory tests, if the measurement and control points are integral to the unit, or they may be performed in the field.

b. In-rush Current Test Procedures

This test will determine the maximum In-rush Current drawn by the Generator.

(1) Locked-Rotor Method

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

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 170

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

(N)

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

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

(2) Start-up Method

Install and setup the Generating Facility equipment as specified by the manufacturer. Using a calibrated oscilloscope or data acquisition equipment with appropriate speed and accuracy, measure the current draw at the Point of Interconnection as the Generating Facility starts up and parallels with Distribution Provider's Distribution or Transmission System. Startup shall follow the normal, manufacturer-specified procedure. Sufficient time and current resolution and accuracy shall be used to capture the maximum current draw within 5%. In-rush Current is defined as the maximum current draw from Distribution Provider during the startup process, using a 10-cycle moving average. During the test, Distribution Provider source, real or simulated, must be capable of maintaining voltage within +/- 5% of rated at the connection to the unit under test. Repeat this test five times. Report the highest 10-cycle current as the In-rush Current. A graphical representation of the time-current characteristic along with the certified In-rush Current must be included in the test report and made available to Distribution Provider.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 171

M. APPENDIX ONE

(N)

Inadvertent Export

Inadvertent Export: "The unscheduled and uncompensated export of real power from a Generating Facility (GF) for a duration exceeding two seconds but less than 60 seconds."

Under certain operating conditions, an Applicant may choose to completely offset their facility load by installing generation systems which are optimally sized to meet their peak demand with load following functionality on the Generator controls to ensure conditional export of electrical power from the Generating Facility to Distribution Provider's Distribution or Transmission System. In situations where the loading changes rapidly and/or the Generator cannot ramp down quickly enough, the Generating Facility may need to export small amounts of power for limited duration. The event of exporting uncompensated power for a short time is referred to as Inadvertent Export.

It is proposed that the following criteria be the minimum requirements for Inadvertent Export systems. It should be understood that other factors relevant to the interconnection study process (15% screen results, short circuit current ratio, etc.) may necessitate additional technical requirements (e.g. reclose block, transfer trip, ground bank, etc.) that are not explicitly noted here. Also, it should be noted that Inadvertent Export may not be available for interconnections to Networked Secondary Systems.

- 1) If a Generating Facility is proposed with Inadvertent Export, additional Protective Functions and equipment to detect Distribution or Transmission System faults (per Distribution Provider's standard practices) may be required over and above the basic Protective Functions and equipment associated with the four options in the Export Screen. Protective Functions may include, but are not limited to, directional overcurrent/voltage-restraint overcurrent Protective Functions for line-to-line fault detection and overcurrent/overvoltage Protective Functions for line-to-ground detection. The addition of a ground bank or ground detector may also be necessary.

(N)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 172

M. APPENDIX ONE (Cont'd.)

(N)

- 2) The effect on equipment ratings can be mitigated by limiting the amount of inadvertent export allowed. To a large degree, Voltage Regulation may be similarly handled. The amount of Inadvertent Export is dependent on specific Distribution Provider requirements and should be limited to the lesser of the following values:
  - a. 50% of the Generating Facility Capacity, or
  - b. 10% of the continuous conductor rating in watts at 0.9 power factor for the lowest rated feeder conductor upstream of the GF (i.e. 200kW @ 12kV), or
  - c. 110% of the largest load block in the facility, or
  - d. 500kW or some other maximum level indicated by Distribution Provider

To govern this quantity, a reverse power Protective Function will be provided to trip the connected Generator(s) within two seconds if the proposed amount of Inadvertent Export is exceeded.

- 3) Similarly, to ensure limited impact to the Distribution or Transmission System, the expected frequency of Inadvertent Export occurrences should be less than two occurrences per 24-hour period. Additionally, a separate reverse power or underpower Protective Function will be required (in addition to the reverse power Protective Function described in 2) above) to trip the connected Generator(s) if the duration of reverse power or underpower (i.e. ANY export) exceeds 60 seconds.

(N)

(Continued)



**Electric Sample Form No. 79-973**  
Generating Facility Interconnection Agreement  
For Non-Export Generating Facilities

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**Please Refer to Attached**  
Sample Form

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



PG&E GENERATING FACILITY INTERCONNECTION AGREEMENT FOR NON-EXPORT GENERATING FACILITIES

This Generating Facility Interconnection Agreement for Non-Export Generating Facilities (Agreement) is entered into by and between \_\_\_\_\_ (Producer), and Pacific Gas and Electric Company (PG&E) a California Corporation. Producer and PG&E are sometimes also referred to in this Agreement jointly as "Parties" or individually as "Party." In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties agree as follows:

1. SCOPE AND PURPOSE

This Agreement provides for Producer to interconnect and operate a Non-Export Generating Facility in parallel with PG&E's Distribution System to serve the electrical loads connected to the electric service account that PG&E uses to interconnect Producer's Generating Facility (or, where permitted under Section 218 of the California Public Utilities Code (PUC), the electric loads of an on-site or neighboring party lawfully connected to Producer's Generating Facility through Producer's circuits).

2. SUMMARY AND DESCRIPTION OF PRODUCER'S GENERATING FACILITY

2.1 A description of the Generating Facility, including a summary of its significant components and a single-line diagram showing the general arrangement of how Producer's Generating Facility and loads are interconnected with PG&E's Distribution System, are attached to and made a part of this Agreement. (Supplied by Producer as Appendix A).

2.2 Generating Facility identification number: \_\_\_\_\_ (Assigned by PG&E).

2.3 Producer's electric service account number: \_\_\_\_\_ (Assigned by PG&E).

2.4 Name and address used by PG&E to locate the electric service account used to interconnect the Generating Facility with PG&E's Distribution System:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/Zip Code: \_\_\_\_\_

2.5 The Gross Nameplate Rating of the Generating Facility is: \_\_\_\_\_ kW.

2.6 The Net Nameplate Rating of the Generating Facility is \_\_\_\_\_ kW.

2.7 The expected annual energy production of the Generating Facility is \_\_\_\_\_ kWh.

2.8 For the purpose of securing the Competition Transition Charge exemption available under Section 372 of the California Public Utilities Code (PUC), Producer hereby declares that the Generating Facility   O does   /   O does not   meet the requirements for Cogeneration as such term is used in Section 216.6 of the California Public Utilities Code.

# PACIFIC GAS AND ELECTRIC COMPANY

## GENERATING FACILITY INTERCONNECTION AGREEMENT FOR NON-EXPORT GENERATING FACILITIES

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2.9 The Generating Facility's expected date of Initial Operation is \_\_\_\_\_. The expected date of Initial Operation shall be within two years of the date of this Agreement.

### 3. DOCUMENTS INCLUDED; DEFINED TERMS

3.1 This Agreement includes the following exhibits which are specifically incorporated herein and made a part of this Agreement.

Appendix A- Description of Generating Facility and Single-Line Diagram (Supplied by Producer).

Appendix B- Copies of Rules 2 and 21 and other selected rules and tariffs of PG&E (Supplied by PG&E).

Appendix C- A Copy of *PG&E's Agreement for Installation of Allocation of Special Facilities for Parallel Operation of Nonutility-Owned Generation and/or Electrical Standby Service* (Form 79-280) (Special Facility Agreement), if applicable, (Formed by the Parties).

3.2 When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Agreement or in PG&E's Rule 21, Section C.

### 4. TERM AND TERMINATION

4.1 This Agreement shall become effective as of the last date entered in Section 16, below. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:

(a) The Parties agree in writing to terminate the Agreement.

(b) Unless otherwise agreed in writing by the Parties, at 12:01 A.M. on the day following the date the electric service account through which Producer's Generating Facility is interconnected to PG&E's Distribution System is closed or terminated.

(c) At 12:01 A.M. on the 61<sup>st</sup> day after Producer or PG&E provides written Notice pursuant to Section 9 below to the other Party of Producer's or PG&E's intent to terminate this Agreement.

4.2 Producer may elect to terminate this Agreement pursuant to the terms of Section 4.1(c) for any reason. PG&E may elect to terminate this Agreement pursuant to the terms of Section 4.1(c) for one or more of the following reasons:

(a) A change in applicable rules, tariffs, and regulations, as approved or directed by the Commission, or a change in any local, state or federal law, statute or regulation, either of which materially alters or otherwise affects PG&E's ability or obligation to perform PG&E's duties under this Agreement; or,

# PACIFIC GAS AND ELECTRIC COMPANY

## GENERATING FACILITY INTERCONNECTION AGREEMENT FOR NON-EXPORT GENERATING FACILITIES

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- (b) Producer fails to take all corrective actions specified in PG&E's Notice that Producer's Generating Facility is out of compliance with the terms of this Agreement within the time frame set forth in such Notice; or,
- (c) Producer fails to interconnect and operate the Generating Facility per the terms of this Agreement prior to 120 days after the date set forth in Section 2.9, above, as the Generating Facility's expected date of Initial Operation; or,
- (d) Producer abandons the Generating Facility. PG&E shall deem the Generating Facility to be abandoned if PG&E determines, in its sole opinion, the Generating Facility is non-operational and Producer does not provide a substantive response to PG&E Notice of its intent to terminate this Agreement as a result of Producer's apparent abandonment of the Generating Facility affirming Producer's intent and ability to continue to operate the Generating Facility.

4.3 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application to terminate this Agreement.

4.4 Any agreements attached to and incorporated into this Agreement shall terminate concurrently with this Agreement unless the Parties have agreed otherwise in writing.

### 5. GENERATING FACILITY, OPERATION AND CERTIFICATION REQUIREMENTS

5.1 The electric power produced by Producer's Generating Facility shall be used solely to serve electrical loads connected to the electric service account that PG&E uses to interconnect Producer's Generating Facility (or, where permitted under Section 218 of the PUC, the electric loads of an on-site or neighboring party lawfully connected to Producer's Generating Facility through Producer's circuits). Producer shall attempt in good faith to regulate the electric power output of Producer's Generating Facility so as to prevent the flow of electric energy from the Generating Facility to PG&E's electric system. Unless otherwise agreed upon in writing by the Parties, this Agreement does not provide for, nor otherwise require PG&E to receive, purchase, transmit, distribute, or store the electrical power produced by Producer's Generating Facility.

5.2 If Producer declares that its Generating Facility meets the requirements for Cogeneration as such term is used in Section 216.6 of the PUC (or any successor definition of Cogeneration) (Cogeneration Requirements), Producer warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, its Generating Facility shall continue to meet such Cogeneration Requirements. If Producer becomes aware that its Generating Facility has ceased to meet the Cogeneration Requirements, Producer shall promptly provide PG&E with Notice of such change pursuant to Section 9.1 below. If at any time during the term of this Agreement PG&E determines in its sole discretion that Producer's Generating Facility may no longer meet the Cogeneration Requirements, PG&E may require Producer to provide evidence that its Generating Facility continues to meet the Cogeneration Requirements within 15 business days of PG&E's request

# PACIFIC GAS AND ELECTRIC COMPANY

## GENERATING FACILITY INTERCONNECTION AGREEMENT FOR NON-EXPORT GENERATING FACILITIES

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for such evidence. Additionally, PG&E may periodically (typically, once per year) inspect Producer's Generating Facility and/or require documentation from Producer to monitor the Generating Facility's compliance with Section 216.6 of the PUC. If PG&E determines in its sole judgment that Producer either failed to provide evidence in a timely manner or that it provided insufficient evidence that its Generating Facility continues to meet the Cogeneration Requirements, then the Cogeneration status of the Generating Facility shall be deemed ineffective until such time as Producer again demonstrates to PG&E's reasonable satisfaction that the Generating Facility meets the requirements for a Cogeneration facility (the Status Change).

5.2.1 PG&E shall revise its records and the administration of this Agreement to reflect the Status Change and provide Notice to Producer of the Status Change pursuant to Section 9.1 below. This Notice shall specify the effective date of the Status Change. This date shall be the first day of the calendar year for which PG&E determines in its sole discretion that the Generating Facility first ceased to meet the Cogeneration Requirements. PG&E's Notice shall include an invoice for Competition Transition Charges (CTCs) that were not previously billed during the period between the effective date of the Status Change and the date of the Notice in reliance upon Producer's representations that the Generating Facility complied with the Cogeneration Requirements and therefore was eligible for the exemption from CTCs available under Section 372 of the PUC.

5.2.2 Any amounts to be paid or refunded by Producer, as may be invoiced by PG&E pursuant to the terms of this Section 5.2, shall be paid to PG&E within 30 days of Producer's receipt of such invoice.

### 6. INTERCONNECTION FACILITIES

6.1 Producer and/or PG&E, as appropriate, shall provide Interconnection Facilities that adequately protect PG&E's Distribution System, personnel, and other persons from damage or injury, which may be caused by the operation of Producer's Generating Facility.

6.2 Producer shall be solely responsible for the costs, design, purchase, construction, operation, and maintenance of the Interconnection Facilities that Producer owns.

6.3 If the provisions of PG&E's Rule 21, or any other tariff or rule approved by the Commission, requires PG&E to own and operate a portion of the Interconnection Facilities, Producer and PG&E shall promptly execute a Special Facilities Agreement that establishes and allocates responsibility for the design, installation, operation, maintenance, and ownership of the Interconnection Facilities. This Special Facilities Agreement shall be attached to and made a part of this Agreement as Appendix C.

### 7. LIMITATION OF LIABILITY

# PACIFIC GAS AND ELECTRIC COMPANY

## GENERATING FACILITY INTERCONNECTION AGREEMENT FOR NON-EXPORT GENERATING FACILITIES

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Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

### 8. INSURANCE

8.1 In connection with Producer's performance of its duties and obligations under this Agreement, Producer shall maintain, during the term of this Agreement, general liability insurance with a combined single limit of not less than:

- (a) Two million dollars (\$2,000,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is greater than one hundred (100) kW;
- (b) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is greater than twenty (20) kW and less than or equal to one hundred (100) kW; and
- (c) Five hundred thousand dollars (\$500,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is twenty (20) kW or less.
- (d) Two hundred thousand dollars (\$200,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is ten (10) kW or less and Producer's Generating Facility is connected to an account receiving residential service from PG&E.

Such general liability insurance shall include coverage for "Premises-Operations, Owners and Contractors Protective, Products/Completed Operations Hazard, Explosion, Collapse, Underground, Contractual Liability, and Broad Form Property Damage including Completed Operations."

8.2 The general liability insurance required in Section 8.1 shall, by endorsement to the policy or policies, (a) include PG&E as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that PG&E shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to PG&E prior to cancellation, termination, alteration, or material change of such insurance.

8.3 If Producer's Generating Facility is connected to an account receiving residential service from PG&E and the requirement of Section 8.2(a) prevents Producer from obtaining the insurance required in Section 8.1, then upon Producer's written Notice to PG&E in accordance with Section 9.1, the requirements of Section 8.2(a) shall be waived.

8.4 Evidence of the insurance required in Section 8.2 shall state that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by PG&E.

**PACIFIC GAS AND ELECTRIC COMPANY**  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**FOR NON-EXPORT GENERATING FACILITIES**

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- 8.5 Producer agrees to furnish the required certificates and endorsements to PG&E prior to Initial Operation. PG&E shall have the right to inspect or obtain a copy of the original policy or policies of insurance.
- 8.6 If Producer is self-insured with an established record of self-insurance, Producer may comply with the following in lieu of Sections 8.1 through 8.4:
- (a) Producer shall provide to, PG&E, at least thirty (30) calendar days prior to the date of Initial Operation, evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under Section 8.1.
  - (b) If Producer ceases to self-insure to the level required hereunder, or if Producer are unable to provide continuing evidence of Producer's ability to self-insure, Producer agrees to immediately obtain the coverage required under Section 8.1.
- 8.7 All insurance certificates, statements of self-insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted via email or fax to the following:

Pacific Gas and Electric Company  
c/o EXIGIS LLC  
[support@exigis.com](mailto:support@exigis.com)  
Fax: 646-755-3327

9. NOTICES

- 9.1 Any written notice, demand, or request required or authorized in connection with this Agreement (Notice) shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

If to PG&E: Pacific Gas and Electric Company  
Attention: Generation Interconnection Services- Contract  
Management  
245 Market Street  
Mail Code N7L  
San Francisco, California 94105-1702

If to Producer: Producer Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
Phone: (\_\_\_\_) \_\_\_\_\_  
FAX: (\_\_\_\_) \_\_\_\_\_

- 9.2 A Party may change its address for Notices at any time by providing the other Party Notice of the change in accordance with Section 9.1.
- 9.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone

**PACIFIC GAS AND ELECTRIC COMPANY**  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**FOR NON-EXPORT GENERATING FACILITIES**

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numbers may be communicated or revised by one Party's Notice to the other.

10. REVIEW OF RECORDS AND DATA

10.1 PG&E shall have the right to review and obtain copies of Producer's operations and maintenance records, logs, or other information such as, unit availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Producer's Generating Facility or its interconnection with PG&E's Distribution System.

10.2 Producer authorizes to release to the California Energy Commission (CEC) information regarding Producer's facility, including customer name, location, size, and operational characteristics of the unit, as requested from time to time pursuant to the CEC's rules and regulations.

11. ASSIGNMENT

Producer shall not voluntarily assign its rights nor delegate its duties under this Agreement without PG&E's written consent. Any assignment or delegation Producer makes without PG&E's written consent shall not be valid. PG&E shall not unreasonably withhold its consent to Producer's assignment of this Agreement.

12. NON-WAIVER

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

13. GOVERNING LAW, JURISDICTION OF COMMISSION, INCLUSION OF PG&E's TARIFF SCHEDULES AND RULES

13.1 This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.

13.2 This Agreement shall, at all times, be subject to such changes or modifications by the Commission as it may from time to time direct in the exercise of its jurisdiction.

13.3 The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the Tariff Schedules and Rules applicable to the electric service provided by, PG&E, which Tariff Schedules and Rules are hereby incorporated into this Agreement by this reference.

13.4 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT  
FOR NON-EXPORT GENERATING FACILITIES**

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14. AMENDMENT AND MODIFICATION

This Agreement can only be amended or modified in writing, signed by both Parties.

15. ENTIRE AGREEMENT

This Agreement, including any incorporated Tariff Schedules and rules, contains the entire agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated tariff schedules and rules.

16. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

PRODUCER'S NAME

PACIFIC GAS AND ELECTRIC COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**GENERATING FACILITY INTERCONNECTION AGREEMENT  
FOR NON-EXPORT GENERATING FACILITIES  
PACIFIC GAS AND ELECTRIC COMPANY**

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APPENDIX A  
DESCRIPTION OF GENERATING FACILITY  
AND SINGLE-LINE DIAGRAM,  
(Provided by Producer)

**PACIFIC GAS AND ELECTRIC COMPANY**  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**FOR NON-EXPORT GENERATING FACILITIES**

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APPENDIX B  
RULES "2" AND "21"  
(and any other Tariffs pertinent to the situation)  
(Provided by PG&E)

(Note: PG&E's tariffs are included for reference only and shall at all times be subject to such changes or modifications by the Commission as the Commission may, from time to time, direct in the exercise of its jurisdiction.)

**PACIFIC GAS AND ELECTRIC COMPANY**  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**FOR NON-EXPORT GENERATING FACILITIES**

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APPENDIX C  
(If Applicable)  
RULE 21 "SPECIAL FACILITIES" AGREEMENT  
(Formed between the Parties)



**ELECTRIC SAMPLE FORM NO. 79-974**  
GENERATING FACILITY INTERCONNECTION APPLICATION  
FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING  
FACILITIES (BETWEEN 30 KW AND 1,000 KW)

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**Please Refer to Attached**  
Sample Form

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_

# GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 KW and 1,000 KW)

## Part I – Introduction and Overview

- A. Applicability:** This Generating Facility Interconnection Application (Application) is used to request the interconnection of a Non-Export or certain Net Energy Metered Generating Facility between 30 KW and 1,000 KW, to Pacific Gas and Electric Company's (PG&E) Distribution System (over which the California Public Utilities Commission (CPUC) has jurisdiction). 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. A simpler, shorter form is also available from PG&E for Net Energy Metering Customers with Solar and/or Wind Electric Generating Facilities less than 30kW (Form 79-1101). This form is available on PG&E's website at <http://www.pge.com/gen>. 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](http://www.energy.state.ca.us) and [www.cpuc.ca.gov](http://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, 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.

- 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.



# GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 KW and 1,000 KW)

6. A non-refundable \$800 Interconnection Request fee shall be invoiced and required, when applicable per Rule 21.

C. **Application Instructions:** When this application has been completed, please email the application package to [gen@pge.com](mailto:gen@pge.com).

Alternatively, it may be printed and mailed, along with the required attachments to:

**Pacific Gas and Electric Company  
Attn: Generation Interconnection Services  
245 Market Street  
Mail Code N7L  
San Francisco, California 94105-1702**

## Part II Selecting the Study Process<sup>1</sup>

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.

## 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).

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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.*

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Meter Location Street Address      City      State      Zip

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

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 KW and 1,000 KW)

### Part III Cont'd – Identifying the Generating Facility Location and Responsible Parties

**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, 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 Energy 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).

**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

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 KW and 1,000 KW)

### Part III Cont'd – Identifying the Generating Facility Location and Responsible Parties

**C.1. Customer-Generating Facility Interconnection Agreement (GFIA) or Customer Generation Agreement (CGA) (for 3<sup>rd</sup> 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 3<sup>rd</sup> Party if any, must enter into the Net Energy Metering Interconnection Agreement.

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

<b>Mailing Address</b>	<b>Phone</b>	<b>E-Mail</b>

**C.2. 3<sup>rd</sup> 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 3<sup>rd</sup> 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	
<b>Person Executing the GFIA</b>	<b>Title of Person Executing GFIA</b>	
<b>Mailing Address</b>	<b>Phone</b>	
		<b>E-Mail</b>

**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.**

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 KW and 1,000 KW)

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

A. (MP&I)	Indicate the operating mode of the Generating Facility	operating mode options: ___1 ___2 ___3 ___4 (Choose one)
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**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, Appendix One.
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.

B. <i>Parallel Operation Applications Only</i>	<p>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.</p> <p>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&amp;E's Distribution System. If PG&amp;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.</p>	<p><b>agreement options:</b></p> <p>___1 ___2 ___3 ___4 ___5          ___6 ___7 ___8 ___9          (Choose all that apply)</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Maximum kW</p>
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# GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

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

### 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 3<sup>rd</sup> 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.

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 service under a Net Energy Metering tariff.
8. **Other, please describe:** \_\_\_\_\_

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

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

<p>C.</p> <p><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&amp;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><b>Protection Option:</b></p> <p style="text-align: center;">_ 1 _ 2 _ 3 _ 4 (Choose one)</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Amps</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">kW</p>
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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 four 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.

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 style="text-align: center;">_____</p> <p style="text-align: center;">Amps</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Amps</p>
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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.

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

**Part IV Cont'd - Describing the Generating Facility and Host Customer's Electrical 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.)
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Choose from the following six 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. **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.

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

Instructions (From Part 4)	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 Instruction)					
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					
I	Operating Voltage					
J	Power Factor rating					
K	PF Adjustment Range					
L	Wiring Configuration					

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

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

Instructions From Part 4	Generator Information	Existing Generator Type	Existing Generator Type	New Generator Type	New Generator Type
M (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
N (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
O	<i>Synchronous Generators Only:</i>  Synchronous Reactance:  Transient Reactance:  Subtransient Reactance:	_____ (Xd %) _____ (X'd %) _____ (X''d %)			
P	<i>Induction Generators Only:</i> Locked Rotor Current: Stator Resistance: Stator Leakage Reactance: Rotor Resistance: Rotor Leakage Reactance:	_____ (Amps) _____ (%) _____ (%) _____ (%) _____ (%)			
Q	Short Circuit Current Produced by Generator:	_____ (Amps)	_____ (Amps)	_____ (Amps)	_____ (Amps)
R	<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)
S (MP&I)	Prime Mover Type: (Circle One)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

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

F. (MP&I)	Please indicate if Qualifying Facility (QF) Status will be obtained from the FERC for this Generating Facility.	<input type="checkbox"/> Yes <input type="checkbox"/> No
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**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.

G.	Please indicate if Generating Facility will meet the annual Efficiency and Operating Standards of PUC Code 216.6 (Applicable to Cogeneration Only)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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**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.

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

### Part V – Cont'd Instructions for Describing the Generators

	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	Gross Nameplate Rating (kW)	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 kVA rating. However, where both kVA and kW values are available, please indicate both.
H	Net Nameplate Rating (kW)	This capacity value is determined by subtracting the auxiliary or station service loads used to operate the Generator or Generating Facility. Applicants are not required to supply this value but, if it is not supplied, applicable standby charges may be based on the higher "gross" values.
I	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.
J	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.
K	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.
L	Wiring Configuration	Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.
M	3-Phase Winding Configuration	For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.
N	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.

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

### Part V – Cont'd Instructions for Describing the Generators

	Generator Information	Instructions and Comments
O	<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.
P	<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.
Q	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.
R	<i>For Generators that are Started as a "Motor" Only:</i> <ol style="list-style-type: none"> <li>1. In-Rush Current</li> <li>2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating</li> </ol>	<p>This information is needed only for Generators that are started by "motoring" the generator.</p> <p>See PG&amp;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>

## GENERATING FACILITY INTERCONNECTION APPLICATION FOR NON-EXPORT OR CERTAIN NET ENERGY METERED GENERATING FACILITIES (Between 30 kW and 1000 kW)

	Generator Information	Instructions and Comments
S	Prime Mover Type	Please indicate the type and fuel used as the prime mover or source of energy for the Generator. 1 = Internal Combustion Engine – Natural Gas 2 = Internal Combustion Engine – Diesel Fueled 3 = Internal Combustion Engine - Other Fuel 4 = Microturbine– Natural Gas 5 = Microturbine – Other Fuel 6 = Combustion Turbine Natural Gas 7 = Combustion Turbine - Other Fuel 8 = Steam Turbine 9 = Photovoltaic Panels 10 = Solar-thermal engine 11 = Fuel Cell– Natural Gas 12 = Fuel Cell– Other Fuel 13 = Hydroelectric Turbine 14 = Wind Turbine 15 = Other (please describe)



**ELECTRIC SAMPLE FORM NO. 79-978**

Interconnection Agreement for Net Energy Metering of Solar or Wind Electric  
 Generating Facilities of 1,000 Kilowatts or Less,  
 Other Than Facilities of 30 Kilowatts or Less

T  
 T

**Please Refer to Attached**  
 Sample Form

Advice Letter No: 4110-E  
 Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
 Vice President  
 Regulatory Relations

Date Filed September 20, 2012  
 Effective September 20, 2012  
 Resolution No. \_\_\_\_\_



# 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

This *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* (Agreement)<sup>1</sup> is entered into by and between \_\_\_\_\_ (Customer-Generator), and Pacific Gas and Electric Company (PG&E), a California Corporation. Customer-Generator and PG&E are sometimes also referred to in this Agreement jointly as “Parties” or individually as “Party.” In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties agree as follows:

## 1. SCOPE AND PURPOSE

This Agreement provides for Customer-Generator to interconnect and operate a Generating Facility in parallel with PG&E's Distribution System to serve the electrical loads connected to the electric service agreement ID number that PG&E uses to interconnect Customer-Generator's Generating Facility. Customer-Generator's Generating Facility is intended primarily to offset part or all of the Customer-Generator's own electrical requirements. Consistent with, and in order to effectuate, the provisions of Sections 2827, 2827.7 and 2827.8 of the California Public Utilities Code and PG&E's electric rate Schedule NEM (NEM), Parties enter into this Agreement. This Agreement applies to the Customer-Generator's Generating Facilities identified below with the specified characteristics and generating capacity, and does not allow interconnection or operation of facilities different than those described.

## 2. SUMMARY AND DESCRIPTION OF CUSTOMER-GENERATOR'S GENERATING FACILITY AND DESIGNATION OF OTHERWISE-APPLICABLE RATE SCHEDULE

- 2.1 A description of the Generating Facility, including a summary of its significant components and a single-line diagram showing the general arrangement of how Customer-Generator's Generating Facility and loads are interconnected with PG&E's Distribution System, is attached to and made a part of this Agreement. (This description is supplied by Customer-Generator as Appendix A).
- 2.2 Generating Facility identification number: \_\_\_\_\_ (Assigned by PG&E).
- 2.3 Customer-Generator's electric service agreement ID number: \_\_\_\_\_ (Assigned by PG&E).

<sup>1</sup> Additional forms are available on PG&E's website at <http://www.pge.com/gen>.

**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**

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2.4 Name and address used by PG&E to locate the electric service agreement ID number used to interconnect the Generating Facility with PG&E's Distribution System:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/Zip Code: \_\_\_\_\_

2.5 Interconnected Equipment:

List of generating equipment interconnected with, or without, an inverter to PG&E. (For those generators interconnecting without an inverter, write in "N/A" in the right three columns. If an inverter is shared by more than one generator, write "shared" on the same line as that generator under the manufacturer column and do not enter the inverter rating. Attach list of additional equipment, if applicable.)

	<b>Type of Generator (Solar / Wind / Hybrid)</b>	<b>Generator Rating (watts)</b>	<b>Manufacturer of Inverter used with Generator (if Applicable)</b>	<b>Inverter Model Number (if Applicable)</b>	<b>Inverter Rating (watts)<sup>2</sup> (if Applicable)</b>
1					
2					

2.6 Customer-Generator's otherwise-applicable rate schedule under the provisions of Schedule NEM will be \_\_\_\_\_.

2.7 The Generating Facility's expected date of Initial Operation is \_\_\_\_\_.  
The expected date of Initial Operation shall be within two years of the date of this Agreement.

2.8 If the date of the permits allowing the Customer-Generator to commence construction of the Generating Facility is prior to January 1, 2003, please provide the date the permits were issued: \_\_\_\_\_.

**3. DOCUMENTS INCLUDED AND DEFINED TERMS**

3.1 This Agreement includes the following exhibits that are specifically incorporated herein and made a part of this Agreement.

Appendix A Description of Generating Facility and Single-Line Diagram (Supplied by Customer-Generator).

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<sup>2</sup> If installing an inverter, the inverter rating equals: (the CEC efficiency for each installed inverter) TIMES (the nameplate rating, in kW, of each inverter). The CEC efficiency is obtained on the CEC website at [http://www.consumerenergycenter.org/erprebate/eligible\\_inverters.html](http://www.consumerenergycenter.org/erprebate/eligible_inverters.html) as listed on the date the application is reviewed. Enter the total of all inverter ratings for multiple inverter installations in the Table above.

**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**

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Appendix B     A Copy of *PG&E's Agreement for Installation or Allocation of Special Facilities* (Forms 79-255, 79-280, 79-702) or Agreements to Perform Any Tariff Related Work (62-4527), if applicable (Formed by the Parties).

In addition, PG&E Electric Tariff Rules and Rates, including but not limited to Electric Rules 2, 14, 15, 16, and 21, Schedule NEM, and Customer-Generator's otherwise-applicable rate schedule, available at PG&E's website at [www.pge.com](http://www.pge.com) or by request, are specifically incorporated herein and made part of this Agreement.

3.2     When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Agreement or in PG&E's Electric Rule 21, Section C.

**4.     CUSTOMER BILLING AND PAYMENT**

Customer-Generator initially selects Pacific Gas and Electric Company's electric rate schedule referenced in Section 2.6 of this Agreement as its otherwise-applicable rate schedule. Customer-Generator understands that they will be billed according to the otherwise-applicable rate schedule and Schedule NEM.

**5.     TERM AND TERMINATION**

5.1     This Agreement shall become effective as of the last date entered in Section 18 below. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:

- (a) The Parties agree in writing to terminate the Agreement.
- (b) Unless otherwise agreed in writing by the Parties, at 12:01 A.M. on the day following the date the electric service agreement ID number through which Customer-Generator's Generating Facility is interconnected to PG&E is closed or terminated.
- (c) At 12:01 A.M. on the 61<sup>st</sup> day after Customer-Generator or PG&E provides written Notice pursuant to Section 11 below to the other Party of Customer-Generator's or PG&E's intent to terminate this Agreement.

5.2     Customer-Generator may elect to terminate this Agreement pursuant to the terms of Section 5.1(c) for any reason. PG&E may elect to terminate this Agreement pursuant to the terms of Section 5.1(c) for one or more of the following reasons:

- (a) A change in applicable rules, tariffs, or regulations, as approved or directed by the Commission, or a change in any local, state or federal law, statute or regulation, either of which materially alters or otherwise affects PG&E's ability or obligation to perform PG&E's duties under this Agreement; or,
- (b) Customer-Generator fails to take all corrective actions specified in PG&E's Notice that Customer-Generator's Generating Facility is out of compliance with the terms of this Agreement within the time frame set forth in such Notice; or,

**Interconnection Agreement for Net Energy Metering of Solar or Wind Electric  
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- (c) Customer-Generator abandons the Generating Facility. PG&E shall deem the Generating Facility to be abandoned if PG&E determines, in its sole opinion, the Generating Facility is nonoperational and Customer-Generator does not provide a substantive response to PG&E Notice of its intent to terminate this Agreement as a result of Customer-Generator's apparent abandonment of the Generating Facility affirming Customer-Generator's intent and ability to continue to operate the Generating Facility; or,
  - (d) Customer-Generator's Generating Facility ceases to meet all applicable safety and performance standards set out in Section 6.
- 5.3 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application to terminate this Agreement.
- 5.4 Any agreements attached to and incorporated into this Agreement shall terminate concurrently with this Agreement unless the Parties have agreed otherwise in writing.

**6. GENERATING FACILITY REQUIREMENTS**

- 6.1 Customer-Generator's Generating Facility must meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Commission regarding safety and reliability including Rule 21.
- 6.2 Customer-Generator shall: (a) maintain the Generating Facility and Interconnection Facilities in a safe and prudent manner and in conformance with all applicable laws and regulations including, but not limited to, Section 6.1, and (b) obtain any governmental authorizations and permits required for the construction and operation of the Generating Facility and Interconnection Facilities. Customer-Generator shall reimburse PG&E for any and all losses, damages, claims, penalties, or liability it incurs as a result of Customer-Generator's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of Customer-Generator's Generating Facility.
- 6.3 Customer-Generator shall not commence parallel operation of the Generating Facility until PG&E has provided express written approval. Such approval shall normally be provided no later than thirty (30) business days following PG&E's receipt of: (1) a completed *Generating Facility Interconnection Application for Non-Export or Certain Net Energy Metered Generating Facilities (between 30 kW and 1,000 kW)* (Form 79-974), including all supporting documents and payments as described in the Application; (2) a completed *Expanded Net Energy Metering (NEM) Supplemental Application* (Form 79-998); (3) a signed and completed *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* (Form 79-978); and (4) a copy of the Customer-Generator's final inspection clearance from the governmental authority having jurisdiction over the Generating Facility. Such approval shall not be unreasonably withheld. PG&E shall have the right to have representatives present at the Commissioning Test as defined in Rule 21. Customer-Generator shall notify PG&E at least five (5) business days prior to the initial testing.

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Generating Facilities of 1,000 KW or Less, Other Than Facilities of 30 KW or Less**

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**7. INTERCONNECTION FACILITIES**

- 7.1 Customer-Generator and/or PG&E, as appropriate, shall provide Interconnection Facilities that adequately protect PG&E's Distribution System, personnel, and other persons from damage or injury, which may be caused by the operation of Customer-Generator's Generating Facility.
- 7.2 Customer-Generator shall be solely responsible for the costs, design, purchase, construction, permitting, operation, and maintenance of the Interconnection Facilities that Customer-Generator owns.
- 7.3 If the provisions of PG&E's Electric Rule 21, or any other tariff or rule approved by the Commission, require PG&E to own and operate a portion of the Interconnection Facilities, Customer-Generator and PG&E shall promptly execute a Special Facilities Agreement that establishes and allocates responsibility for the design, installation, operation, maintenance, and ownership of the Interconnection Facilities. This Special Facilities Agreement shall be attached to and made a part of this Agreement as Appendix B.

**8. LIMITATION OF LIABILITY**

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

**9. INSURANCE**

Customer-Generator Facility is required to comply with standards and rules set forth in section 6 and provide the following for insurance policies in place.

Customer-Generator shall furnish the required certificates and all endorsements to PG&E prior to Parallel Operation.

The certificate shall provide thirty (30) calendar days' written notice to PG&E prior to cancellation, termination, alteration, or material change of such insurance.

PG&E shall have the right to inspect or obtain a copy of the original policy or policies of insurance.

- 9.1 If at any time during this agreement the Customer-Generator fails to meet the requirements in section 6, the following insurance shall apply:

Customer-Generator shall procure and maintain a commercial general liability insurance policy at least as broad as the Insurance Services Office (ISO) commercial general liability coverage "occurrence" form; or, if Customer-Generator is an individual, then liability coverage with respect to premises and use at least as broad as the ISO homeowners' or personal liability Insurance occurrence policy form, or substitute, providing equivalent coverage no less than the following limits, based on generator size:

**Interconnection Agreement for Net Energy Metering of Solar or Wind Electric  
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- (a) Two million dollars (\$2,000,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is greater than one hundred (100) kW; or
- (b) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is greater than twenty (20) kW and less than or equal to one hundred (100) kW; or
- (c) Five hundred thousand dollars (\$500,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is twenty (20) kW or less;
- (d) Two hundred thousand dollars (\$200,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is ten (10) kW or less and the Generating Facility is connected to an account receiving residential service from PG&E.

The insurance shall, by endorsement:

- (a) Add PG&E as an additional insured;
- (b) State that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by PG&E.
- (c) Contain a severability of interest clause or cross-liability clause.

9.2 If Customer-Generator's Generating Facility is connected to an account receiving residential service from PG&E and the requirement of Section 9.1 prevents Customer-Generator from obtaining the insurance required in this Section, then upon Customer-Generator's written Notice to PG&E in accordance with Section 11.1, the requirements of Section 9.1 may be waived.

9.3 Customer-Generator may self-insure with approval from PG&E. Evidence of an acceptable plan to self-insure, at least thirty (30) calendar days' prior to operations shall be submitted.

If Customer-Generator ceases to self-insure to the level required hereunder, or if Customer-Generator is unable to provide continuing evidence of Customer-Generator's ability to self-insure, Customer-Generator agrees to immediately obtain the coverage required under agreement.

9.4 All required certificates, endorsements or letters of self-insurance shall be issued and submitted via email or fax to the following:

Pacific Gas and Electric Company  
c/o EXIGIS LLC  
[support@exigis.com](mailto:support@exigis.com)  
Fax: 646-755-3327

## **10. INDEMNITY FOR FAILURE TO COMPLY WITH INSURANCE PROVISIONS**

10.1 If Customer-Generator fails to comply with the insurance provisions of this Agreement, Customer-Generator shall, at its own cost, defend, save harmless and indemnify PG&E, its directors, officers, employees, agents, assignees, and successors in interest from and against any and all loss, liability, damage, claim, cost, charge, demand, or expense of any kind or nature (including attorney's fees and other costs of litigation) resulting from the death or injury to any person or damage to any property, including the personnel and property of the utility, to the extent that the utility would have been protected had Customer-Generator complied with all such

**Interconnection Agreement for Net Energy Metering of Solar or Wind Electric  
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insurance provisions. The inclusion of this Section 10.1 is not intended to create any expressed or implied right in Customer-Generator to elect not to provide any such required insurance.

- 10.2 The provisions of this Section 10 shall not be construed to relieve any insurer of its obligations to pay any insurance claims in accordance with the provisions of any valid insurance policy.

**11. NOTICES**

- 11.1 Any written notice, demand, or request required or authorized in connection with this Agreement (Notice) shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

If to PG&E: Pacific Gas and Electric Company  
Attention: Generation Interconnection Services- Contract  
Management  
245 Market Street  
Mail Code N7L  
San Francisco, California 94105-1702

If to Customer-Generator:

Customer-Generator Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Phone: (\_\_\_\_\_) \_\_\_\_\_

FAX: (\_\_\_\_\_) \_\_\_\_\_

- 11.2 A Party may change its address for Notices at any time by providing the other Party notice of the change in accordance with Section 11.1.
- 11.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's Notice to the other.

**12. REVIEW OF RECORDS AND DATA**

- 12.1 PG&E shall have the right to review and obtain copies of Customer-Generator's operations and maintenance records, logs, or other information such as Generating Facility availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Customer-Generator's Generating Facility or its interconnection to PG&E.

**Interconnection Agreement for Net Energy Metering of Solar or Wind Electric  
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12.2 Customer-Generator authorizes to release to the California Energy Commission (CEC) information regarding Customer-Generator's facility, including customer name and Generating Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

**13. ASSIGNMENT**

Customer-Generator shall not voluntarily assign its rights nor delegate its duties under this Agreement without PG&E's written consent. Any assignment or delegation Customer-Generator makes without PG&E's written consent shall not be valid. PG&E shall not unreasonably withhold its consent to Customer-Generator's assignment of this Agreement.

**14. NON-WAIVER**

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

**15. GOVERNING LAW, JURISDICTION OF COMMISSION, INCLUSION OF PG&E's TARIFF SCHEDULES AND RULES**

15.1 This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.

15.2 This Agreement shall, at all times, be subject to such changes or modifications by the Commission as it may from time to time direct in the exercise of its jurisdiction.

15.3 The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the Tariff Schedules and Rules applicable to the electric service provided by PG&E, which Tariff Schedules and Rules are hereby incorporated into this Agreement by this reference.

15.4 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

**16. AMENDMENT AND MODIFICATION**

This Agreement can only be amended or modified by a writing signed by both Parties.

**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**

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**17. ENTIRE AGREEMENT**

This Agreement, including any incorporated Tariff Schedules and Rules, contains the entire Agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated Tariff Schedules and Rules.

**18. SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

CUSTOMER-GENERATOR'S NAME

PACIFIC GAS AND ELECTRIC COMPANY

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: Manager,  
Generation Interconnection Services

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**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**

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APPENDIX A  
DESCRIPTION OF GENERATING FACILITY  
AND SINGLE-LINE DIAGRAM  
(Provided by Customer-Generator)

**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**

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APPENDIX B  
(If Applicable)

Any Rule 2 or Rule 21 Agreements for the Installation or Allocation of Special Facilities (Forms 79-255, 79-280, 79-702) or Agreements to Perform Any Tariff Related Work (62-4527)  
(Formed between the Parties)



**Electric Sample Form No. 79-988**  
Generating Facility Interconnection Agreement (Third Party Non-Exporting)

**Please Refer to Attached**  
Sample Form

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



## **GENERATING FACILITY INTERCONNECTION AGREEMENT (3<sup>rd</sup> PARTY NON-EXPORTING)**

This *Generating Facility Interconnection Agreement (3<sup>rd</sup> Party Non-Exporting)* (Agreement) is entered into by and between \_\_\_\_\_ a \_\_\_\_\_ (Producer), and Pacific Gas and Electric Company (PG&E), a California corporation. Producer and PG&E are sometimes also referred to in this Agreement jointly as “Parties” or individually as “Party.” In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties agree as follows:

1. SCOPE, PURPOSE, AND RELATED AGREEMENT

1.1 This Agreement, in conjunction with the *Customer Generation Agreement (3<sup>rd</sup> Party Generator on Premises, Non-Exporting)* (Form 79-992) identified in Section 1.2 and attached as Appendix E, provides for Producer to interconnect and operate a Generating Facility in parallel with PG&E’s Distribution System to serve the electrical loads at the location identified in Section 2.2. This Agreement does not provide for Producer to deliver electric power to PG&E’s Distribution System, nor does this Agreement constitute an agreement by PG&E to provide retail electrical service to Producer. Such arrangements must be made separately between PG&E and Producer.

1.2 The Generating Facility shall be interconnected with PG&E’s Distribution System consistent with, and pursuant to, the *Customer Generation Agreement (3rd Party Generator on Premises, Non-Exporting)* between PG&E and \_\_\_\_\_, (Customer) its successors or assigns dated \_\_\_\_\_, (*Customer Agreement*).

2. SUMMARY AND DESCRIPTION OF PRODUCER’S GENERATING FACILITY

2.1 A description of the Generating Facility, including a summary of its significant components and a single-line diagram showing the general arrangement of how Producer’s Generating Facility and Customer’s loads are Interconnected with PG&E’s Distribution System, are attached to and made a part of this Agreement.

2.2 Name and address used by PG&E to locate the Customer’s Electric Service Account(s) used to interconnect the Generating Facility with PG&E’s Distribution System:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

- 2.3 The Gross Nameplate Rating of the Generating Facility is \_\_\_\_\_ kW.
- 2.4 The Net Nameplate Rating of the Generating Facility is \_\_\_\_\_ kW.
- 2.5 The annual energy production of the Generating Facility is expected to be \_\_\_\_\_ kWh.
- 2.6 The Generating Facility's expected date of Initial Operation is \_\_\_\_\_.  
The expected date of Initial Operation shall be within two years of the date of this Agreement.
- 2.7 For the purpose of securing certain tariff charge exemptions available under the California Public Utilities Code (PU Code), Producer hereby declares that the Generating Facility:
- (a)  does /  does not meet the requirements for Cogeneration as such term is used in Section 218.5 of the PU Code.
  - (b)  does /  does not meet the requirements for Distributed Energy Resource Generation as such term is used in Section 353.1 of the PU Code.

3. DOCUMENTS INCLUDED

This Agreement includes the following exhibits, which are specifically incorporated herein and made a part of this Agreement.

- Appendix A - Description of Generating Facility and Single-Line Diagram  
*(Supplied by Producer).*
- Appendix B - A Copy of *PG&E's Agreement for Installation of Allocation of Special Facilities for Parallel Operation of Nonutility-Owned Generation and/or Electrical Standby Service* (Form 79-280, *Special Facility Agreement*) (If applicable, and formed by the parties).
- Appendix C - Producer's warranty that the Generating Facility meets the requirements for a Cogeneration facility pursuant to Section 218.5 of the Public Utilities Code  
*(when applicable).*
- Appendix D - Producer's warranty that the Generating Facility meets the requirements for Distributed Energy Resources Generation as defined in Section 353.1 of the Public Utilities Code  
*(When applicable).*

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

Appendix E - *Customer Generation Agreement (3rd Party Generator on Premises, Non-Exporting)* (Form 79-992).

4. TERM AND TERMINATION

4.1 This Agreement shall become effective as of the last date entered in Section 16 of this Agreement. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:

- (a) The Parties agree in writing to terminate the Agreement.
- (b) Unless otherwise agreed in writing by the Parties, at 12:01 A.M. on the 31<sup>st</sup> day following the date the *Customer Agreement* is terminated unless such *Customer Agreement* is assigned to another party or replaced by a subsequent agreement. The Parties shall cooperate in obtaining an assignment or replacement agreement.
- (c) At 12:01 A.M. on the 61<sup>st</sup> day after Producer or PG&E provides written Notice pursuant to Section 9 of this Agreement to the other Party of Producer or PG&E's intent to terminate this Agreement.

4.2 Producer may elect to terminate this Agreement pursuant to the terms of Section 4.1(c) for any reason. PG&E may elect to terminate this Agreement pursuant to the terms of Section 4.1(c) for one or more of the following reasons:

- (a) A change in applicable tariffs, as approved or directed by the Commission, or a change in any local, state or federal law, statute or regulation, either of which materially alters or otherwise affects PG&E's ability or obligation to perform PG&E's duties under this Agreement; or,
- (b) Unless otherwise agreed in writing by the Parties, Producer fails to take all corrective actions specified in PG&E's Notice that Producer's Generating Facility is out of compliance with the terms of this Agreement within the time frame set forth in such Notice; or,
- (c) Producer fails to interconnect and operate the Generating Facility per the terms of this Agreement prior to 120 days after the date set forth in Section 2.6 of this Agreement as the Generating Facility's expected date of Initial Operation; or,
- (d) Producer abandons the Generating Facility. PG&E shall deem the Generating Facility to be abandoned if PG&E determines, in its sole opinion, the Generating Facility is non-operational and Producer does not provide a substantive response to PG&E's Notice of its intent to terminate this Agreement as a result of Producer's apparent abandonment of the

# PACIFIC GAS AND ELECTRIC COMPANY

## GENERATING FACILITY INTERCONNECTION AGREEMENT (3<sup>rd</sup> PARTY NON-EXPORTING)

Generating Facility affirming Producer's intent and ability to continue to operate the Generating Facility.

- 4.3 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file an application to terminate this Agreement with the Commission pursuant to the Commission's rules and regulations.
- 4.4 Any agreements attached to and incorporated into this Agreement shall terminate concurrently with this Agreement unless the Parties have agreed otherwise in writing.

### 5. GENERATING FACILITY OPERATION

- 5.1 Producer is responsible for operating the Generating Facility in compliance with all of PG&E's tariffs, including but not limited to PG&E's Electric Rule 21, and any other regulations and laws governing the interconnection of the Generating Facility.
- 5.2 The electric power produced by Producer's Generating Facility shall be used solely to serve electrical loads connected to the electric service account that PG&E uses to interconnect Producer's Generating Facility. Producer shall not use the Generating Facility to serve electrical loads that will cause Producer to be considered an "electrical corporation" as such term is used in Section 218 of the Public Utilities Code.
- 5.3 Producer shall regulate the electric power output of Producer's Generating Facility so as to prevent the flow of electric energy from the Generating Facility to PG&E's electric system. Unless otherwise agreed upon in writing by the Parties, this Agreement does not provide for, nor otherwise require PG&E to receive, purchase, transmit, distribute, or store the electrical power produced by Producer's Generating Facility.
- 5.4 The Generating Facility shall be operated with all of Producer's Protective Functions in service whenever the Generating Facility is operated in parallel with PG&E's Distribution System. Any deviation from these requirements may occur only when the Parties have agreed to such deviations in writing.
- 5.5 Producer shall not operate the Generation Facility in parallel with PG&E's Distribution System unless the *Customer Agreement* is in effect. If the *Customer Agreement* identified in Section 1.2 is terminated, Producer agrees to cease operating the Generating Facility in parallel with PG&E's Distribution System.

PACIFIC GAS AND ELECTRIC COMPANY

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

6. INTERCONNECTION FACILITIES

- 6.1 Producer and/or PG&E, as appropriate, shall provide Interconnection Facilities that adequately protect PG&E's Distribution System, personnel, and other persons from damage or injury which may be caused by the operation of Producer's Generating Facility.
- 6.2 Producer shall be solely responsible for the costs, design, purchase, construction, operation, and maintenance of the Interconnection Facilities that Producer owns.
- 6.3 If the provisions of PG&E's Electric Rule 21, or any other tariff approved by the Commission, require PG&E to own and operate a portion of the Interconnection Facilities, Producer and PG&E shall promptly execute an agreement that establishes and allocates responsibility for the design, installation, operation, maintenance, and ownership of the Interconnection Facilities. This agreement shall be attached to and made a part of this Agreement as Appendix B.

7. LIMITATION OF LIABILITY

- 7.1 Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.
- 7.2 PG&E shall not be liable to Producer in any manner, whether in tort or contract or under any other theory, for loss or damages of any kind sustained by Producer resulting from termination of *the Customer Agreement* provided such termination is consistent with the terms of the *Customer Agreement*.

8. INSURANCE

- 8.1 In connection with Producer's performance of its duties and obligations under this Agreement, Producer shall maintain, during the term of this Agreement, general liability insurance with a combined single limit of not less than:
- (a) Two million dollars (\$2,000,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is greater than one hundred (100) kW;

## PACIFIC GAS AND ELECTRIC COMPANY

### GENERATING FACILITY INTERCONNECTION AGREEMENT (3<sup>rd</sup> PARTY NON-EXPORTING)

- (b) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is greater than twenty (20) kW and less than or equal to one hundred (100) kW; and
- (c) Five hundred thousand dollars (\$500,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is twenty (20) kW or less.
- (d) Two hundred thousand dollars (\$200,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is ten (10) kW or less and Producer's Generating Facility is connected to an account receiving residential service from PG&E.

Such general liability insurance shall include coverage for "Premises-Operations, Owners and Contractors Protective, Products/Completed Operations Hazard, Explosion, Collapse, Underground, Contractual Liability, and Broad Form Property Damage including Completed Operations."

- 8.2 The general liability insurance required in Section 8.1 shall, by endorsement to the policy or policies, (a) include PG&E as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that PG&E shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to PG&E prior to cancellation, termination, alteration, or material change of such insurance.
- 8.3 If Producer's Generating Facility is connected to an account receiving residential service from PG&E and the requirement of Section 8.2(a) prevents Producer from obtaining the insurance required in Section 8.1, then upon Producer's written Notice to PG&E in accordance with Section 9.1, the requirements of Section 8.2(a) shall be waived.
- 8.4 Evidence of the insurance required in Section 8.2 shall state that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by PG&E.
- 8.5 Producer agrees to furnish the required certificates and endorsements to PG&E prior to Initial Operation. PG&E shall have the right to inspect or obtain a copy of the original policy or policies of insurance.
- 8.6 If Producer is self-insured with an established record of self-insurance, Producer may comply with the following in lieu of Sections 8.1 through 8.4:

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

- (a) Producer shall provide to PG&E, at least thirty (30) calendar days prior to the date of Initial Operation, evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under Section 8.1.
- (b) If Producer ceases to self-insure to the level required hereunder, or if Producer is unable to provide continuing evidence of Producer's ability to self-insure, Producer agrees to immediately obtain the coverage required under Section 8.1.

8.7 All insurance certificates, statements of self insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted via email or fax to the following:

Pacific Gas and Electric Company  
c/o EXIGIS LLC  
[support@exigis.com](mailto:support@exigis.com)  
Fax: 646-755-3327

9. NOTICES

9.1 Any written notice, demand, or request required or authorized in connection with this Agreement (Notice) shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

If to PG&E: Pacific Gas and Electric Company  
Attention: Generation Interconnection Services- Contract Management  
245 Market Street  
Mail Code N7L  
San Francisco, California 94105-1702

If to Producer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
Phone: ( \_\_\_\_ ) \_\_\_\_\_  
FAX: ( \_\_\_\_ ) \_\_\_\_\_

9.2 A Party may change its address for Notices at any time by providing the other Party Notice of the change in accordance with Section 9.1.

9.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's Notice to the other.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

10. REVIEW OF RECORDS AND DATA

- 10.1 PG&E shall have the right to review and obtain copies of Producer's operations and maintenance records, logs, or other information such as, unit availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Producer's Generating Facility or its Interconnection with PG&E's Distribution System.
- 10.2 Producer authorizes PG&E to release to the California Energy Commission (CEC) and/or the California Public Utilities Commission (Commission) information regarding the Generating Facility, including the Producer's name and location, and the size, location and operational characteristics of the generating facility, as requested from time to time pursuant to the CEC's or Commission's rules and regulations.

11. ASSIGNMENT

Producer shall not voluntarily assign its rights nor delegate its duties under this Agreement without PG&E's written consent. Any assignment or delegation Producer makes without PG&E's written consent shall not be valid. PG&E shall not unreasonably withhold its consent to Producer's assignment of this Agreement.

12. NON-WAIVER

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

13. GOVERNING LAW, JURISDICTION OF COMMISSION, INCLUSION OF PG&E's TARIFF SCHEDULES, DEFINED TERMS

- 13.1 This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 13.2 This Agreement shall, at all times, be subject to such changes or modifications by the Commission as it may from time to time direct in the exercise of its jurisdiction.
- 13.3 The Interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the tariffs applicable to the electric

## PACIFIC GAS AND ELECTRIC COMPANY

### GENERATING FACILITY INTERCONNECTION AGREEMENT (3<sup>rd</sup> PARTY NON-EXPORTING)

service provided by PG&E. Copies of such tariffs are available at [www.PGE.com](http://www.PGE.com) or by request to PG&E and are incorporated into this Agreement by this reference.

13.4 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application for change in tariffs, rates, charges, classification, service, or any agreement relating thereto.

13.5 When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Agreement or in PG&E's Rule 1 or Electric Rule 21, Section C. If any term is defined in both Rule 1 and Electric Rule 21, the definition in Electric Rule 21 shall prevail.

#### 14. AMENDMENTS AND MODIFICATION

This Agreement can only be amended or modified by a written agreement signed by both Parties. PG&E shall determine in its sole discretion whether prior commission approval is required for such amendments or modifications.

#### 15. ENTIRE AGREEMENT

This Agreement and the *Customer Agreement* referenced in Section 1.2, including any incorporated tariffs, contains the entire agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement, the *Customer Agreement* or in the incorporated tariffs.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

16. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

_____	<b>PACIFIC GAS AND ELECTRIC COMPANY</b>
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

PACIFIC GAS AND ELECTRIC COMPANY  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

**APPENDIX A**

**DESCRIPTION OF GENERATING FACILITY  
AND SINGLE-LINE DIAGRAM**

*(Supplied by Producer)*

PACIFIC GAS AND ELECTRIC COMPANY  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

**APPENDIX B**

A Copy of PG&E's:

*Agreement for Installation or Allocation of Special Facilities for Parallel  
Operation of Nonutility-Owned Generation and/or Electrical Standby Service*

**Form 79-280, *Special Facility Agreement***

*(if applicable, and formed by the Parties)*

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

**APPENDIX C**  
***(When applicable)***

**PRODUCER'S WARRANTY THAT THE GENERATING FACILITY IS A "COGENERATION FACILITY" PURSUANT TO SECTION 218.5 OF THE CALIFORNIA PUBLIC UTILITIES CODE**

For the purpose of securing the Competition Transition Charge exemption available under Section 372 of the California Public Utilities Code (PU Code), Producer hereby declares that the Generating Facility meets the requirements for Cogeneration as such term is used in Section 218.5 of the PU Code (Cogeneration Requirements).

Producer warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, the Generating Facility shall continue to meet the Cogeneration Requirements. If Producer becomes aware that its Generating Facility has ceased to meet the Cogeneration Requirements, Producer shall promptly provide PG&E with Notice of such change pursuant to Section 9.1 of the Agreement. If at any time during the term of this Agreement PG&E determines in its sole discretion that Producer's Generating Facility may no longer meet the Cogeneration Requirements, PG&E may require Producer to provide evidence that the Generating Facility continues to meet the Cogeneration Requirements within 15 business days of PG&E's request for such evidence. Additionally, PG&E may periodically (typically, once per year) inspect Producer's Generating Facility and/or require documentation from Producer to monitor the Generating Facility's compliance with the Cogeneration Requirements. If PG&E determines in its sole judgment that Producer either failed to provide evidence in a timely manner or that it provided insufficient evidence that its Generating Facility continues to meet the Cogeneration Requirements, then the Cogeneration status of the Generating Facility shall be deemed ineffective until such time as Producer again demonstrates to PG&E's reasonable satisfaction that the Generating Facility meets the requirements for a Cogeneration facility (the Cogeneration Status Change).

PG&E shall revise its records and the administration of this Agreement to reflect the Cogeneration Status Change and provide Notice to Producer of the Cogeneration Status Change pursuant to Section 9.1 of this Agreement. Such Notice shall specify the effective date of the Cogeneration Status Change. This date shall be the first day of the calendar year for which PG&E determines in its sole discretion that the Generating Facility first ceased to meet the Cogeneration Requirements. PG&E shall invoice the Producer's electric Service Account through which the Generating Facility is Interconnected with PG&E's Distribution System for Competition Transition Charges (CTCs) that were not previously billed during the period between the effective date of the Status Change and the date of the Notice in reliance upon Producer's representations that the Generating Facility complied with the Cogeneration Requirements and therefore was eligible for the exemption from CTCs available under Section 372 of the PU Code.

Any amounts to be paid or refunded by Producer, as may be invoiced by PG&E pursuant to the terms of this warranty, shall be paid to PG&E within 30 days of Producer's receipt of such invoice.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

**APPENDIX D**  
*(When applicable)*

**PRODUCER'S WARRANTY THAT THE GENERATING FACILITY IS A  
"DISTRIBUTED ENERGY RESOURCES GENERATION"  
FACILITY PURSUANT TO SECTION 353.1 OF THE  
CALIFORNIA PUBLIC UTILITIES CODE**

For the purpose of securing the tariff charge exemption available under Section 353.3 of the California Public Utilities Code (PU Code), Producer hereby declares that the Generating Facility meets the requirements for Distributed Energy Resources Generation as such term is used in Section 353.1 of the PU Code (DERG Requirements).

Producer warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, its Generating Facility shall continue to meet the DERG Requirements. If Producer becomes aware that the Generating Facility has ceased to meet the DERG Requirements, Producer shall promptly provide PG&E with Notice of such change pursuant to Section 9.1 of the Agreement. If at any time during the term of this Agreement PG&E determines in its sole discretion that Producer's Generating Facility may no longer meet the DERG Requirements, PG&E may require Producer to provide evidence that the Generating Facility continues to meet the DERG Requirements within 15 business days of PG&E's request for such evidence. Additionally, PG&E may periodically (typically, once per year) inspect Producer's Generating Facility and/or require documentation from Producer to monitor the Generating Facility's compliance with the DERG Requirements. If PG&E determines in its sole judgment that Producer either failed to provide evidence in a timely manner or that it provided insufficient evidence that its Generating Facility continues to meet the DERG Requirements, then the Distributed Energy Resources Generation status of the Generating Facility shall be deemed ineffective until such time as Producer again demonstrates to PG&E's reasonable satisfaction that the Generating Facility meets the requirements for a Distributed Energy Resources Generation facility (the DERG Status Change).

PG&E shall revise its records and the administration of this Agreement to reflect the DERG Status Change and provide Notice to Producer of the DERG Status Change pursuant to Section 9.1 of this Agreement. Such Notice shall specify the effective date of the DERG Status Change. This date shall be the first day of the calendar year for which PG&E determines in its sole discretion that the Generating Facility first ceased to meet the DERG Requirements. PG&E shall invoice the Producer electric Service Account through which the Generating Facility is Interconnected with PG&E's Distribution System for any tariff charges that were not previously billed during the period between the effective date of the DERG Status Change and the date of the Notice in reliance upon Producer's representations that the Generating Facility complied with the DERG Requirements and therefore was eligible for the exemption from tariff charges available under Section 353.3 of the PU Code.

Any amounts to be paid or refunded by Producer, as may be invoiced by PG&E pursuant to the terms of this warranty, shall be paid to PG&E within 30 days of Producer's receipt of such invoice.

PACIFIC GAS AND ELECTRIC COMPANY  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
**(3<sup>rd</sup> PARTY NON-EXPORTING)**

**APPENDIX E**

**CUSTOMER GENERATION AGREEMENT**  
**(3RD PARTY GENERATOR ON PREMISES)**  
**(NON-EXPORTING)**



**Electric Sample Form No. 79-992**  
Customer Generation Agreement  
(Third Party Generator on Premises Non-Exporting)

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**Please Refer to Attached**  
Sample Form

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



PG&E Log No. \_\_\_\_\_  
Account # \_\_\_\_\_  
Order # \_\_\_\_\_

WE DELIVER ENERGY.<sup>SM</sup>

**CUSTOMER GENERATION AGREEMENT**  
**(3<sup>rd</sup> PARTY GENERATOR ON PREMISES,**  
**NON-EXPORTING)**

This *Customer Generation Agreement (3<sup>rd</sup> Party Generator on Premises, Non-Exporting)* (Agreement) is entered into by and between \_\_\_\_\_, a \_\_\_\_\_ (Customer), and Pacific Gas and Electric Company (PG&E), a California Corporation. Customer and PG&E are sometimes also referred to in this Agreement jointly as "Parties" or individually as "Party." In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties agree as follows:

1. SCOPE, PURPOSE, AND RELATED AGREEMENTS

This Agreement, in conjunction with the *Generating Facility Interconnection Agreement (3<sup>rd</sup> Party Non-Exporting)* (Form 79-988), identified in Section 2.2 and attached as Appendix A, allows the Producer (as identified in Section 2.2) to utilize Customer's electrical facilities to interconnect and operate the Generating Facility in parallel with PG&E's Distribution System. The purpose of the Generating Facility is to serve the Customer's electrical loads at the location identified in Section 2.1.

2. SUMMARY AND DESCRIPTION OF THE PARTIES AND LOCATION OF GENERATING FACILITY

2.1 The name and address used by PG&E to locate the Customer or electric service account where the Generating Facility interconnects with PG&E's Distribution System is:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.2 The Generating Facility shall be Interconnected with PG&E's Distribution System pursuant to the *Generating Facility Interconnection Agreement (3<sup>rd</sup> Party Non-Exporting)* between PG&E and \_\_\_\_\_, its successors or assigns (Producer) dated \_\_\_\_\_ (Producer Agreement).

**PACIFIC GAS AND ELECTRIC COMPANY**

**CUSTOMER GENERATION AGREEMENT**  
**(3<sup>rd</sup> PARTY GENERATOR ON PREMISES,**  
**NON-EXPORTING)**

2.3 Producer's contact information:

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3. CUSTOMER ACKNOWLEDGEMENTS AND OBLIGATIONS

- 3.1 Customer acknowledges that it has authorized the Generating Facility to be installed and operated by Producer in accordance with PG&E's Electric Rule 21 on or adjacent to Customer's premises. Such Generating Facility shall be used to serve all or a portion of Customer's electrical loads associated with the electric service provided by PG&E at the location identified in Section 2.1, above, and any other purpose permitted under the *Producer Agreement*. Customer shall be solely responsible for the terms of any agreement between it and Producer.
- 3.2 Customer shall be solely responsible for any charges incurred under PG&E's electric service tariffs for the services provided to Customer by PG&E. Customer acknowledges that it is the sole end-use consumer of such tariffed services. This Agreement does not constitute an agreement by PG&E to provide any tariffed service to Producer.
- 3.3 Customer acknowledges the Generating Facility shall be operated in compliance with all PG&E tariffs, including but not limited to PG&E's Electric Rule 21, and any other regulations and laws governing the interconnection of the Generating Facility. Customer further acknowledges that it has been made aware of the charges and conditions related to the operation of the Generating Facility including, but not limited to Standby Tariff, Preliminary Statement "BB" Non-Bypassable Charges Tariff, and Electric Rule 2, and that the performance or lack of performance of the Generating Facility may affect the rates and charges billed by PG&E for the electric power delivered to Customer. Copies of such tariffs are available at [www.PGE.com](http://www.PGE.com) or by request to PG&E.
- 3.4 Any amounts to be paid, or refunded to, PG&E for the services received by Customer as a result of the Producer failing to operate the Generating Facility in accordance with the terms of the representations and warranties made under the *Producer Agreement* shall be paid to PG&E in accordance with PG&E's electric tariffs.
- 3.5 Customer shall make the Generating Facility reasonably accessible to PG&E's personnel, contractors or agents to perform PG&E's duties under Electric Rule 21.

# PACIFIC GAS AND ELECTRIC COMPANY

## CUSTOMER GENERATION AGREEMENT (3<sup>rd</sup> PARTY GENERATOR ON PREMISES, NON-EXPORTING)

### 4. TERMS AND TERMINATION

- 4.1 This Agreement shall become effective as of the last date entered in Section 13 below. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:
- (a) The Parties agree in writing to terminate the Agreement.
  - (b) Unless otherwise agreed in writing by the Parties, at 12:01 A.M. on the day following the date the Customer's electric service account through which the Generating Facility is interconnected to PG&E's Distribution System is closed or terminated.
  - (c) Unless otherwise agreed in writing by the Parties, at 12:01 A.M. on the 31<sup>st</sup> day following the date the *Producer Agreement* is terminated, unless the responsibility for such *Producer Agreement* is assigned to or replaced by a subsequent Producer. The Parties shall cooperate in obtaining an assignment or replacement agreement.
  - (d) At 12:01 A.M. on the 61<sup>st</sup> day after Customer or PG&E provides written Notice pursuant to Section 6 below to the other Party of the Customer or PG&E's intent to terminate this Agreement.
- 4.2 Customer may elect to terminate this Agreement pursuant to the terms of Section 4.1(d) for any reason. PG&E may elect to terminate this Agreement pursuant to the terms of Section 4.1(d) for one or more of the following reasons:
- (a) A change in PG&E's applicable tariffs, as approved or directed by the Commission, or a change in any local, state or federal law, statute or regulation, either of which materially alters or otherwise affects PG&E's ability or obligation to perform PG&E's duties under this Agreement; or,
  - (b) Unless otherwise agreed in writing by the Parties, Customer fails to take all corrective actions specified in PG&E's Notice provided in accordance with Section 6 that Customer is out of compliance with the terms of this Agreement within the time frame set forth in such Notice.

### 5. LIMITATION OF LIABILITY

- 5.1 Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement shall be limited to the amount of direct

**PACIFIC GAS AND ELECTRIC COMPANY**

**CUSTOMER GENERATION AGREEMENT**  
**(3<sup>rd</sup> PARTY GENERATOR ON PREMISES,**  
**NON-EXPORTING)**

damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

- 5.2 PG&E shall not be liable to Customer in any manner, whether in tort or contract or under any other theory, for loss or damages of any kind sustained by Customer resulting from termination of the *Producer Agreement* between Producer and PG&E, provided such termination is consistent with the terms of the *Producer Agreement*.

6. NOTICES

- 6.1 Any written notice, demand, or request required or authorized in connection with this Agreement (“Notice”) shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

If to PG&E: Pacific Gas and Electric Company  
Attention: Generation Interconnection Services- Contract  
Management  
245 Market Street  
Mail Code N7L  
San Francisco, California 94105-1702

If to Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
Phone: ( \_\_\_\_ ) \_\_\_\_\_  
FAX: ( \_\_\_\_ ) \_\_\_\_\_

- 6.2 A Party may change its address for Notices at any time by providing the other Party Notice of the change in accordance with Section 6.1.
- 6.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party’s Notice to the other.

7. RELEASE OF DATA

Customer authorizes PG&E to release to the California Energy Commission (CEC) and/or the California Public Utilities Commission (Commission) information regarding the Generating Facility, including Customer’s name and location, and the size, location and operational characteristics of the Generating Facility, as may be requested from time to time pursuant to the CEC’s or Commission’s rules and regulations.

**PACIFIC GAS AND ELECTRIC COMPANY**

**CUSTOMER GENERATION AGREEMENT**  
**(3<sup>rd</sup> PARTY GENERATOR ON PREMISES,**  
**NON-EXPORTING)**

8. ASSIGNMENT

Customer shall not voluntarily assign its rights nor delegate its duties under this Agreement without PG&E's written consent. Any assignment or delegation Customer makes without PG&E's written consent shall not be valid. PG&E shall not unreasonably withhold its consent to Customer's assignment of this Agreement.

9. NON-WAIVER

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

10. GOVERNING LAW, JURISDICTION OF COMMISSION, INCLUSION OF PG&E's TARIFFS, DEFINED TERMS

- 10.1 This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 10.2 This Agreement shall, at all times, be subject to such changes or modifications by the Commission as it may from time to time direct in the exercise of its jurisdiction.
- 10.3 The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the tariffs applicable to the electric service provided by PG&E. Copies of such tariffs are available at [www.PGE.com](http://www.PGE.com) or by request to PG&E and are incorporated into this Agreement by this reference.
- 10.4 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application for change in tariffs, rates, charges, classification, service, or any agreement relating thereto.
- 10.5 When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Agreement or in PG&E's Rule 1 or Electric Rule 21 Section C. If any term is defined in both Rule 1 and Electric Rule 21, the definition in Electric Rule 21 shall prevail.

**PACIFIC GAS AND ELECTRIC COMPANY**

**CUSTOMER GENERATION AGREEMENT**  
**(3<sup>rd</sup> PARTY GENERATOR ON PREMISES,  
NON-EXPORTING)**

11. AMENDMENTS AND MODIFICATION

This Agreement can only be amended or modified by a written agreement signed by both Parties. PG&E shall determine in its sole discretion whether prior commission approval is required for such amendments or modifications.

12. ENTIRE AGREEMENT

This Agreement, and the *Producer Agreement*, including any incorporated tariffs, contain the entire agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement, the *Producer Agreement*, or in the incorporated tariffs.

13. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

\_\_\_\_\_

**PACIFIC GAS AND ELECTRIC COMPANY**

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

PACIFIC GAS AND ELECTRIC COMPANY

**CUSTOMER GENERATION AGREEMENT**  
**(3<sup>rd</sup> PARTY GENERATOR ON PREMISES,  
NON-EXPORTING)**

**APPENDIX A**

**Generating Facility Interconnection Agreement**  
***(3<sup>rd</sup> Party Non-Exporting)***

**BETWEEN**

**PRODUCER AND PACIFIC GAS AND ELECTRIC COMPANY**



**Electric Sample Form No. 79-1069**  
Generating Facility Interconnection Agreement (Multiple Tariff)

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**Please Refer to Attached**  
Sample Form

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



GENERATING FACILITY INTERCONNECTION AGREEMENT (MULTIPLE TARIFF)

This Generating Facility Interconnection Agreement (Multiple Tariff) (Agreement) is entered into by and between \_\_\_\_\_ (Producer), and Pacific Gas and Electric Company (PG&E) a California Corporation. Producer and PG&E are sometimes also referred to in this Agreement jointly as "Parties" or individually as "Party." In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties agree as follows:

1. SCOPE AND PURPOSE

This Agreement provides for Producer to interconnect and operate a Generating Facility in parallel with PG&E's Distribution System to serve the electrical loads at the location identified in Section 2.4 (or for the qualifying energy where permitted under Section 218 of the California Public Utilities Code (PUC). The Generating Facility may be any combination of generators, but must include at least one "Eligible customer-generator." Eligible customer-generators consist of any Renewable Electrical Generation Facility(ies) (as defined in PG&E's Schedule NEM) or Eligible Fuel Cell Electrical Generating Facility(ies) (as defined in PG&E's Schedule NEMFC).

- 1.1 This Agreement provides for Producer to operate the Eligible Generator(s) pursuant to the provisions of Section 2827 et seq. of the PU Code and the applicable PG&E tariffs for net energy metering. This Agreement also provides for Producer to operate its Non-Eligible Generator(s). This Agreement does not provide for retail electrical service by PG&E to Producer. Such arrangements must be made separately between PG&E and Producer.
1.2 This Agreement does not address Producer's account billing and payment for energy consumption. For the Generating Facility as specified in Section 2 of this Agreement, please refer to the applicable PG&E net-energy-metered (NEM) tariff schedules for billing and payment protocol.

2. SUMMARY AND DESCRIPTION OF PRODUCER'S GENERATING FACILITY

- 2.1 A description of the Generating Facility, including a summary of its significant components and a single-line diagram showing the general arrangement of how Producer's Generating Facility and loads are interconnected with PG&E's Distribution System, are attached to and made a part of this Agreement. (Supplied by Producer as Appendix A).
2.2 Generating Facility identification number: \_\_\_\_\_ (Assigned by PG&E).
2.3 Producer's electric service agreement ID number: \_\_\_\_\_ (Assigned by PG&E).
2.4 Name and address used by PG&E to locate the electric service account used to interconnect the Generating Facility with PG&E's Distribution System:

Name: \_\_\_\_\_
Address: \_\_\_\_\_
City/Zip Code: \_\_\_\_\_

PACIFIC GAS AND ELECTRIC COMPANY

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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2.5 The Gross Nameplate Rating of the Generating Facility is:

2.5.1 Eligible Generator(s):

biomass _____ kW	digester gas _____ kW
solar thermal _____ kW	municipal solid waste _____ kW
photovoltaic _____ kW	landfill gas _____ kW
wind _____ kW	ocean wave _____ kW
geothermal _____ kW	ocean thermal _____ kW
fuel cell _____ kW	tidal current _____ kW
small hydroelectric generation _____ kW	

2.5.2 Non-Eligible Generator(s): \_\_\_\_\_ kW

2.5.3 **Total Gross** Nameplate Rating of the Generating Facility: \_\_\_\_\_ kW

2.6 The Net Nameplate Rating of the Generating Facility is:

2.6.1 Eligible Renewable Electrical Generation Facility Generator(s):

biomass _____ kW	digester gas _____ kW
solar thermal _____ kW	municipal solid waste _____ kW
photovoltaic _____ kW	landfill gas _____ kW
wind _____ kW	ocean wave _____ kW
geothermal _____ kW	ocean thermal _____ kW
fuel cell _____ kW	tidal current _____ kW
small hydroelectric generation _____ kW	

2.6.2 Non-Eligible Generator(s): \_\_\_\_\_ kW

2.6.3 **Total Net** Nameplate Rating of the Generating Facility: \_\_\_\_\_ kW

PACIFIC GAS AND ELECTRIC COMPANY

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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2.7 The maximum level of power that may be exported by the Generating Facility to PG&E's Distribution System is expected to be:

2.7.1 Eligible Generator(s):

biomass	_____kW	digester gas	_____kW
solar thermal	_____kW	municipal solid waste	_____kW
photovoltaic	_____kW	landfill gas	_____kW
wind	_____kW	ocean wave	_____kW
geothermal	_____kW	ocean thermal	_____kW
fuel cell	_____kW	tidal current	_____kW
small hydroelectric generation	_____kW		

2.7.2 Non-Eligible Generator(s): \_\_\_\_\_ kW

2.7.3 **Total maximum level of power** that may be exported by the  
Generating Facility: \_\_\_\_\_ kW

2.8 For the purpose of securing the Competition Transition Charge exemption available under Section 372 of the California Public Utilities Code (PUC), Producer hereby declares that the portion of the Generating Facility that is generating in a combined heat and power mode  does /  does not meet the requirements for Cogeneration as such term is used in Section 218.5 of the California Public Utilities Code.

2.9 The Generating Facility's expected date of Initial Operation is \_\_\_\_\_.  
The expected date of Initial Operation shall be within two years of the date of this Agreement.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

2.10 For the purpose of securing certain tariff charge exemptions available under the PU Code, Producer hereby declares the following for each Generator technology of the Generating Facility:

Requirements for Distributed Energy Resource Generation as such term is used in Section 353.1 of the PU Code.

biomass	are met <input type="checkbox"/> are not met <input type="checkbox"/>	digester gas	are met <input type="checkbox"/> are not met <input type="checkbox"/>
solar thermal	are met <input type="checkbox"/> are not met <input type="checkbox"/>	municipal solid waste	are met <input type="checkbox"/> are not met <input type="checkbox"/>
photovoltaic	are met <input type="checkbox"/> are not met <input type="checkbox"/>	landfill gas	are met <input type="checkbox"/> are not met <input type="checkbox"/>
wind	are met <input type="checkbox"/> are not met <input type="checkbox"/>	ocean wave	are met <input type="checkbox"/> are not met <input type="checkbox"/>
geothermal	are met <input type="checkbox"/> are not met <input type="checkbox"/>	ocean thermal	are met <input type="checkbox"/> are not met <input type="checkbox"/>
fuel cell	are met <input type="checkbox"/> are not met <input type="checkbox"/>	tidal current	are met <input type="checkbox"/> are not met <input type="checkbox"/>
small hydroelectric generation	are met <input type="checkbox"/> are not met <input type="checkbox"/>		

biogas digester (under NEMBIO):                    are met     are not met   
fuel cell (under NEMFC):                            are met     are not met   
other technology:                                      are met     are not met

2.11 What applicable rate schedule, known as the otherwise applicable schedule will be selected for the net-energy-metering account(s):

\_\_\_\_\_

3. DOCUMENTS INCLUDED; DEFINED TERMS

3.1 This Agreement includes the following exhibits which are specifically incorporated herein and made a part of this Agreement.

- Appendix A- Description of Generating Facility and Single-Line Diagram (Supplied by Producer).
- Appendix B- Web-site references to Rules 2 and 21 and other selected rules and tariffs of PG&E (Supplied by PG&E).

# PACIFIC GAS AND ELECTRIC COMPANY

## GENERATING FACILITY INTERCONNECTION AGREEMENT (MULTIPLE TARIFF)

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- Appendix C- A Copy of *PG&E's Agreement for Installation or Allocation of Special Facilities for Parallel Operation of Nonutility-Owned Generation and/or Electrical Standby Service* (Form 79-280) (Special Facility Agreement), if applicable, (Formed by the Parties).
- Appendix D - Producer's warranty that the Generating Facility meets the requirements for a Cogeneration facility pursuant to Section 218.5 of the PU Code (when applicable).
- Appendix E - Producer's warranty that the Generating Facility meets the requirements for Distributed Energy Resources Generation as defined in Section 353.1 of the PU Code (when applicable).
- Appendix F - Listing of eligible service accounts, as defined in PG&E's Schedule NEMBIO to be included in Net Energy Metering calculations (when applicable).
- Appendix G - Producer's warranty that it meets the requirements for an Eligible Biogas Digester Electrical Generating Facility, (applicable Generator(s) only) as defined in Section 2827.9 of the PU Code (when applicable).
- Appendix H - Schedule NEM Customer-Generator Warranty that it Meets the Requirements for an Eligible Customer-Generator and is an Eligible Renewable Electrical Generation Facility Pursuant to Section 2827 of the California Public Utilities Code.

3.2 When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Agreement or in PG&E's Rule 21 Section C.

#### 4. TERM AND TERMINATION

- 4.1 This Agreement shall become effective as of the last date entered in Section 16, below. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:
- (a) The Parties agree in writing to terminate the Agreement, or
  - (b) Unless otherwise agreed in writing by the Parties, at 12:01 A.M. on the day following the date the electric service account through which Producer's Generating Facility is interconnected to PG&E's Distribution System is closed or terminated, or
  - (c) At 12:01 A.M. on the 61<sup>st</sup> day after Producer or PG&E provides written Notice pursuant to Section 9 below to the other Party of Producer's or PG&E's intent to terminate this Agreement.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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- 4.2 Producer may elect to terminate this Agreement pursuant to the terms of Section 4.1(c) for any reason. PG&E may elect to terminate this Agreement pursuant to the terms of Section 4.1(c) for one or more of the following reasons:
- (a) A change in applicable rules, tariffs, and regulations, as approved or directed by the California Public Utilities Commission "Commission," or a change in any local, state or federal law, statute or regulation, either of which materially alters or otherwise affects PG&E's ability or obligation to perform PG&E's duties under this Agreement; or,
  - (b) Unless otherwise agreed to in writing by the Parties, Producer fails to take all corrective actions specified in PG&E's Notice that Producer's Generating Facility is out of compliance with the terms of this Agreement within the time frame set forth in such Notice; or,
  - (c) Producer fails to interconnect and operate the Generating Facility per the terms of this Agreement prior to 120 days after the date set forth in Section 2.9, above, as the Generating Facility's expected date of Initial Operation; or,
  - (d) Producer abandons the Generating Facility. PG&E shall deem the Generating Facility to be abandoned if PG&E determines, in its reasonable opinion, the Generating Facility is non-operational and Producer does not provide a substantive response to PG&E Notice of its intent to terminate this Agreement as a result of Producer's apparent abandonment of the Generating Facility affirming Producer's intent and ability to continue to operate the Generating Facility.
  - (e) Producer makes a change to the physical configuration of the Generating Facility, as declared in Section 2 and Appendix A of this Agreement.
- 4.3 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application to terminate this Agreement.
- 4.4 Any agreements attached to and incorporated into this Agreement shall terminate concurrently with this Agreement unless the Parties have agreed otherwise in writing.
5. GENERATING FACILITY AND OPERATING REQUIREMENTS
- 5.1 Except for that energy delivered to PG&E's Distribution System, electric energy produced by Producer's Generating Facility shall be used solely to serve electrical loads connected to the electric service account that PG&E uses to interconnect Producer's Generating Facility (or, where permitted under Section 218 of the PUC, the electric loads of an on-site or neighboring party lawfully connected to Producer's Generating Facility through Producer's circuits). Producer shall not use the Generating Facility to serve electrical loads that will cause Producer to be considered an "electrical corporation" as such term is used in Section 218 of the California Public Utilities Code.
- 5.2 Unless otherwise agreed upon in writing by the Parties, this Agreement does not provide for, nor otherwise require PG&E to purchase, transmit, distribute, or store the electrical energy produced by Producer's Generating Facility.

# PACIFIC GAS AND ELECTRIC COMPANY

## GENERATING FACILITY INTERCONNECTION AGREEMENT (MULTIPLE TARIFF)

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- 5.3 Producer is responsible for operating the Generating Facility in compliance with all of PG&E's tariffs, including but not limited to PG&E's Rule 21 and applicable NEM tariff schedules, and applicable safety and performance standards established by the National Electric Code, Institute of Electrical and Electronic Engineers, accredited testing laboratories such as Underwriters Laboratories, rules of the Commission regarding safety and reliability, and any other regulations and laws governing the Interconnection of the Generating Facility.
- 5.4 Producer shall: (a) maintain the Generating Facility and Interconnection Facilities in a safe and prudent manner and in conformance with all applicable laws and regulations including, but not limited to, Section 5.3, and (b) obtain any governmental authorizations and permits required for the construction and operation of the Generating Facility and Interconnection Facilities. Producer shall reimburse PG&E for any and all losses, damages, claims, penalties, or liability it incurs as a result of Producer's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of Producer's Generating Facility.
- 5.5 Producer shall not commence parallel operation of the Generating Facility until PG&E has provided express written approval. Such approval shall normally be provided per the timelines established by the applicable PUC 2827 section, or by Rule 21. Such approval will be provided after PG&E's receipt of: (1) a completed *Generating Facility Interconnection Application for Non-Export or Certain Net Energy Metered Generating Facilities (Between 30 KW and 1,000 KW)* (Form 79-974), including all supporting documents and payments as described in the Application; (2) any required NEM supplemental application forms; (3) a signed and completed *Generating Facility Interconnection Agreement (Multiple Tariff)* (Form 79-1069); (4) a copy of the Producer's final inspection clearance from the governmental authority having jurisdiction over the Generating Facility; and (5) submission of all applicable payments for reviews, studies, Interconnection Facilities, and Distribution System Modifications. Such approval will not be unreasonably withheld. PG&E shall have the right to have representatives present at the Commissioning Test as defined in Rule 21. Producer shall notify PG&E at least five (5) business days prior to the initial testing.
- 5.6 In no event shall the delivery of the maximum electric power to PG&E's Distribution System exceed the amount or other limitations specified in Section 2 and Appendix A of this Agreement. If Producer does not regulate its Generating Facility in compliance with the limitations set forth in this Agreement, PG&E may require Producer to disconnect its Generating Facility from PG&E's Distribution System until Producer demonstrates to PG&E's reasonable satisfaction that Producer has taken adequate measures to regulate the output of its Generating Facility and control its deliveries of electric power to PG&E. Further, should PG&E determine that Producer's operation of the Generating Facility is causing an unsafe condition or is adversely affecting PG&E's ability to utilize its Distribution System in any manner, even if Producer's deliveries of electric power to PG&E's Distribution System are within the limitations specified in this Agreement, PG&E may require Producer to temporarily or permanently reduce or cease deliveries of electric power to PG&E's Distribution System. Alternatively, the Parties may agree to other corrective measures so as to mitigate the effect of electric power flowing from the Generating Facility to PG&E's Distribution System. Producer's failure to comply with the terms of this Section shall constitute a material breach of this Agreement and PG&E may initiate termination in accordance with the terms of Section 4.2(b).
- 5.7 Producer shall not deliver reactive power to PG&E's Distribution System unless the Parties have agreed otherwise in writing.

# PACIFIC GAS AND ELECTRIC COMPANY

## **GENERATING FACILITY INTERCONNECTION AGREEMENT** ***(MULTIPLE TARIFF)***

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- 5.8 The Generating Facility shall be operated with all of Producer's Protective Functions in service whenever the Generating Facility is operated in parallel with PG&E's Distribution System. Any deviation from these requirements may occur only when the Parties have agreed to such deviations in writing.
- 5.9 If Producer declares that its Generating Facility meets the requirements for Cogeneration as such term is used in Section 218.5 of the PUC (or any successor definition of Cogeneration (Cogeneration Requirements), Producer warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, its Generating Facility shall continue to meet such Cogeneration Requirements, per Appendix D of this Agreement.

### 6. INTERCONNECTION FACILITIES

- 6.1 Producer and/or PG&E, as appropriate, shall provide Interconnection Facilities that adequately protect PG&E's Distribution System, personnel, and other persons from damage or injury, which may be caused by the operation of Producer's Generating Facility.
- 6.2 Producer shall be solely responsible for the costs, design, purchase, construction, operation, and maintenance of the Interconnection Facilities that Producer owns.
- 6.3 If the provisions of PG&E's Rule 21, or any other tariff or rule approved by the Commission, requires PG&E to own and operate a portion of the Interconnection Facilities, Producer and PG&E shall promptly execute a Special Facilities Agreement that establishes and allocates responsibility for the design, installation, operation, maintenance, and ownership of the Interconnection Facilities. This Special Facilities Agreement shall be attached to and made a part of this Agreement as Appendix C.
- 6.4 The Interconnection Facilities may include Net Generation Output Metering for determination of standby charges and applicable non-bypassable charges, and/or other meters required for PG&E's administration and billing pursuant to PG&E's tariffs for net energy metering.

### 7. LIMITATION OF LIABILITY

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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8. INSURANCE

- 8.1 In connection with Producer's performance of its duties and obligations under this Agreement, Producer shall maintain, during the term of this Agreement, general liability insurance with a combined single limit of not less than:
- (a) Two million dollars (\$2,000,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is greater than one hundred (100) kW;
  - (b) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is greater than twenty (20) kW and less than or equal to one hundred (100) kW; and
  - (c) Five hundred thousand dollars (\$500,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is twenty (20) kW or less.
  - (d) Two hundred thousand dollars (\$200,000) for each occurrence if the Gross Nameplate Rating of Producer's Generating Facility is ten (10) kW or less and Producer's Generating Facility is connected to an account receiving residential service from PG&E.

Such general liability insurance shall include coverage for "Premises-Operations, Owners and Contractors Protective, Products/Completed Operations Hazard, Explosion, Collapse, Underground, Contractual Liability, and Broad Form Property Damage including Completed Operations."

- 8.2 The general liability insurance required in Section 8.1 shall, by endorsement to the policy or policies, (a) include PG&E as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that PG&E shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to PG&E prior to cancellation, termination, alteration, or material change of such insurance.
- 8.3 If Producer's Generating Facility employs solely of Renewable Electrical Generation Facilities the requirements of Section 8.1 shall be waived. However, to the extent that Producer has currently in force Commercial General Liability or Personal (Homeowner's) Liability insurance, Producer agrees that it will maintain such insurance in force for the duration of this Agreement in no less than amounts currently in effect. PG&E shall have the right to inspect or obtain a copy of the original policy or policies of insurance prior to commencing operations. Such insurance shall provide for thirty (30) calendar days written notice to PG&E prior to cancellation, termination, alteration, or material change of such insurance.
- 8.4 Evidence of the insurance required in Section 8.2 shall state that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by PG&E.
- 8.5 Producer agrees to furnish the required certificates and endorsements to PG&E prior to Initial Operation. PG&E shall have the right to inspect or obtain a copy of the original policy or policies of insurance.

PACIFIC GAS AND ELECTRIC COMPANY

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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- 8.6 If Producer is self-insured with an established record of self-insurance, Producer may comply with the following in lieu of Sections 8.1 through 8.4:
- (a) Producer shall provide to, PG&E, at least thirty (30) calendar days prior to the date of Initial Operation, evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under Section 8.1.
  - (b) If Producer ceases to self-insure to the level required hereunder, or if Producer are unable to provide continuing evidence of Producer's ability to self-insure, Producer agrees to immediately obtain the coverage required under Section 8.1.
- 8.7 All insurance certificates, statements of self-insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted via email or fax to the following:

Pacific Gas and Electric Company  
c/o EXIGIS LLC  
[support@exigis.com](mailto:support@exigis.com)  
Fax: 646-755-3327

9. NOTICES

- 9.1 Any written notice, demand, or request required or authorized in connection with this Agreement (Notice) shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the address specified below:

If to PG&E: Pacific Gas and Electric Company  
Attention: Generation Interconnection Services- Contract Management  
245 Market Street  
Mail Code N7L  
San Francisco, California 94105-1702

If to Producer: Producer Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
Phone: ( ) \_\_\_\_\_  
FAX: ( ) \_\_\_\_\_

- 9.2 A Party may change its address for Notices at any time by providing the other Party Notice of the change in accordance with Section 9.1.
- 9.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's Notice to the other.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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10. REVIEW OF RECORDS AND DATA

- 10.1 PG&E shall have the right to review and obtain copies of Producer's operations and maintenance records, logs, or other information such as, unit availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Producer's Generating Facility or its interconnection with PG&E's Distribution System.
- 10.2 Producer authorizes to release to the California Energy Commission (CEC) information regarding Producer's facility, including customer name, location, size, and operational characteristics of the unit, as requested from time to time pursuant to the CEC's rules and regulations.

11. ASSIGNMENT

Producer shall not voluntarily assign its rights nor delegate its duties under this Agreement without PG&E's written consent. Any assignment or delegation Producer makes without PG&E's written consent shall not be valid. PG&E shall not unreasonably withhold its consent to Producer's assignment of this Agreement.

12. NON-WAIVER

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

13. GOVERNING LAW, JURISDICTION OF COMMISSION, INCLUSION OF PG&E's TARIFF SCHEDULES AND RULES

- 13.1 This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 13.2 This Agreement shall, at all times, be subject to such changes or modifications by the Commission as it may from time to time direct in the exercise of its jurisdiction.
- 13.3 The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the Tariff Schedules and Rules applicable to the electric service provided by, PG&E, which Tariff Schedules and Rules are hereby incorporated into this Agreement by this reference.
- 13.4 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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14. AMENDMENT AND MODIFICATION

This Agreement can only be amended or modified in writing, signed by both Parties.

15. ENTIRE AGREEMENT

This Agreement, including any incorporated Tariff Schedules and rules, contains the entire agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated tariff schedules and rules.

16. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

PRODUCER'S NAME

PACIFIC GAS AND ELECTRIC COMPANY

By: \_\_\_\_\_  
Name \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**PACIFIC GAS AND ELECTRIC COMPANY**  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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APPENDIX A

DESCRIPTION OF GENERATING FACILITY  
AND SINGLE-LINE DIAGRAM,  
(Provided by Producer)

(Note: The Description of the Generating Facility should include, but not limited to, for each of the technology types of generation: spatial configuration, net and gross nameplate ratings, manufacturer, if the generators are certified under Rule 21, protection equipment, and intended mode of operation (i.e. non-export: export up to 2 seconds; inadvertent export: export between 2 seconds and 60 seconds; and continuous export: export greater than 60 seconds). Additionally points of interconnection with PG&E, as well as locations and type of protection equipment and disconnect switches should be identified.

**PACIFIC GAS AND ELECTRIC COMPANY**  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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APPENDIX B  
RULES "2" AND "21"

(Note: PG&E's electric Rules "2" and "21" may be subject to such changes or modifications by the Commission as the Commission may, from time to time, direct in the exercise of its jurisdiction. PG&E's tariffs, including Rules "2" and "21" can be accessed via the PG&E website at [www.pge.com/tariffs](http://www.pge.com/tariffs). Upon request, PG&E can provide copies to Producer of Rules "2" and "21.")

**PACIFIC GAS AND ELECTRIC COMPANY**  
**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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APPENDIX C  
(If Applicable)  
RULE 21 "SPECIAL FACILITIES" AGREEMENT  
(Formed between the Parties)

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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**APPENDIX D**  
**(When applicable)**

**PRODUCER'S WARRANTY THAT THE GENERATING FACILITY IS A "COGENERATION FACILITY" PURSUANT TO SECTION 218.5 OF THE CALIFORNIA PUBLIC UTILITIES CODE**

For the purpose of securing the Competition Transition Charge exemption available under Section 372 of the PU Code, Producer hereby declares that the Generating Facility meets the requirements for Cogeneration as such term is used in Section 218.5 of the PU Code (Cogeneration Requirements).

Producer warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, the Generating Facility shall continue to meet the Cogeneration Requirements. If Producer becomes aware that its Generating Facility has ceased to meet the Cogeneration Requirements, Producer shall promptly provide PG&E with Notice of such change pursuant to Section 9.1 of the Agreement. If at any time during the term of this Agreement PG&E determines in its reasonable discretion that Producer's Generating Facility may no longer meet the Cogeneration Requirements, PG&E may require Producer to provide evidence that the Generating Facility continues to meet the Cogeneration Requirements within 15 business days of PG&E's request for such evidence. Additionally, PG&E may periodically (typically, once per year) inspect Producer's Generating Facility and/or require documentation from Producer to monitor the Generating Facility's compliance with the Cogeneration Requirements. If PG&E determines in its reasonable judgment that Producer either failed to provide evidence in a timely manner or that it provided insufficient evidence that its Generating Facility continues to meet the Cogeneration Requirements, then the Cogeneration status of the Generating Facility shall be deemed ineffective until such time as Producer again demonstrates to PG&E's reasonable satisfaction that the Generating Facility meets the requirements for a Cogeneration facility (the Cogeneration Status Change).

PG&E shall revise its records and the administration of this Agreement to reflect the Cogeneration Status Change and provide Notice to Producer of the Cogeneration Status Change pursuant to Section 9.1 of this Agreement. Such Notice shall specify the effective date of the Cogeneration Status Change. This date shall be the first day of the calendar year for which PG&E determines in its reasonable discretion that the Generating Facility first ceased to meet the Cogeneration Requirements. PG&E shall invoice the Producer's electric service account through which the Generating Facility is Interconnected with PG&E's Distribution System for Competition Transition Charges (CTCs) that were not previously billed during the period between the effective date of the Status Change and the date of the Notice in reliance upon Producer's representations that the Generating Facility complied with the Cogeneration Requirements and therefore was eligible for the exemption from CTCs available under Section 372 of the PU Code.

Any amounts to be paid or refunded by Producer, as may be invoiced by PG&E pursuant to the terms of this warranty, shall be paid to PG&E within 30 days of Producer's receipt of such invoice.

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**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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**APPENDIX E**  
**(When applicable)**

**PRODUCER'S WARRANTY THAT THE GENERATING FACILITY IS A "DISTRIBUTED ENERGY RESOURCES GENERATION" FACILITY PURSUANT TO SECTION 353.1 OF THE CALIFORNIA PUBLIC UTILITIES CODE**

For the purpose of securing the tariff charge exemption available under Section 353.3 of the PU Code, Producer hereby declares that the Generating Facility meets the requirements for Distributed Energy Resources Generation as such term is used in Section 353.1 of the PU Code (DERG Requirements).

Producer warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, its Generating Facility shall continue to meet the DERG Requirements. If Producer becomes aware that the Generating Facility has ceased to meet the DERG Requirements, Producer shall promptly provide PG&E with Notice of such change pursuant to Section 9.1 of the Agreement. If at any time during the term of this Agreement PG&E determines in its reasonable discretion that Producer's Generating Facility may no longer meet the DERG Requirements, PG&E may require Producer to provide evidence that the Generating Facility continues to meet the DERG Requirements within 15 business days of PG&E's request for such evidence. Additionally, PG&E may periodically (typically, once per year) inspect Producer's Generating Facility and/or require documentation from Producer to monitor the Generating Facility's compliance with the DERG Requirements. If PG&E determines in its reasonable judgment that Producer either failed to provide evidence in a timely manner or that it provided insufficient evidence that its Generating Facility continues to meet the DERG Requirements, then the Distributed Energy Resources Generation status of the Generating Facility shall be deemed ineffective until such time as Producer again demonstrates to PG&E's reasonable satisfaction that the Generating Facility meets the requirements for a Distributed Energy Resources Generation facility (the DERG Status Change).

PG&E shall revise its records and the administration of this Agreement to reflect the DERG Status Change and provide Notice to Producer of the DERG Status Change pursuant to Section 9.1 of this Agreement. Such Notice shall specify the effective date of the DERG Status Change. This date shall be the first day of the calendar year for which PG&E determines in its reasonable discretion that the Generating Facility first ceased to meet the DERG Requirements. PG&E shall invoice the Producer electric service account through which the Generating Facility is Interconnected with PG&E's Distribution System for any tariff charges that were not previously billed during the period between the effective date of the DERG Status Change and the date of the Notice in reliance upon Producer's representations that the Generating Facility complied with the DERG Requirements and therefore was eligible for the exemption from tariff charges available under Section 353.3 of the PU Code.

Any amounts to be paid or refunded by Producer, as may be invoiced by PG&E pursuant to the terms of this warranty, shall be paid to PG&E within 30 days of Producer's receipt of such invoice.



**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

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**APPENDIX G**

**(When applicable)**

**PRODUCER'S WARRANTY THAT THE GENERATING FACILITY IS  
AN ELIGIBLE BIOGAS ELECTRICAL GENERATING FACILITY  
PURSUANT TO SECTION 2827.9 OF THE CALIFORNIA PUBLIC UTILITIES CODE**

Producer has declared that the Generating Facility meets the requirements for an Eligible Biogas Electrical Generating Facility, as defined in Section 2827.9 of the California Public Utilities Code (Eligibility Requirements).

Producer warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, its Generating Facility shall continue to meet the Eligibility Requirements. If Producer becomes aware that the Generating Facility has ceased to meet the Eligibility Requirements, Producer shall promptly provide PG&E with Notice of such change pursuant to Section 9.1 of the Agreement. If at any time during the term of this Agreement PG&E determines in its reasonable discretion that Producer's Generating Facility may no longer meet the Eligibility Requirements, PG&E may require Producer to provide evidence that the Generating Facility continues to meet the Eligibility Requirements within 15 business days of PG&E's request for such evidence. Additionally, PG&E may periodically (typically, once per year) inspect Producer's Generating Facility and/or require documentation from Producer to monitor the Generating Facility's compliance with the Eligibility Requirements. If PG&E determines in its reasonable judgment that Producer either failed to provide evidence in a timely manner or that it provided insufficient evidence that its Generating Facility continues to meet the Eligibility Requirements, then the Distributed Energy Resources Generation status of the Generating Facility shall be deemed ineffective until such time as Producer again demonstrates to PG&E's reasonable satisfaction that the Generating Facility meets the requirements for a Distributed Energy Resources Generation facility (the Eligibility Status Change).

PG&E shall revise its records and the administration of this Agreement to reflect the Eligibility Status Change and provide Notice to Producer of the Eligibility Status Change pursuant to Section 9.1 of this Agreement. Such Notice shall specify the effective date of the Eligibility Status Change. This date shall be the first day of the calendar year for which PG&E determines in its reasonable discretion that the Generating Facility first ceased to meet the Eligibility Requirements. PG&E shall invoice the Producer for any tariff charges that were not previously billed during the period between the effective date of the Eligibility Status Change and the date of the Notice in reliance upon Producer's representations that the Generating Facility complied with the Eligibility Requirements and therefore was eligible for the rate treatment available under the Net Energy Metering provisions of PG&E's Schedule NEM-BIO, Experimental Biogas Net Energy Metering.

Any amounts to be paid or refunded by Producer, as may be invoiced by PG&E pursuant to the terms of this warranty, shall be paid to PG&E within 30 days of Producer's receipt of such invoice.

PACIFIC GAS AND ELECTRIC COMPANY

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

**Appendix H**

SCHEDULE NEM CUSTOMER-GENERATOR WARRANTY THAT IT MEETS THE REQUIREMENTS FOR AN ELIGIBLE CUSTOMER-GENERATOR AND IS AN ELIGIBLE RENEWABLE ELECTRICAL GENERATION FACILITY PURSUANT TO SECTION 2827 OF THE CALIFORNIA PUBLIC UTILITIES CODE

(This Affidavit needs to be completed and submitted to PG&E by the Customer-Generator every time a new NEM interconnection agreement for a Renewable Electrical Generation Facility is executed or whenever there is a change in ownership of the Generating Facility).

Circle Type of Renewable Electrical Generation Facility:

biomass	geothermal	municipal solid waste
solar thermal	fuel cell	landfill gas
small hydroelectric generation	ocean wave	digester gas
ocean thermal	tidal current	

NEM Customer-Generator (Customer) declares that

- (1) it meets the requirements to be an "Eligible Customer-Generator" and its Generating Facility.
- (2) (a) meets the requirements of a "Renewable Electrical Generation Facility", as defined in Section 2827(b)(5) of the California Public Utilities Code and (b) satisfies the definitions of the renewable resource for the Renewable Electrical Generation Facility in the latest version of the California Energy Commission's (CEC's) Renewables Portfolio Standard (RPS) Eligibility Guidebook and the Overall Program Guidebook. <sup>1</sup> (Eligibility Requirements).

Included in these eligibility requirements (check as applicable) pursuant to Public Utilities Code section 2827(b)(5) and Public Resource Code Section 25741 paragraph 1(a):

- If the Renewable Electrical Generation Facility is a fuel cell, or otherwise uses renewable biogas or otherwise, Eligible Customer-Generator warrants that the fuel cell is powered solely with renewable fuel.
- If the Renewable Electrical Generation Facility is a Small hydroelectric generating facility, customer warrants that it will not cause an adverse impact on instream beneficial uses, nor cause a change in the volume or timing of streamflow).

If the Customer uses biogas or a renewable fuel as the fuel for their Renewable Electrical Generation Facility:

- Eligible Customer-Generator warrants that the Renewable Electrical Generation Facility is powered solely with renewable fuel.

<sup>1</sup> The RPS Guidebooks can be found at: <http://www.energy.ca.gov/renewables/documents/index.html#rps>

**PACIFIC GAS AND ELECTRIC COMPANY**

**GENERATING FACILITY INTERCONNECTION AGREEMENT**  
***(MULTIPLE TARIFF)***

Eligible Customer-Generator warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, Eligible Customer-Generator and the Generating Facility shall continue to meet the Eligibility Requirements. If Eligible Customer-Generator or the Generating Facility ceases to meet the Eligibility Requirements, Eligible Customer-Generator shall promptly provide PG&E with Notice of such change pursuant to Section 11 of this Agreement. If at any time during the term of this Agreement PG&E determines, at its reasonable discretion, that Eligible Customer-Generator or Generating Facility may no longer meet the Eligibility Requirements, PG&E may require Eligible Customer-Generator to provide evidence, that Eligible Customer-Generator and/or Generating Facility continues to meet the Eligibility Requirements, within 20 business days of PG&E's request for such evidence. Additionally, PG&E may periodically (typically, once per year) inspect Producer's Generating Facility and/or require documentation from Eligible Customer-Generator to monitor the Generating Facility's compliance with the Eligibility Requirements – PG&E will provide a minimum of 10 business days notice to the Eligible Customer-Generator should PG&E decide an inspection is required. If PG&E determines in its reasonable judgment that Eligible Customer-Generator either failed to provide evidence in a timely manner or that it provided insufficient evidence that its Generating Facility continues to meet the Eligibility Requirements, then the Eligibility Status shall be deemed ineffective until such time as Eligible Customer-Generator again demonstrates to PG&E's reasonable satisfaction that Eligible Customer-Generator meets the requirements for an Eligible Customer-Generator and/or the Generating Facility meets the requirements for a Eligible electrical generating facility (the Eligibility Status Change).

PG&E shall revise its records and the administration of this Agreement to reflect the Eligibility Status Change and provide Notice to Eligible Customer-Generator of the Eligibility Status Change pursuant to Section 11 of this Agreement. Such Notice shall specify the effective date of the Eligibility Status Change. This date shall be the first day of the calendar year for which PG&E determines in its reasonable discretion that the Eligible Customer-Generator and/or Generating Facility first ceased to meet the Eligibility Requirements. PG&E shall invoice the Eligible Customer-Generator for any tariff charges that were not previously billed during the period between the effective date of the Eligibility Status Change and the date of the Notice in reliance upon Eligible Customer-Generator's representations that Eligible Customer-Generator and/or Generating Facility complied with the Eligibility Requirements and therefore was eligible for the rate treatment available under the Net Energy Metering provisions of PG&E's Schedule NEM Net Energy Metering Service for Eligible Customer-Generators.

Any amounts to be paid or refunded by Eligible Customer-Generator, as may be invoiced by PG&E pursuant to the terms of this warranty, shall be paid to PG&E within 30 days of Eligible Customer-Generator's receipt of such invoice.

Unless otherwise ordered by the CPUC, this Agreement at all times shall be subject to such modifications as the CPUC may direct from time to time in the exercise of its jurisdiction.

I certify the above is true and correct,

Customer-Generator Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_



**Electric Sample Form No. 79-1070**  
 Export Addendum to Generating Facility Interconnection Agreement  
 for Non-Exempt Generating Facilities (Form 79-973) Sized 2 Megawatts or Less

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**Please Refer to Attached**  
 Sample Form

Advice Letter No: 4110-E  
 Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
 Vice President  
 Regulatory Relations

Date Filed September 20, 2012  
 Effective September 20, 2012  
 Resolution No. \_\_\_\_\_

**EXPORT ADDENDUM TO  
GENERATING FACILITY  
INTERCONNECTION AGREEMENT  
FOR NON-EXPORT GENERATING  
FACILITIES (FORM 79-973) SIZED 2  
MEGAWATTS OR LESS**

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Pacific Gas and Electric Company (PG&E), a California Corporation, and \_\_\_\_\_ (Customer) hereby enter into this Addendum to the Generation Facility Interconnection Agreement for Non-Export Generating Facilities (GFIA) (Form 79-973) between PG&E and Customer. Customer and PG&E are sometimes referred to in this Addendum jointly as “Parties” or individually as “Party.” The Parties agree as follows:

**1. PURPOSE AND SCOPE**

1.1 This Addendum represents mutual agreement between PG&E and Customer to provide for Export as described in Section 1.3 below, notwithstanding Section 5.1 of the GFIA.

1.2 This Addendum shall apply to Customer’s Generating Facility that consists of either a solar, wind or fuel cell generator that is inverter based and is 2 megawatts (MW) or less provided that the Generating Facility otherwise satisfies all other applicable requirements of PG&E’s Electric Rule 21.

1.3 For purposes of this Addendum, Export is defined as the uncompensated and unscheduled flow of electrical energy from Customer’s Generating Facility onto PG&E’s Distribution System. The Export shall fully comply with Section 3 of this Addendum. Customer agrees that such Export is solely for Customer’s operating convenience and understands that there will be no compensation made by PG&E, or third parties, for such Export. Customer understands that it is obligated to manage Export in compliance with current and future guidelines established by regulatory agencies having jurisdiction over such Export.

1.4 All other capitalized terms used and not defined herein, whether in singular or plural, shall have the meanings assigned to them in PG&E’s Electric Rule 21.

**2. TERM AND TERMINATION**

2.1 This Addendum shall become effective as of the later of the effective date of the GFIA or the last date entered in Section 5 of this Addendum.

2.2 This Addendum shall continue in full force and effect until termination of the GFIA, or unless terminated in accordance with Section 4.2 of this Addendum.

### 3. INTERCONNECTION OF GENERATING FACILITY

3.1 In addition to the requirements of Electric Rule 21 and the GFIA, Customer will abide by the following requirements in the interconnection and operation of its Generating Facility:

3.1.1 The maximum amount of electric power to be delivered to PG&E's Distribution System shall not exceed \_\_\_\_\_ [INSERT MAXIMUM AMOUNT OF EXPORT CAPACITY].

3.1.2 Customer will set and maintain relay settings as specified by PG&E, as an attachment to this Addendum, if applicable:

\_\_\_\_ applicable

\_\_\_\_ not applicable

3.1.3 Customer will meet all requirements specified by PG&E, in the Special Facilities Agreement for items such as a grounding/stabilizing transformer, fault detection schemes, and/or transfer trip as an attachment to this Addendum, if applicable:

\_\_\_\_ applicable

\_\_\_\_ not applicable

3.1.4 This Addendum does not provide for, or otherwise obligate PG&E to measure, purchase, transmit, distribute, or store the electrical power delivered to PG&E's Distribution System by Customer.

3.1.5 The Generating Facility shall be operated with all of Customer's Protective Functions specified in Section 3 in service whenever the Generating Facility is operated in parallel with PG&E's Distribution System. Any deviation from these requirements may occur only when the Parties have agreed to such deviations in writing.

3.1.6 Customer shall understand that if PG&E needs to reconfigure the Distribution System and that if after such reconfiguration is complete, a voltage regulation problem arises due to Export by Customer, then Customer will correct, at its cost, Customer's Generating Facility as may reasonably be necessary to resolve the voltage regulation issue. Customer agrees that until such voltage regulation issue is resolved to PG&E's reasonable satisfaction, Customer will not be permitted to make Exports to the Distribution System.

3.2 PG&E retains the right, without notice, to require Customer to curtail Export during times of Emergency or under circumstances where such Export might

interfere with the safe and reliable operation of the Distribution System.

3.3 Generating Facilities greater than 1 MW may have additional requirements and charges pursuant to applicable California Independent System Operator (CAISO) tariffs.

#### 4. COMPLIANCE

4.1 In the event Customer operates its Generating Facility in a manner that exceeds the parameters for Export established in Section 3 of this Addendum, Customer understands that 1) its Generating Facility will be subject to curtailment or disconnection as provided in PG&E's Electric Rule 21 Section B.9 for Unsafe Operating Conditions, and 2) PG&E reserves the right to change this Export Addendum to a non-export interconnection at its sole discretion in order to meet system operation or reliability needs, and all interconnection facilities and labor required to enact this change will be at Customer's expense.

4.2 This Addendum shall at all times be subject to such changes or modifications by the Public Utilities Commission of the State of California, as said Commission may, from time to time, direct in the exercise of its jurisdiction.

#### 5. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused three originals of this Addendum to be executed by their duly authorized representatives.

#### **PACIFIC GAS AND ELECTRIC COMPANY**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

#### **CUSTOMER**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_



**Electric Sample Form 79-1101**  
 Application and Interconnection Agreement for Customers with  
 Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less

Sheet 1

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**Please Refer to Attached  
 Sample Form**

Advice Letter No: 4110-E  
 Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
 Vice President  
 Regulatory Relations

Date Filed September 20, 2012  
 Effective September 20, 2012  
 Resolution No. \_\_\_\_\_



# Net Energy Metering

## Application and Interconnection Agreement for Customers with Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less

**Please note** that this agreement does not constitute an application to any **rebate** and/or **incentive programs**. For more information on these programs and their specific applications, please contact PG&E by phone, or by email using the subject "solar energy" at [smarter-energy@pge.com](mailto:smarter-energy@pge.com), 1-800-933-9555 (residential) or [BusinessCustomerHelp@pge.com](mailto:BusinessCustomerHelp@pge.com), 1-800-468-4743 (commercial/industrial).

For more information on the California Solar Initiative (CSI) or the New Solar Homes Partnership (NSHP), please go to [www.pge.com](http://www.pge.com) where you will find information about the program, including the program handbook, reservation request forms with the program contract as well as a list of requirements, FAQ's and resources. For additional questions about the CSI or the NSHP, contact PG&E at [solar@pge.com](mailto:solar@pge.com).

If you are applying for a CSI rebate, please check the appropriate box below and continue with this application

- I am also applying for a CSI rebate, and understand that I will have to apply for CSI rebates separately.
- I am also applying for a NSHP rebate, and understand that I will have to apply for the NSHP rebates separately.

### Part I – Identifying the Generating Facility Location and Responsible Parties

#### A. Applicability and Purpose:

This *NET ENERGY METERING APPLICATION AND INTERCONNECTION AGREEMENT FOR CUSTOMERS WITH SOLAR AND/OR WIND ELECTRIC GENERATING FACILITIES OF 30 KW OR LESS* (Agreement) applies to electric rate schedule NEM, Net Energy Metering Service (NEM) for Customer-Generators (Customer) who interconnect a solar and/or wind turbine electrical Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts (kW) or less that is located on Customer's premises, and that operates in parallel with Pacific Gas and Electric Company's (PG&E) Distribution System.

The purpose of this Agreement is to allow Customer to interconnect with PG&E's Distribution System, subject to the provisions of this Agreement and PG&E's rate schedule NEM. Customer has elected to interconnect and operate its solar and/or wind electric Generating Facility in parallel with PG&E's Distribution System, primarily to offset part or all of the Customer's own electrical requirements at this service point. Customer shall comply at all times with this Agreement as well as with all applicable laws, tariffs and applicable requirements of the Public Utilities Commission of the State of California.

#### B. Description of Service (this Agreement is being filed for, check all that apply):

- A New NEM Generating Facility interconnection (at an existing service).
- For Physical Changes to an interconnected Generating Facility with previous approval by PG&E (adding PV panels, 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 NEM who are served under **Direct Access** by an Energy Service Provider (ESP) must contact their ESP directly for information regarding the ESP's net energy metering program.
- An Interconnection under Community Choice Aggregation Service (CCA Service).
  - Customers applying for NEM who are served under Community Choice Aggregation Service by a Community Choice Aggregator (CCA) must contact their CCA directly for information regarding the CCA's net energy metering program.
- An interconnected Generating Facility that never exports electricity to PG&E (load always exceeds generation).
  - For Customers with a non-exporting Generating Facility, Form 79-974 may be more appropriate. Form 79-974 may be found at [www.pge.com/tariffs/pdf/E79-974.pdf](http://www.pge.com/tariffs/pdf/E79-974.pdf)

**Part I – Cont'd – Identifying the Generating Facility Location and Responsible Parties**

**C. Customer Generating Facility Information - Where will the Generating Facility be installed?**

Name shown on PG&E service account (Must Match Customer Name on PG&E Blue Bill)		Account Number	Meter Number (Meter Badge ID)
Street Address			
City	State		Zip
Mailing Address			
City	State		Zip
Business Phone	Home Phone	Fax	Email

**D. Contractor Information (Must be completed even if Contractor will not serve as a PG&E contact).**

Contractor		Company Name	
Mailing Address			
City	State		Zip
Business Phone	Fax	Email	
<input type="checkbox"/> This contractor is to be used as PG&E contact and is authorized by Customer to receive confidential Customer information and act on behalf of Customer with respect to this agreement.			

**E. Other Contact Information (This information is optional).**

Contact Person		Company Name	
Mailing Address			
City	State		Zip
Business Phone	Fax	Email	
<input type="checkbox"/> This contact person is to be used as PG&E contact and is authorized by Customer to receive confidential Customer information and act on behalf of Customer with respect to this agreement.			

By checking the boxes above and signing this agreement, Customer authorizes PG&E to release information to the contact(s) named above regarding Customer's usage and billing information, Generating Facility location, size and operational characteristics as requested in the course of this interconnection process. PG&E is granted permission to share information with authorized recipients for a period of **three years** from the date this agreement is received by PG&E. Contact(s) are also authorized to make changes to rates and metering arrangements which may result in charges to Customer. Should customer wish to select a different authorizaton period, Customer may utilize the *Authorization to Received Customer Information or Act on a Customr's Behalf*, which may be found at:

[www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer\\_behalf\\_app.pdf](http://www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer_behalf_app.pdf)

## Part I – Cont'd – Identifying the Generating Facility Location and Responsible Parties

In addition, Customer authorizes PG&E to release to the California Energy Commission (CEC) information regarding Customer's facility, including customer name and Generating Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

## Part II – Selecting the Study Process

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.

## Part III – Requirements for Interconnection

*In submitting this document, I the Customer, understand and agree to the following terms and conditions:*

### Permission to Interconnect

**Customers must not operate their Generating Facility in parallel with PG&E's Distribution System until they receive written authorization for Parallel Operation from PG&E.** Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.

### Safe Operation of your Generating Facility

Notwithstanding any other provision of this Agreement, if at any time PG&E determines that either (a) the Customer's Facility, or its operation, may endanger PG&E personnel, or (b) the continued operation of the Customer's Facility may endanger the safe and reliable operation of PG&E's electrical system, PG&E shall have the right to disconnect the Facility from PG&E's system. Customer's Facility shall remain disconnected until such time as PG&E is satisfied that the unsafe condition(s) have been corrected.

### Interconnections on PG&E's Secondary Network

Applications to interconnect systems located in San Francisco or Oakland may require additional analysis to determine whether or not their proposed installation is on PG&E's networked secondary system. Networked secondary systems are in place to provide heightened levels of reliability in densely populated areas and may affect the ability of PG&E to interconnect NEM customers. **Please contact Generation Interconnection Services at 415-972-5676 or email [gen@pge.com](mailto:gen@pge.com) if your proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland and where the zip code is 94607 or 94612.**

### Meter Access

Following your bi-directional meter installation, your meter must be installed in a safe PG&E-accessible location and remain unobstructed by locked gates or pets. Additionally, meter access must be maintained at all times for meter reading and system maintenance. Any animals owned by the customer, including pet dogs, should not have access to these areas to avoid hindering PG&E service personnel, preventing them from completing their work. If your self-contained meter is being utilized as the AC disconnect switch, the meter must be accessible at all times and cannot be located within a residence or garage.

### Document and Fee Requirements

Other Documents and/or Fees *may* be required and there may be requirements for interconnection in addition to the above list, depending on the specifics of the planned Generating Facility. Other approvals and/or other agreements may be needed for special PG&E programs or regulatory agency requirements.

### Stale Agreements

If this agreement is still pending two years from its date of submittal and customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new application should Customer wish to take service on Schedule NEM.

### A. Agreement Package:

These documents are needed to ensure safe and reliable operation of PG&E's Distribution System and to confirm that Customer's interconnection has been performed in accordance with PG&E's tariffs. (Additional forms are available upon request by telephoning 415-972-5676, emailing [gen@pge.com](mailto:gen@pge.com), or visiting PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem)). **Customers should not delay sending any part of the agreement package to**

**PG&E.** As PG&E receives the documentation described in Sections (1) through (4) below, PG&E will begin to process the application.

**Required Documents for New Applicants:**

1. A completed copy of this **Agreement**. **Please note:** the Customer name (as identified in Part I, Section C) must be the same name as on the PG&E bill. In this Agreement, Customer will confirm their otherwise-applicable rate schedule (OAS), establishing how Customer's monthly usage or net generation will be charged/credited. Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

2. A **single-line diagram** showing Customer's actual installation of his/her Generating Facility. The diagram must include the electrical rating and operating voltages of the significant electrical components such as the service panel, the disconnect switch (if required), inverters, all wind and/or photovoltaic generators, circuit breakers and other protective devices of the Generating Facility, the general location of the Customer's loads relative to the Generating Facility, and the interconnection with PG&E's Distribution System. The diagram must include the following information:

a. A description and location of the visible, lockable **AC disconnect switch** if present.

**Effective November 21, 2006**, customers installing inverter-based systems will no longer be required to include an AC disconnect switch when the facility has a self-contained electric revenue meter (i.e. 0-320 amp socket-based meters or 400 amp K-based meters). This type of meter is used by 98% of all PG&E customers.

To accommodate this change while maintaining utility operating needs, the revenue meter, when appropriate, may be temporarily removed by PG&E to isolate the customer's generator from the electric distribution system. Removal of the revenue meter (due to an emergency or maintenance on PG&E's system) will result in loss of electrical service to the customer's facility or residence.

PG&E recommends that customers installing an inverter-based generator consider also installing an AC disconnect switch to facilitate maintenance of the customer's equipment (i.e. inverter, PV arrays, etc.). The AC disconnect switch provides the additional benefit of allowing PG&E to isolate the customer's generator from the utility's Distribution System without having to interrupt service to the customer's facility or residence.

PG&E's AC disconnect requirement for Distributed Energy Resources (Distributed Generation) will continue to apply to:

- Inverter-based interconnections having a transformer-rated meter (i.e. all meter panels or switchboards employing the use of potential and current transformers).
- Non-inverter based generators, including rotating or machine-based generators - irrespective of whether the service meter configuration is transformer-rated or self-contained.

b. A description of the specific **inverter(s)** used to control the interconnection between PG&E and the Generating Facility, including rating, brand name, and model number. CEC-certified inverters<sup>1</sup> will pass the requirements for Simplified Interconnection per PG&E's Electric Rule 21. Non-certified units will require further study and may involve additional costs.

c. A complete description of the **generating equipment Customer plans to install**. If the Generating Facility includes photovoltaic panels, the description must include the manufacturer name, model number, number of panels, and the nameplate rating. If the Generating Facility includes a wind turbine, the description must include the manufacturer name, model number, number of turbines, and the nameplate rating. Only CEC-certified inverters and certified wind-turbine generators without separate inverters will pass the requirements for Simplified Interconnection. (See the PG&E website [www.pge.com/gen](http://www.pge.com/gen) or the CEC website at: [www.consumerenergycenter.org/erprebate/equipment.html](http://www.consumerenergycenter.org/erprebate/equipment.html))

d. A description of how the power output from the inverter is connected to the **main service panel via a branch breaker**. The ampere rating of this branch breaker and the main service panel breaker must be compatible with the output rating of the Generating Facility. The output rating is computed based on the total nameplate rating of the inverter.

<sup>1</sup> The CEC's eligible inverter list can be found under the CSI heading at: [www.consumerenergycenter.org/erprebate/equipment.html](http://www.consumerenergycenter.org/erprebate/equipment.html)

### Part III – Cont'd – Requirements for Interconnection

- e. If such metering is required, a complete description of the **performance (generation output) meter and related equipment**. The description must include the meter manufacturer, model number and type (socket or panel), as well as any other relevant information (e.g., socket, panels, breakers, etc.). If instrument transformers are required, the description should include this information.
3. Information regarding any existing **insurance coverage** (liability and/or property) for the Schedule-NEM Generating Facility location

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability. A Customer with a solar or wind-turbine electrical generating system, or a hybrid system of both, that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

To the extent that Customer has currently in force property insurance and commercial general liability or personal liability insurance, Customer agrees that it will maintain such insurance in force for the duration of this Agreement in no less amounts than those currently in effect. Pacific Gas and Electric Company shall have the right to inspect or obtain a copy of the original policy or policies of insurance prior to commencing operation. As long as Customer meets the requirements of this section, Customer shall not be required to purchase any additional liability insurance.

I have insurance. I hereby certify that there is presently insurance coverage in the amount of \$\_\_\_\_\_ for the Schedule-NEM Generating Facility location.

Insuring Company's Name: \_\_\_\_\_

Insurance Policy # \_\_\_\_\_

I **do not** have insurance. I hereby certify that there is presently \$0 (zero) dollars of insurance for the Schedule-NEM Generating Facility location.

4. A copy of the **final, signed, jurisdictional approval (building permit) for Customer's Generating Facility** from the local government entity with jurisdiction over the Customer's project. **Customer's agreement package will not be complete until PG&E receives this document.**

### Internet Agreement Forms

If this Agreement has been completed electronically, it may be submitted to PG&E via e-mail or U.S. mail. Copies or forms requiring a signature, attachments or any applicable fees described in Part II must be mailed to PG&E at the address noted in Section V (F), Notices.

### Part IV – General Facility and Rate Information

A. What applicable **Rate Schedule** have you selected for your NEM account (known as your "otherwise applicable rate schedule" or "OAS")?

#### RESIDENTIAL:

- E-1 – Non-Time-of-Use Residential Service
- E-6 – Residential Time-of-Use Service
- E-7 – Residential Time-of-Use Service<sup>2</sup>
- E-9 – Experimental Residential Time-of-Use for Low Emission Vehicle Customers<sup>3</sup>
- Other Residential rate schedule (\_\_\_\_\_) please enter

<sup>2</sup> E-7 and EL-7 are closed to all new customers

<sup>3</sup> If customer selects **Schedule E-9**, the **Experimental Rate for Low Emission Vehicles** as the otherwise-applicable rate, a **Schedule E-9 Application** will need to be completed and signed.



**E. Are there any other generators connected on this account?**

- Yes  
**If yes**, specify what kind of generator \_\_\_\_\_  
 No

**F. Are there any possible meter access issues?**

- Yes **If yes**, check all that apply:
- |  |   |
|--|---|
| <input type="checkbox"/> Locked Gate   | <input type="checkbox"/> Meter located inside of facility/residence |
| <input type="checkbox"/> Unrestrained animal at meter or AC disconnect switch location | <input type="checkbox"/> Other (Please explain) _____               |
- No

**G. Are you on a Demand Response program?**

- Yes  
**If yes**, what program are you on? \_\_\_\_\_  
 No.  
 (for more information on PG&E's demand response programs see: [www.pge.com/demandresponse](http://www.pge.com/demandresponse) )

**Part V – Description of the Generating Facilities** *Use additional sheets, if necessary.*

**A. AC Disconnect Switch** (see Part III, Section A.2.a above for policy on disconnect switches)  
 List the AC disconnect switch that will be used at this Generating Facility (Enter "N/A" if not applicable).

Disconnect Switch Manufacturer	Disconnect Switch Model Number	Disconnect Switch Rating (amps)

**B. Inverters interconnected with PG&E**  
 List all the inverters that will be interconnected to PG&E.

**Customers with non-standard inverters** which do not meet the UL and IEEE requirements specified in Electric Rule 21, or Customers whose aggregate Generating Facility capacity exceeds 15% of the peak load on the distribution line section as described in Electric Rule 21 (Section G.1.m.) require a **Supplemental Review** which may entail a study, additional equipment, and/or other requirements.

No.	Inverter Manufacturer	Inverter Model Number	Inverter Nameplate Rating <sup>4</sup> kW (per unit)	Inverter CEC Rating kW (per unit)	Quantity of Inverters	Inverter Output Voltage	Single or Three phase?
1							
2							

<sup>4</sup> The inverter rating equals the nameplate rating, in kW. If there is more than one inverter or type being installed, the inverter rating equals the nameplate rating of one unit of each model being installed.

**C. Photovoltaic Generator Equipment**

List the photovoltaic (PV) panel information requested below. If the panels are not all identical modules, list the total capacity connected to each inverter you listed above. (Please attach additional sheets if more space is needed).

No.	PV Panel Manufacturer	PV Panel Model	PV Panel Nameplate Rating <sup>5</sup> kW (per unit)	PV Panel CEC Rating kW (per unit)	Quantity of PV Panels	Total Capacity <sup>6</sup> (kW)	Inverter number from (B.) above (1 or 2)
1							
2							

**D. Wind Turbine Equipment**

List the wind turbine information requested below. If there is more than one wind turbine of the same type, list the total capacity connected to each inverter you listed in B) above. Write NONE if the inverter is incorporated in the wind turbine and no inverter is required.

No.	Wind Turbine Manufacturer	Wind Turbine Model	Wind Turbine Nameplate Rating <sup>6</sup> kW (per unit)	Wind Turbine CEC Rating (kW) per unit	Quantity of Wind Turbines	Total Capacity (kW) <sup>7</sup>	Turbine Output Voltage	Single or Three Phase	Inverter number from (B) above (1 or 2)
1									

**E. Service Panel Short Circuit Interrupting Rating**

For systems larger than 10 kW, what is the short circuit interrupting rating (SCIR) rating of the service panel connected to this generating facility? \_\_\_\_\_

**F. Notices - Mailing Instructions and Assistance:**

When this agreement has been completed it should be mailed, along with the required attachments and any applicable fees, to:

PG&E'S P.O. BOX ADDRESS	PG&E'S STREET ADDRESS
Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L P.O. Box 770000 San Francisco, California 94177	Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L 245 Market St. San Francisco, California 94105

Phone calls and questions may be directed to the Generation Interconnection Services hotline at: 415-972-5676 or email [gen@pge.com](mailto:gen@pge.com)

**G. Governing Law**

This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California.

<sup>5</sup> For all generation equipment ratings, please use the nameplate rating found on the equipment or in the equipment specifications.

<sup>6</sup> The total capacity is the PV panel (or wind turbine) rating times the quantity.

**H. Term of Agreement**

This Agreement shall become effective as of the date of PG&E's issuance of the permission to operate letter after receipt of all applicable fees, required documents, and this completed Agreement. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Customer takes service with PG&E operating this approved generating facility. This new Customer will be interconnected subject to the terms and conditions as set forth in Schedule NEM.

**I. Governing Authority**

This contract shall at all times be subject to such changes or modification by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

Customer Name (Please Print): \_\_\_\_\_

(Signature): \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

A copy of this signed agreement should be retained with the "Permission to Operate" letter to confirm project approval.



Sheet 1 T

**Electric Sample Form No. 79-1109**

Virtual Net Energy Metering Application and Interconnection Agreement for the T  
 Building Owner of Multifamily Affordable Housing with a Solar Generating Facility of T  
 1 Megawatt or Less

**Form 79-1109**

**Please Refer to the Attached  
 Sample Form**

Advice Letter No: 4110-E  
 Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
 Vice President  
 Regulatory Relations

Date Filed September 20, 2012  
 Effective September 20, 2012  
 Resolution No. \_\_\_\_\_



## 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

**Please note** that this agreement does not constitute an application for **rebate** and/or **incentive programs**. For more information on these programs and their specific applications, please contact PG&E by phone, or by email using the subject "solar energy" at [smarter-energy@pge.com](mailto:smarter-energy@pge.com), 1-800-933-9555 (residential) or [BusinessCustomerHelp@pge.com](mailto:BusinessCustomerHelp@pge.com), 1-800-468-4743 (commercial/industrial).

For more information on the , Multifamily Affordable Solar Housing (MASH) or the New Solar Homes Partnership (NSHP) for affordable housing, please go to [www.pge.com/csi](http://www.pge.com/csi) where you will find information about the program, including the program handbook, reservation request forms with the program contract as well as a list of requirements, FAQ's and resources. For additional questions about the California Solar Initiative (CSI), MASH or the NSHP, contact PG&E at [solar@pge.com](mailto:solar@pge.com).

Project Identification Number \_\_\_\_\_ (for PG&E's use only)

If you are applying for a CSI rebate, please check the appropriate box below and continue with this application.

- I am also applying for a MASH rebate, and understand that I will have to apply for MASH rebates separately.
- I am also applying for a NSHP rebate, and understand that I will have to apply for the NSHP rebates separately.

### Part I – Identifying the Generating Facility's Location and Responsible Parties

#### A. Applicability and Purpose:

This *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* (Agreement) applies to electric rate schedule *NEMVMASH*<sup>1</sup>, *Virtual Net Energy Metering Service for Multifamily Affordable Solar Housing* for the Owner or designated agent of the Owner (Owner) who interconnects a solar electric Generating Facility with an capacity of 1 megawatt (1,000 kW) or less that is located on Owner's existing buildings that received incentives under PG&E's California Solar Initiative (CSI) Multifamily Affordable Solar Housing (MASH) Program or on the Owner's new, "Affordable Housing" as defined in Public Resource Code section 25401.6\*\* that received incentives under the New Solar Homes Partnership (NSHP) Program in PG&E's service territory, and that operates in parallel with Pacific Gas and Electric Company's (PG&E) Distribution System.

The purpose of this Agreement is to allow Owner to interconnect a solar electric generating facility with PG&E's Distribution System, subject to the provisions of this Agreement and PG&E's rate schedule NEMVMASH. Owner has elected to interconnect and operate its solar electric Generating Facility in parallel with PG&E's Distribution System, primarily to offset part or all of the Owner's Multifamily Affordable Solar Housing's own electrical requirements at the affiliated service points as listed in Appendix A. Owner shall comply at all times with this Agreement as well as with all applicable laws, tariffs and applicable requirements of the Public Utilities Commission of the State of California.

<sup>1</sup> Formerly referred to as Rate Schedule NEMVNMA – See Advice Letter 3890-E regarding name change.

**B. Description of Service** (this Agreement is being filed for, check all that apply):

- A New NEMVMASH Generating Facility interconnection (at an existing service).
- For Physical Changes to an interconnected NEMVMASH Generating Facility with previous approval by PG&E (adding PV panels, changing inverters, or changing load and/or operations).
- A New NEMVMASH 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 (or 1-800-743-5000).
- A Reallocation of Solar Energy Generation Credits for an Existing NEMVMASH Facility (see Appendix A). For a reallocation, Owner only needs to fill out Part I, sign Part IV, and complete Appendix A with the reallocation for the NEMVMASH accounts.

**C. Owner's Generating Facility Information** - Where will the Generating Facility be installed?

Name shown on Owner's PG&E service account (Must Match Owner's Name on PG&E Energy Bill)			
Street Address			
City	State	Zip	
Mailing Address			
City	State	Zip	
Business Phone	Home Phone	Fax	Email

**D. Contractor Information** (Must be completed even if Contractor will not serve as a PG&E contact).

Contractor	Company Name		
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contractor is to be used as PG&E contact and is authorized by Owner to receive confidential Owner information and act on behalf of Owner with respect to this agreement.			

**Please complete this agreement in its entirety**

**E. Other Contact Information** (This information is optional).

Contact Person		Company Name	
Mailing Address			
City		State	Zip
Business Phone	Fax	Email	
<input type="checkbox"/> This contact person is to be used as PG&E contact and is authorized by Owner to receive confidential Owner information and act on behalf of Owner with respect to this agreement.			

By checking the boxes above and signing this agreement, Owner authorizes PG&E to release information to the contact(s) named above regarding Owner's usage and billing information, Generating Facility location, size and operational characteristics as requested in the course of this interconnection process. PG&E is granted permission to share information with authorized recipients for a period of **two years** from the date this agreement is received by PG&E. Contact(s) are also authorized to make changes to rates and metering arrangements which may result in charges to Owner. Should Owner wish to select a different authorization period, Owner may utilize the *Authorization to Received Customer Information or Act on a Customer's Behalf*, which may be found at:

[www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer\\_behalf\\_app.pdf](http://www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer_behalf_app.pdf)

In addition, Owner authorizes PG&E to release to the California Energy Commission (CEC) information regarding Owner's facility, including Owner's name and Generating Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

**Part II – Selecting the Study Process**

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.

**Part III – Requirements for Interconnection**

*In submitting this document, I the Owner, understand and agree to the following terms and conditions:*

**Permission to Interconnect**

**Owner must not operate their Generating Facility in parallel with PG&E's Distribution System until they receive written authorization for Parallel Operation from PG&E.** Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Owner may be liable.

**Safe Operation of your Generating Facility**

Notwithstanding any other provision of this Agreement, if at any time PG&E determines that either (a) the Owner's Facility, or its operation, may endanger PG&E personnel, or (b) the continued operation of the Owner's Facility may endanger the safe and reliable operation of PG&E's electrical system, PG&E shall have the right to disconnect the Facility from PG&E's system. Owner's Facility shall remain disconnected until such time as PG&E is satisfied that the unsafe condition(s) have been corrected.

**Interconnections on PG&E's Secondary Network**

Applications to interconnect systems located in San Francisco or Oakland may require additional analysis to determine whether or not their proposed installation is on PG&E's networked secondary system. Networked secondary systems are in place to provide heightened levels of reliability in densely populated areas and may affect the ability of PG&E to

**Please complete this agreement in its entirety**

interconnect NEMVMASH Owner's solar generating facility. **Please contact Generation Interconnection Services at 415-972-5676 or email gen@pge.com if your proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland and where the zip code is 94607 or 94612.**

### **Meter access**

Owner's generator output meter and the AC disconnect switch must be installed in a safe, PG&E-accessible location and remain unobstructed by locked gates or pets. Additionally, meter and AC disconnect switch access must be maintained at all times for meter reading and system maintenance. Any animals owned by the Owner or Multifamily residents, including pet dogs, should not have access to these areas to avoid hindering PG&E service personnel, preventing them from completing their work. Customers who currently have generator meters inaccessible from the outside of the building and who choose to place their generator AC disconnect switch near their meter, must place the required generator AC disconnect switch in a location readily accessible to PG&E in order to participate in this program. Should future access problems arise, PG&E reserves the right to terminate service, in accordance with its filed tariffs.

### **Document and Fee Requirements**

Other Documents and/or Fees *may* be required and there may be requirements for interconnection in addition to the above list, depending on the specifics of the planned Generating Facility. Other approvals and/or other agreements may be needed for special PG&E programs or regulatory agency requirements.

### **Stale Agreements**

If this agreement is still pending two years from its date of submittal and Owner has not met all of the requirements, PG&E will close this application and Owner will be required to submit a new application should Owner wish to take service on Schedule NEMVMASH.

### **A. Agreement Package:**

These documents are needed to ensure safe and reliable operation of PG&E's Distribution System and to confirm that Owner's interconnection has been performed in accordance with PG&E's tariffs. (Additional forms are available upon request by telephoning 415-972-5676, emailing gen@pge.com, or visiting PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem)). **Owners should not delay sending any part of the agreement package to PG&E.** As PG&E receives the documentation described in Sections (1) through (5) below, PG&E will begin to process the application.

### **Required Documents for New Applicants:**

1. A completed copy of this **Agreement, including a completed Appendix A. *Please note:*** the Owner's name (as identified in Part I, Section C) must be the same name as on the PG&E bill. In this Agreement, Owner will confirm their otherwise-applicable rate schedule (OAS) for all Common Area accounts in Owner's name as listed in Appendix A – Owners who don't specify an OAS for their Common Area accounts will be defaulted to Rate Schedule E-1, establishing how Owner's Common Area Account's monthly usage or net generation will be charged/credited. Owner's-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.
2. A **single-line diagram** showing Owner's actual installation of his/her Generating Facility. The diagram must include the electrical rating and operating voltages of the significant electrical components such as the service panel, the disconnect switch (if required), inverters, all photovoltaic generators, circuit breakers and other protective devices of the Generating Facility, the general location of the Owner's loads relative to the Generating Facility, and the interconnection with PG&E's Distribution System. The diagram must include the following information:
  - a. A description and location of the visible, lockable **AC disconnect switch**.

PG&E requires an Owner to install an AC disconnect switch to facilitate maintenance of the Owner's equipment (i.e. inverter, PV arrays, etc.). The AC disconnect switch provides PG&E the ability to isolate the Owner's generator from the NEMVMASH Eligible Low Income Facility and utility's Distribution System.

- b. A description of the specific **inverter(s)** used to control the interconnection between PG&E and the Generating Facility, including rating, brand name, and model number. Only CEC-certified inverters<sup>2</sup> will pass the requirements for Simplified Interconnection per PG&E's Electric Rule 21. Non-certified units will require further study and may involve additional costs.
  - c. A complete description of the **generating equipment Owner plans to install**. The description must include the photovoltaic panel manufacturer name, model number, number of panels, and the nameplate rating. As with the inverters, only CEC-certified will pass the requirements for Simplified Interconnection. (See the PG&E website [www.pge.com/gen](http://www.pge.com/gen) or the CEC website in footnote 1 below.)
  - d. A description of how the power output from the inverter is connected to the **main service panel via a branch breaker**. The ampere rating of this branch breaker and the main service panel breaker must be compatible with the output rating of the Generating Facility. The output rating is computed based on the total nameplate rating of the inverter.
  - e. PG&E requires a **generation output meter**. The description must include the meter manufacturer, model number and type (socket or panel), as well as any other relevant information (e.g., socket, panels, breakers, etc.). If instrument transformers are required, the description should include this information.
3. **Site Diagram** – The site diagram must show the building or buildings that will be included as part of the Eligible Low Income Housing that meets the applicable Service Delivery Point requirements if any, in the Applicability Section of NEMVMASH, the meter locations, and denote where the PV solar generating facility will be located and interconnected.
4. Information regarding any existing **insurance coverage** (liability and/or property) for the Schedule NEMVMASH Generating Facility location –
- Owner shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability. An Owner with a solar electric Generating Facility that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.
- To the extent that Owner has currently in force property insurance and commercial general liability or personal liability insurance, Owner agrees that it will maintain such insurance in force for the duration of this Agreement in no less amounts than those currently in effect. Pacific Gas and Electric Company shall have the right to inspect or obtain a copy of the original policy or policies of insurance prior to commencing operation. As long as Owner meets the requirements of this section, Owner shall not be required to purchase any additional liability insurance.
- I have insurance. I hereby certify that there is presently insurance coverage in the amount of \$\_\_\_\_\_ for the Schedule NEMVMASH Generating Facility location.
- Insuring Company's Name: \_\_\_\_\_
- Insurance Policy # \_\_\_\_\_
- I **do not** have insurance. I hereby certify that there is presently \$0 (zero) dollars of insurance for the Schedule NEMVMASH Generating Facility location.
5. A copy of the **final, signed, jurisdictional approval (building permit) for Owner's Generating Facility** from the local government entity with jurisdiction over the Owner's project. **Owner's agreement package will not be complete until PG&E receives this document.**

<sup>2</sup> The CEC's eligible equipment list can be found under the CSI heading at: [www.consumerenergycenter.org/erprebate/equipment.html](http://www.consumerenergycenter.org/erprebate/equipment.html)

**Internet Agreement Forms**

If this Agreement has been completed electronically, it may be submitted to PG&E via e-mail or U.S. mail. Copies or forms requiring a signature, attachments or any applicable fees described in Part II must be mailed to PG&E at the address noted in Section IV (E), Notices.

**Part IV – General Facility**

A. Expected **date** of Project Completion and PG&E Receipt of Final, Signed-Off Building Permit for Generating Facility?

Date: \_\_\_\_\_

B. Are there any other generators interconnected on this account?

Yes

**If yes**, specify what kind of generator \_\_\_\_\_

No

C. Are there any possible generator meter access issues?

Yes **If yes**, check all that apply:

<input type="checkbox"/> Locked Room/Gate	<input type="checkbox"/> Meter located inside of facility/residence
<input type="checkbox"/> Unrestrained animal at meter or AC disconnect switch location	<input type="checkbox"/> Other (Please explain) _____

No

D. Are any of your accounts on a Demand Response program?

Yes

**If yes**, what program are you on? \_\_\_\_\_

No.

(For more information on PG&E's demand response programs see: [www.pge.com/demandresponse](http://www.pge.com/demandresponse) )

**Part V – Description of the Generating Facilities** *Use additional sheets, if necessary.*

**A. AC Disconnect Switch** (see Part II, Section A.2.a above for policy on disconnect switches).

List the AC disconnect switch that will be used at this Generating Facility.

Disconnect Switch Manufacturer	Disconnect Switch Model Number	Disconnect Switch Rating (amps)

**B. Inverters interconnected with PG&E**

List all the inverters that will be interconnected to PG&E.

**Owners with non-standard inverters** which do not meet the UL and IEEE requirements specified in Electric Rule 21, or Owners whose aggregate Generating Facility capacity exceeds 15% of the peak load on the distribution line section as described in Electric Rule 21 (Section G.1.m.) require a **Supplemental Review** which may entail a study, additional equipment, and/or other requirements.

No.	Inverter Manufacturer	Inverter Model Number	Inverter Nameplate Rating <sup>3</sup> kW (per unit)	Quantity of Inverters	Inverter Output Voltage	Single or Three phase?
1						
2						

**C. Photovoltaic Generator Equipment**

List the photovoltaic (PV) panel information requested below. If the panels are not all identical modules, list the total capacity connected to each inverter you listed above. (Please attach additional sheets if more space is needed).

No.	PV Panel Manufacturer	PV Panel Model	PV Panel CEC Rating kW (per unit)	Quantity of PV Panels	Total Capacity <sup>4</sup> (kW)	Inverter number from (B.) above (1 or 2)
1						
2						

**D. Service Panel Short Circuit Interrupting Rating**

For systems larger than 10 kW, what is the short circuit interrupting rating (SCIR) rating of the service panel connected to this generating facility? \_\_\_\_\_

**E. Notices - Mailing Instructions and Assistance:**

When this agreement has been completed it should be mailed, along with the required attachments and any applicable fees, to:

PG&E'S P.O. BOX ADDRESS	PG&E'S STREET ADDRESS
Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L P.O. Box 770000 San Francisco, California 94177	Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L 245 Market St. San Francisco, California 94105

Phone calls and questions may be directed to the Generation Interconnection Services' hotline at: 415-972-5676 or an electronic application may be submitted to [gen@pge.com](mailto:gen@pge.com)

\_\_\_\_\_

<sup>3</sup> The inverter rating equals the nameplate rating, in kW. If there is more than one inverter of one type being installed, the inverter rating equals the nameplate rating of one unit of the model being installed.

<sup>4</sup> The total capacity is the PV panel rating times the quantity.

**Please complete this agreement in its entirety**

**F. Governing Law**

This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California.

**G. Term of Agreement**

After receipt of all applicable fees, required documents, and this completed Agreement, this Agreement shall become effective on the date of PG&E issues the permission to operate letter. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Owner takes service with PG&E operating this approved generating facility. This new Owner will be interconnected subject to the terms and conditions as set forth in Schedule NEMVMASH.

**H. Governing Authority**

This contract shall at all times be subject to such changes or modification by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

**I. Appendix A**

Attached to this agreement is *Appendix A- Designation of Multifamily Common Area Accounts, Residential Units and their respective Solar Credit Allocation.*

Owner Name (Please Print): \_\_\_\_\_

(Signature): \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

A copy of this signed agreement should be retained with the "Permission to Operate" letter to confirm project approval.

# Appendix A – Designation of Multifamily Common Area Accounts, Residential Units and their Respective Solar Energy Credit Allocation

Project Identification Number \_\_\_\_\_ (for PG&E's use only)

## Section 1 Instructions

- 1) Complete the section below (this information must match the Owner information on the associated *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* for the same NEMVMASH Eligible Low Income Facility.

Owner Name	Address	Date

- 2) Is this application for a new NEMVMASH Eligible Low Income Facility or a reallocation for an existing NEMVMASH facility? (Existing NEMVMASH facility Owners may not reallocate the Solar Allocation Percentages for all Common Area Accounts and all Residential Unit Accounts for a period of 5 years after first being interconnected on NEMVMASH, even if there is a change in Owner. However, after 5 years a reallocation may be requested. Also, a reallocation of credits between the different Common Area Accounts is allowed, and similarly if a residential unit becomes uninhabitable under the terms described in the NEMVMASH tariff in Special Condition 2 g, the Owner may choose to reallocate credits to the other Residential Unit Accounts).

This application is for an allocation for the initial new NEMVMASH Eligible Low Income Facility:

This application is for a reallocation for an existing NEMVMASH Eligible Low Income Facility:

- 3) For a new NEMVMASH Eligible Low Income Facility, if you applied for the Multifamily Affordable Solar Housing Program (MASH), please enter the percentages in the space provided below from the MASH application.

<b>Solar Allocation Percentage for All Common Area Account(s) Listed in the MASH Incentive Application (only required if applying for MASH Track 1a incentives):</b>	<b>Solar Allocation Percentage for All Residential Unit Accounts Listed in MASH Incentive Application (only required if applying for MASH Track 1b incentives):</b>	<b>Both Percentages Must Total 100%</b>
%	%	= 100 %

- 4) Please use the attached Appendix A, Section 2 page to list all accounts that are located in the Eligible Low Income Facility that will be taking service on NEMVMASH. Include the Generator Account, all Common Area Accounts (if any) and all Residential Unit Accounts. The Common Area and Residential Unit Accounts must be associated with the same Generator Account and all must satisfy the applicable Service Delivery Point requirements if any, in the NEMVMASH Applicability Section to be Eligible for Schedule NEMVMASH.

Please note for each row:

- **Account Type** - check the one box corresponding to the type of account (that is, Common Area, Residential Unit or Generator Account). Every row (account) should have one and only one of these 3 boxes checked. *(Required)*
- **Account Address** - Provide an address, including unit number, for all Accounts (for the Generator Account you may use the address of the nearest Common Area Account). *(Required)*
- **Name** - For Common Area Accounts and the Generator Account, the Owner's name must be entered. For Residential Unit Accounts, enter the name of the occupant, if it is known.

- **PG&E Account Number** - Enter the PG&E Account number on all Common Area Accounts and the Generator Account. (Required)
- **Otherwise Applicable Rate Schedule** – Enter the PG&E Otherwise Applicable Rate Schedule (OAS) for all Common Area Accounts and the desired Generator Account. (Required).
- **Solar Allocation Percentage** – For each Common Area Account and Residential Unit Account listed (but not the Generator Account), enter the Solar Allocation Percentage to two decimal places. The Solar Energy Allocation Percentage for each Residential Unit Account must be in proportion to the relative size of each unit, consistent with the manner in which affordable housing rents are established. The total of all Solar Energy Allocation Percentages must equal 100%.
- **Appendix A, Section 2 Page Numbers** – In the space provided on the bottom of each page, please mark the page number and total number of pages for your Appendix A, Section 2 Account List. (Start with Page 1 and do not count the page numbers for these two instruction pages).

5) If the Eligible Low Income Facility has been on the MASH program for less than 5 years, verify that: (for all pages included).

Total of Solar Allocation Percentages for all the Common Area Accounts (if any) \_\_\_\_\_.

Total of Solar Allocation Percentage for all the Residential Unit Accounts \_\_\_\_\_.

These numbers must match the percentages provided in number 3 above (if receiving MASH incentives), from Line 2, and must add up to 100%.

**Section 2**

#	Account Type Check only one box for each row (required field)			Account Address (required field)  (for Generator Account use address of nearest common area account)	For Residential Units, Last Name of Occupant, if known  For Common Area and Generator Accounts, Owner's Name (Name on PG&E Account)	(Required field for Common Area Accounts and Generator Account only)  PG&E Account Number	(Required field for Common Area Accounts and Generator Account only)  Otherwise Applicable Rate Schedule (OAS) under NEMVMASH	(Required Field for Common Area Accounts and Residential Accounts)  Solar Energy Allocation Percentage
	Common Area	Residential Unit	Generator Account (only 1)					
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Total Solar Energy Allocation Percentage for this page _____								

Project Identification Number \_\_\_\_\_ (for PG&E's use only)

Account List - Appendix A,

Section 2 Page \_\_\_\_\_ of \_\_\_\_\_

**Please complete this agreement in its entirety**



**Electric Sample Form 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

Sheet 1

T

**Please Refer to Attached**  
Sample Form

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



Pacific Gas and Electric Company®

# NEMVMASH



## *Eligible Low Income Development Virtual Net Energy Metering Application and Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 MW or Less*

**Please note** that this agreement does not constitute an application for **rebate** and/or **incentive programs**. For more information on these programs and their specific applications, please contact PG&E by phone, or by email using the subject "solar energy" at [smarter-energy@pge.com](mailto:smarter-energy@pge.com), 1-800-933-9555 (residential) or [BusinessCustomerHelp@pge.com](mailto:BusinessCustomerHelp@pge.com), 1-800-468-4743 (commercial/industrial).

For more information on the , Multifamily Affordable Solar Housing (MASH) or the New Solar Homes Partnership (NSHP) for affordable housing, please go to [www.pge.com/csi](http://www.pge.com/csi) where you will find information about the program, including the program handbook, reservation request forms with the program contract as well as a list of requirements, FAQ's and resources. For additional questions about the California Solar Initiative (CSI), MASH or the NSHP, contact PG&E at [solar@pge.com](mailto:solar@pge.com).

Unique Project Name \_\_\_\_\_ (for PG&E's use only)

If you are applying for a CSI rebate, please check the appropriate box below and continue with this application.

- I am also applying for a MASH rebate, and understand that I will have to apply for MASH rebates separately.
- I am also applying for a NSHP rebate, and understand that I will have to apply for the NSHP rebates separately.

### Part I – Identifying the Generating Facility's Location and Responsible Parties

#### A. Applicability and Purpose:

The purpose of this Agreement is to allow Owner to interconnect solar electric generation with PG&E's Distribution System, subject to the provisions of this Agreement and PG&E's rate schedule NEMVMASH. Owner has elected to interconnect and operate its solar electric Generation in parallel with PG&E's Distribution System, to offset part or all of the Owner's Eligible Low Income Development's own electrical requirements at the affiliated service points as listed in Appendix A. Owner shall comply at all times with this Agreement as well as with all applicable laws, tariffs and applicable requirements of the Public Utilities Commission of the State of California.

**B. Owner's Information -**

Eligible Low Income Development Project Name			
Owner-Applicant's Name			
Street Address			
City	State	Zip	
Mailing Address			
City	State	Zip	
Business Phone	Cell Phone	Fax	Email

**C. Contractor Information** (Must be completed even if Contractor will not serve as a PG&E contact).

Contractor	Company Name		
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contractor is to be used as PG&E contact and is authorized by Owner to receive confidential Owner information and act on behalf of Owner with respect to this agreement.			

**D. Other Contact Information** (This information is optional).

Contact Person	Company Name		
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contact person is to be used as PG&E contact and is authorized by Owner to receive confidential Owner information and act on behalf of Owner with respect to this agreement.			

By checking the boxes above and signing this agreement, Owner authorizes PG&E to release information to the contact(s) named above regarding Owner's usage and billing information, Generating Facility location, size and operational characteristics as requested in the course of this interconnection process. PG&E is granted permission to

**Please complete this agreement in its entirety**

share information with authorized recipients for a period of **two years** from the date this agreement is received by PG&E. Contact(s) are also authorized to make changes to rates and metering arrangements which may result in charges to Owner. Should Owner wish to select a different authorization period, Owner may utilize the *Authorization to Received Customer Information or Act on a Customer's Behalf*, which may be found at: [www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer\\_behalf\\_app.pdf](http://www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer_behalf_app.pdf)

In addition, Owner authorizes PG&E to release to the California Energy Commission (CEC) information regarding Owner's facility, including Owner's name and Generating Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

**E. Notices - Mailing Instructions and Assistance:**

When this agreement has been completed it should be mailed, along with the required attachments and any applicable fees, to:

PG&E'S P.O. BOX ADDRESS	PG&E'S STREET ADDRESS
Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L P.O. Box 770000 San Francisco, California 94177	Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L 245 Market St. San Francisco, California 94105

Phone calls and questions may be directed to the Generation Interconnection Services' hotline at: 415-972-5676 or an electronic application may be submitted to [gen@pge.com](mailto:gen@pge.com)

**F. Required Documentation for Agreement (in addition to that required in Appendix B):**

**Plat Map** – A parcel plot or plat map must show the building or buildings that will be included as part of the Eligible Low Income Development, the meter locations, and denote where the PV solar generating facility(ies) will be located and interconnected.

**Site Diagram** – The site diagram must show the building or buildings that will be included as part of the Eligible Low Income Development, the meter locations, and denote where the PV solar generating facility(ies) will be located and interconnected.

**G. Governing Law**

This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California.

**H. Term Of Agreement**

After receipt of all applicable fees, required documents, and this completed Agreement, this Agreement shall become effective on the date of PG&E issues the permission to operate letter. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Owner takes service with PG&E operating this approved generating facility. This new Owner will be interconnected subject to the terms and conditions as set forth in Schedule NEMVMASH.

**I. Governing Authority**

This contract shall at all times be subject to such changes or modification by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

**J. Appendix A**

Attached to this agreement is *Appendix A - Designation of Generator Accounts, and Their Associated Common Area Accounts and Residential Units with Their Respective Solar Credit Allocation.*

**K. Appendix B**

Attached to this agreement is \_\_\_\_\_ completed copy/copies of *Appendix B – NEMVMASH Generating Facility Interconnection Agreement*, corresponding to each of the generator accounts listed in Appendix A. Owner agrees to comply with Electric Tariff Rule 21 and all other applicable tariffs at all times.

Owner Name (Please Print): \_\_\_\_\_

(Signature): \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

A copy of this signed agreement should be retained with the "Permission to Operate" letter to confirm project approval.

# Appendix A – Designation of Generator Accounts, and Their Associated Common Area Accounts and Residential Units With Their respective Solar Energy Credit Allocation

Unique Project Name \_\_\_\_\_ (for PG&E's use only)

## Section 1 Instructions

- 1) Complete the section below (this information must match the Owner information on the associated *Eligible Low Income Development Virtual Net Energy Metering Application and Interconnection Agreement for the Building Owner of Multifamily Affordable Housing with a Solar Generating Facility of 1 MW or Less* for the same NEMVMASH Eligible Low Income Facility.

Eligible Low Income Development Name (must be the same name as that on Page 2 of the Agreement)		
Owner Name	Address	Date

- 2) Is this application for a new NEMVMASH Eligible Low Income Development or a reallocation for an existing Eligible Low Income Development? Existing NEMVMASH Development Owners may not reallocate the Solar Allocation Percentages for all Common Area Accounts and all Residential Unit Accounts for a period of 5 years after first being interconnected on NEMVMASH, even if there is a change in Owner. However, after 5 years a reallocation may be requested. Also, a reallocation of credits between the different Common Area Accounts is allowed, and similarly if a residential unit becomes uninhabitable under the terms described in the NEMVMASH tariff in Special Condition 2 g, the Owner may choose to reallocate credits to the other Residential Unit Accounts.

This application is for an allocation for the initial new NEMVMASH Eligible Low Income Development:

This application is for a reallocation for an existing NEMVMASH Eligible Low Income Development:

- 3) A NEMVMASH Eligible Low Income Development on NEMVMASH must either receive incentive funds from the Multifamily Affordable Solar Housing Program (MASH), or the New Solar Homes Partnership (NSHP) for affordable housing, or be eligible to receive funds from the MASH program.

Is this Development receiving funds from either the MASH or NSHP program?                      Yes                       No

If it is not receiving either MASH or NSHP incentives, is it eligible to receive MASH funds?    Yes                       No

- 4) For a new NEMVMASH Eligible Low Income Development, if you applied for MASH incentives, please enter the percentages in the space provided below from the MASH application.

Solar Allocation Percentage for All Common Area Account(s) Listed in the MASH Incentive Application (only required if applying for MASH Track 1a incentives):	Solar Allocation Percentage for All Residential Unit Accounts Listed in MASH Incentive Application (only required if applying for MASH Track 1b incentives):	Both Percentages Must Total 100%
%	%	= 100 %

- 5) Please use the attached Appendix A, Section 2 to list all accounts that are located in the Eligible Low Income Development that will be taking service on NEMVMASH.

On a building by building basis, please list all participating Generator Accounts, Common Area Accounts (if any) and all Residential Unit Accounts as specified in Appendix A.

**Please complete this agreement in its entirety**

Please note for each row:

- **Account Type** - check the one box corresponding to the type of account (that is, **Generator Account, Common Area** or **Residential Unit**). Every row (account) should have one and only one of these 3 boxes checked. *(Required)*. Additionally, Generator accounts must also list the CEC AC rating in the **Generator Capacity** column and be numbered, starting with "1" in the **Generator Number** column. This Agreement must include a completed copy of Appendix B corresponding to each generator shown in this table and the solar generator capacity on Appendix B Part IV section C. must match that listed in this table. The sum of all generators' capacities listed must not exceed 1 MW.
- **Account Address** - Provide an address, including unit number, for all Accounts (for Generator Accounts without an address please specify location in detail). *(Required)*
- **Name** - For Common Area Accounts and the Generator Account, the Owner's name must be entered. For Residential Unit Accounts, enter the name of the occupant, if it is known.
- **PG&E Account Number** - Enter the PG&E Account number on all Common Area Accounts and Generator Accounts. *(Required)*.
- **Otherwise Applicable Rate Schedule** – Enter the PG&E Otherwise Applicable Rate Schedule (OAS) for all Common Area Accounts and desired Generator Accounts. *(Required)*.
- **Total Solar Generation** (bottom of each page) – For each Generator Account total the CEC AC rating. The total of all rating of all Generator Accounts on all pages must equal no more than 1 MW.
- **Solar Allocation Percentage** (bottom of the each page) - For each Common Area Account and Residential Unit Account listed (but not the Generator Account), enter the Solar Allocation Percentage to two decimal places. The Solar Energy Allocation Percentage for each Residential Unit Account must be in proportion to the relative size of each unit, consistent with the manner in which affordable housing rents are established. The total of all Solar Energy Allocation Percentages must equal 100%.
- **Appendix A, Section 2 Page Numbers** – In the space provided on the bottom of each page, please mark the page number and total number of pages for your Appendix A, Section 2 Account List. (Start with Page 1 and do not count the page numbers for these two instruction pages).

6) If the Eligible Low Income Development has been on the MASH program for less than 5 years, verify that: (for all pages included).

Total of Solar Allocation Percentages for all the Common Area Accounts (if any) \_\_\_\_\_.

Total of Solar Allocation Percentage for all the Residential Unit Accounts \_\_\_\_\_.

These numbers must match the percentages provided in number 3 above (if receiving MASH incentives), from Line 2, and must add up to 100%.

## Appendix A – Designation of Generator Accounts, and their Associated Common Area Accounts and Residential Units with their respective Solar Energy Credit Allocation

Unique Project Name \_\_\_\_\_ (for PG&E's use only)

### Section 2

Please list all participating on a building by building basis.

#	Account Type Check only one box for each row (required field)					Account Address (required field)  (for Generator Accounts without an address please describe location in detail)	Owner's Name  (For Residential Units, Last Name of Occupant, if known  For Common Area and Generator Accounts. Use Name as shown on PG&E Account)	PG&E Account Number  (Required field for Common Area Accounts and Generator Account only)	Otherwise Applicable Rate Schedule (OAS) under NEMVMASH  (Required field for Common Area Accounts and Generator Account only)	Solar Energy Allocation Percentage (up to 2 decimal places. Required Field for Common Area Accounts and Residential Accounts)
	Generator Account	Generator Number (must complete an Appendix B with a corresponding generator number)	Generator Capacity (must total to no more than 1 MW)	Common Area	Residential Unit					
1	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
2	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
3	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
4	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
5	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
6	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
7	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
8	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
9	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
10	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
11	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
12	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
13	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
14	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
15	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					
_____ Total Solar Generation this page							Total Solar Energy Allocation Percentage for this page _____			

Account List - Appendix A, Section 2 --- Page \_\_\_\_\_ of \_\_\_\_\_

**Please complete this agreement in its entirety**

-

**Please complete this agreement in its entirety**

Automated Document, Preliminary Statement Part A

Page 8 of 13  
Form 79-1124  
Advice 4110-E  
Revised September 2012

# Appendix B – NEMVMASH Generating Facility Interconnection Agreement

Unique Project Name \_\_\_\_\_ (for PG&E's use only)

*One completed Appendix B Interconnection Agreement must be submitted for each NEMVMASH generating facility in the Eligible Low Income Development. The number of interconnection agreements submitted should match the generator accounts shown in appendix A. All sections should be completed (unless otherwise noted in the text).*

**Part I – Requirements for Interconnection**

Please complete all parts of this section:

**A. Owner's Generating Facility Information - Where will the Generating Facility be installed?**

Eligible Low Income Facility Name (must be the same name as that on Page 1 of the Agreement)		Unique Generator Number – (must match listing in Appendix A)
Nearest Street Address where this Generating Facility will Be Located		
City	State	Zip
Contractor Name (must be the same name as that on Page 1 of the Agreement)		

**B. Description of Service** (This Agreement is being filed for, check all that apply):

- A New NEMVMASH Generating Facility interconnection (at an existing service).
- For Physical Changes to an interconnected NEMVMASH Generating Facility with previous approval by PG&E (adding PV panels, changing inverters, or changing load and/or operations).
- A New NEMVMASH 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 (or 1-800-743-5000).
- A Reallocation of Solar Energy Generation Credits for an Existing NEMVMASH Facility (see Appendix A). For a reallocation, Owner only needs to fill out Part I, sign Part IV, and complete Appendix A with the reallocation for the NEMVMASH accounts.

**Part II – Selecting the Study Process**

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.

## Part III – Requirements for Interconnection

In submitting this document, I the Owner, understand and agree to the following terms and conditions:

### Permission to Interconnect

**Owner must not operate their Generating Facility in parallel with PG&E's Distribution System until they receive written authorization for Parallel Operation from PG&E.** Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Owner may be liable.

### Safe Operation of your Generating Facility

Notwithstanding any other provision of this Agreement, if at any time PG&E determines that either (a) the Owner's Facility, or its operation, may endanger PG&E personnel, or (b) the continued operation of the Owner's Facility may endanger the safe and reliable operation of PG&E's electrical system, PG&E shall have the right to disconnect the Facility from PG&E's system. Owner's Facility shall remain disconnected until such time as PG&E is satisfied that the unsafe condition(s) have been corrected.

### Interconnections on PG&E's Secondary Network

Applications to interconnect systems located in San Francisco or Oakland may require additional analysis to determine whether or not their proposed installation is on PG&E's networked secondary system. Networked secondary systems are in place to provide heightened levels of reliability in densely populated areas and may affect the ability of PG&E to interconnect NEMVMASH Owner's solar generating facility. **Please contact Generation Interconnection Services at 415-972-5676 or email [gen@pge.com](mailto:gen@pge.com) if your proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland and where the zip code is 94607 or 94612.**

### Meter access

Owner's generator output meter and the AC disconnect switch must be installed in a safe, PG&E-accessible location and remain unobstructed by locked gates or pets. Additionally, meter and AC disconnect switch access must be maintained at all times for meter reading and system maintenance. Any animals owned by the Owner or Multifamily residents, including pet dogs, should not have access to these areas to avoid hindering PG&E service personnel, preventing them from completing their work. Customers who currently have generator meters inaccessible from the outside of the building and who choose to place their generator AC disconnect switch near their meter, must place the required generator AC disconnect switch in a location readily accessible to PG&E in order to participate in this program. Should future access problems arise, PG&E reserves the right to terminate service, in accordance with its filed tariffs.

### Document and Fee Requirements

Other Documents and/or Fees *may* be required and there may be requirements for interconnection in addition to the above list, depending on the specifics of the planned Generating Facility. Other approvals and/or other agreements may be needed for special PG&E programs or regulatory agency requirements.

### Stale Agreements

If this agreement is still pending two years from its date of submittal and Owner has not met all of the requirements, PG&E will close this application and Owner will be required to submit a new application should Owner wish to take service on Schedule NEMVMASH.

### A. Agreement Package:

These documents are needed to ensure safe and reliable operation of PG&E's Distribution System and to confirm that Owner's interconnection has been performed in accordance with PG&E's tariffs. (Additional forms are available upon request by telephoning 415-972-5676, emailing [gen@pge.com](mailto:gen@pge.com), or visiting PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem)). **Owners should not delay sending any part of the agreement package to PG&E.** As PG&E receives the documentation described in Sections (1) through (5) below, PG&E will begin to process the application.

### Required Documents for New Applicants:

2. A completed copy of this **Agreement, including a completed Appendix A.** ***Please note:*** the Owner's name (as identified in Part I, Section C) must be the same name as on the PG&E bill. In this Agreement, Owner will confirm their otherwise-applicable rate schedule (OAS) for all Common Area accounts in Owner's name as listed in Appendix A – Owners who don't specify an OAS for their Common Area accounts will be defaulted to Rate

Schedule E-1, establishing how Owner's Common Area Account's monthly usage or net generation will be charged/credited. Owner's-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

3. A **single-line diagram** showing Owner's actual installation of his/her Generating Facility. The diagram must include the electrical rating and operating voltages of the significant electrical components such as the service panel, the disconnect switch (if required), inverters, all photovoltaic generators, circuit breakers and other protective devices of the Generating Facility, the general location of the Owner's loads relative to the Generating Facility, and the interconnection with PG&E's Distribution System. The diagram must include the following information:
  - a. A description and location of the visible, lockable **AC disconnect switch**.

PG&E requires an Owner to install an AC disconnect switch to facilitate maintenance of the Owner's equipment (i.e. inverter, PV arrays, etc.). The AC disconnect switch provides PG&E the ability to isolate the Owner's generator from the NEMVMASH Eligible Low Income Facility and utility's Distribution System.
  - b. A description of the specific **inverter(s)** used to control the interconnection between PG&E and the Generating Facility, including rating, brand name, and model number. Only CEC-certified inverters<sup>1</sup> will pass the requirements for Simplified Interconnection per PG&E's Electric Rule 21. Non-certified units will require further study and may involve additional costs.
  - c. A complete description of the **generating equipment Owner plans to install**. The description must include the photovoltaic panel manufacturer name, model number, number of panels, and the nameplate rating. As with the inverters, only CEC-certified will pass the requirements for Simplified Interconnection. (See the PG&E website [www.pge.com/gen](http://www.pge.com/gen) or the CEC website in footnote 1 below.)
  - d. A description of how the power output from the inverter is connected to the **main service panel via a branch breaker**. The ampere rating of this branch breaker and the main service panel breaker must be compatible with the output rating of the Generating Facility. The output rating is computed based on the total nameplate rating of the inverter.
  - e. PG&E requires a **generation output meter**. The description must include the meter manufacturer, model number and type (socket or panel), as well as any other relevant information (e.g., socket, panels, breakers, etc.). If instrument transformers are required, the description should include this information.
4. A copy of the **final, signed, jurisdictional approval (building permit) for Owner's Generating Facility** from the local government entity with jurisdiction over the Owner's project. **Owner's agreement package will not be complete until PG&E receives this document.**
5. **Insurance** - Information regarding any existing **insurance coverage** (liability and/or property) for the Schedule NEMVMASH Generating Facility location –

Owner shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability. An Owner with a solar electric Generating Facility that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

To the extent that Owner has currently in force property insurance and commercial general liability or personal liability insurance, Owner agrees that it will maintain such insurance in force for the duration of this Agreement in no less amounts than those currently in effect. Pacific Gas and Electric Company shall have the right to inspect or obtain a copy of the original policy or policies of insurance prior to commencing operation. As long as Owner meets the requirements of this section, Owner shall not be required to purchase any additional liability insurance.

I have insurance. I hereby certify that there is presently insurance coverage in the amount of \$\_\_\_\_\_ for the Schedule NEMVMASH Generating Facility location.

Insuring Company's Name: \_\_\_\_\_

<sup>1</sup> The CEC's eligible equipment list can be found under the CSI heading at: [www.consumerenergycenter.org/erprebate/equipment.html](http://www.consumerenergycenter.org/erprebate/equipment.html)

Insurance Policy # \_\_\_\_\_

I **do not** have insurance. I hereby certify that there is presently \$0 (zero) dollars of insurance for this NEMVMASH Generating Facility.

**B. Internet Agreement Forms**

If this Agreement has been completed electronically, it may be submitted to PG&E via e-mail or U.S. mail. Copies or forms requiring a signature, attachments or any applicable fees described in Part II must be mailed to PG&E at the address noted in Section IV (E), Notices.

**Part IV – General Facility**

**A. Expected **date** of Project Completion and PG&E Receipt of Final, Signed-Off Building Permit for Generating Facility?**

Date: \_\_\_\_\_

**B. Are there any other generators interconnected on this account?**

Yes  
    **If yes**, specify what kind of generator \_\_\_\_\_

No

**C. Are there any possible generator meter access issues?**

Yes **If yes**, check all that apply:

<input type="checkbox"/> Locked Room/Gate	<input type="checkbox"/> Meter located inside of facility/residence
<input type="checkbox"/> Unrestrained animal at meter or AC disconnect switch location	<input type="checkbox"/> Other (Please explain) _____

No

**D. Are any of your accounts on a Demand Response program?**

Yes  
    **If yes**, what program are you on? \_\_\_\_\_

No.  
(For more information on PG&E's demand response programs see: [www.pge.com/demandresponse](http://www.pge.com/demandresponse))

**Part V – Description of the Generating Facilities**      *Use additional sheets, if necessary.*

**A. AC Disconnect Switch** (see Part II, Section A.2.a above for policy on disconnect switches)  
List the AC disconnect switch that will be used at this Generating Facility.

Disconnect Switch Manufacturer	Disconnect Switch Model Number	Disconnect Switch Rating (amps)

**B. Inverters interconnected with PG&E**

List all the inverters that will be interconnected to PG&E.

**Owners with non-standard inverters** which do not meet the UL and IEEE requirements specified in Electric Rule 21, or Owners whose aggregate Generating Facility capacity exceeds 15% of the peak load on the distribution line section as described in Electric Rule 21 (Section G.1.m.) require a **Supplemental Review** which may entail a study, additional equipment, and/or other requirements.

No.	Inverter Manufacturer	Inverter Model Number	Inverter Nameplate Rating <sup>1</sup> kW (per unit)	Quantity of Inverters	Inverter Output Voltage	Single or Three phase?
1						
2						
3						

**C. Photovoltaic Generator Equipment**

List the photovoltaic (PV) panel information requested below. If the panels are not all identical modules, list the total capacity connected to each inverter you listed above. (Please attach additional sheets if more space is needed).

No.	PV Panel Manufacturer	PV Panel Model	PV Panel CEC Rating kW (per unit)	Quantity of PV Panels	Total Capacity <sup>2</sup> (kW)	Inverter number from (B.) above (1 or 2)
1						
2						
3						

**D. Service Panel Short Circuit Interrupting Rating**

For systems larger than 10 kW, what is the short circuit interrupting rating (SCIR) rating of the service panel connected to this generating facility? \_\_\_\_\_

<sup>1</sup> The inverter rating equals the nameplate rating, in kW. If there is more than one inverter of one type being installed, the inverter rating equals the nameplate rating of one unit of the model being installed.

<sup>2</sup> The total capacity is the PV panel rating times the quantity.



**Electric Sample Form 79-1125**  
NEM / NEMVMASH Inspection Report

Sheet 1

**Please Refer to Attached  
Sample Form**

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



## NEM / NEMVMASH Inspection Report

### Who needs to complete this Inspection Report?

A customer:

- who becomes a PG&E customer at a home, office or other facility having with an existing Renewable Electrical Generation Facility with plans to remain interconnected with PG&E on Rate Schedule NEM and
- who must complete a new net energy metering contract (for example, Form 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*) with PG&E for the existing generating facility and
- whose electrical generating facility and meter have not been installed or inspected within the previous three years and
- who must arrange to have their generating facility inspected and the Contractor section of this report completed by a California licensed electrician who is not the owner or operator of the facility and meter.

This *NEM / NEMVMASH INSPECTION REPORT* (Report), pursuant to Public Utilities Code Section 2827c(2), shall be completed and submitted by a PG&E customer who enters into a new net energy metering contract (for example, Form 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*) for an existing and unmodified NEM eligible electrical generating facility (Generating Facility) and meter. The customer shall submit to PG&E this completed inspection report with the interconnection agreement for the Generating Facility, that passes all the Operational Tests in Part II Section I, unless the Generating Facility and meter have been installed or inspected within the previous three years. Part II of the inspection report shall be prepared by a California licensed contractor who is not the owner or operator of the Generating Facility and meter. A California licensed electrician (Inspector) shall perform the inspection of the electrical portion of the Generating Facility and meter.

### Instructions

- 1) The Customer shall complete all of Part I and complete Section A of Part II. The Customer information in Section A of Part II should match that in Part I.
- 2) The Customer should arrange to have the Inspector inspect their Generating Facility and complete the remainder of Part II of this form and sign it.
- 3) The customer shall then submit the fully completed Report to PG&E.

If this form is not submitted within 90 days of the Customer becoming the customer of record for this account, Customer agrees to disconnect their Generating Facility and inform PG&E it no longer will take service on schedule NEM or NEMVMASH.

For the safety of the Customer and PG&E employees, under no circumstances shall the Generating Facility be operated while interconnected with PG&E if it does not pass the Operational Test in Part II, Section I.

**Part I – Customer Information**

**A. Customer Generating Facility Information – Who is the PG&E Customer for this Generating Facility?**

Generating Facility PG&E Account Holder Name (Must Match Customer Name on PG&E Blue Bill for generator)		PG&E Account Number for Generating Facility	Meter Number (Meter Badge ID)
Account Holder Street Address			
Account Holder City		Account Holder State	Account Holder Zip
Account Holder Billing Mail Address			
Billing City		Billing State	Billing Zip
Business Phone	Cell Phone	Fax	Email

**B. Generator Location – Where is the Generating Facility Located?**

Contact at Generator Location			
Generator Address			
Generator City		Generator State	Generator Zip
Generator Contact Phone	Fax	Email	
<input type="checkbox"/> This contact person is to be used as PG&E contact and is authorized by Customer to receive confidential Customer information and act on behalf of Customer with respect to this agreement. <sup>2</sup>			

**C. Modifications**

To your knowledge, has the system been modified in any way?  No  Yes

**D. Installation Date**

Do you know when this Generating Facility was installed?

- No  
 Yes, Date Installed \_\_\_\_\_

**E. Last Inspection Date**

Do you know if this Generating Facility had a prior PG&E inspection?

- No  
 Yes

Date of last inspection? \_\_\_\_\_

<sup>2</sup> Customer must utilize the *Authorization to Receive Customer Information or Act on a Customer's Behalf* form, which may be found at [www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer\\_behalf\\_app.pdf](http://www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer_behalf_app.pdf).

- F. By the Customer signing the attached new *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, Form 79-978*, or other new NEM, NEMV or NEMVMASH interconnection agreement, this NEM / NEMV/NEMVMASH Inspection Report is hereby incorporated into Customer's new interconnection agreement.

A copy of this signed report should be retained with the "Permission to Operate" letter to confirm successful Generating Facility inspection.

**Mailing Instructions and Assistance:**

When this report has been completed it should be mailed to:

PG&E'S P.O. BOX ADDRESS	PG&E'S STREET ADDRESS
Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L P.O. Box 770000 San Francisco, California 94177	Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L 245 Market St. San Francisco, California 94105

If this Report has been completed electronically, it may be submitted to PG&E via e-mail or U.S. mail. Copies or forms requiring a signature, attachments or any applicable fees described in Part II must be mailed to PG&E at the address noted in the Notice Section of Customer's new interconnection agreement.

Phone calls and questions may be directed to the Generation Interconnection Services hotline at: 415-972-5676 or email [gen@pge.com](mailto:gen@pge.com)

**Part II –Electrical Inspector Section**

**A. Inspection Information** (to be filled in by the Customer – must match information in Part I)

Generating Facility PG&E Account Holder Name (Must Match Customer Name on PG&E Blue Bill for generator)	PG&E Account Number for Generating Facility	Meter Number (Meter Badge ID)
Generator Address		

----- To be completed by Inspector -----

**B. Inspector Information**

California licensed Electrician Name		Company Name	
Currently Valid California Electrician License Number			
Mailing Address			
City		State	Zip
Business Phone	Fax	Email	

**C. Inverters interconnected with PG&E**

List all the inverters that currently are interconnected to PG&E at this Generating Facility.

No.	Inverter Manufacturer	Inverter Model Number	Inverter Nameplate Rating <sup>3</sup> kW (per unit)	Inverter CEC Rating kW (per unit)	Quantity of Inverters	Inverter Output Voltage	Single or Three phase?
1							
2							

**D. Inverter CEC Approved**

Are all the inverter models listed above currently listed on the <http://www.gosolarcalifornia.ca.gov/equipment/> website?

Yes    No<sup>4</sup>

<sup>3</sup> The inverter rating equals the nameplate rating, in kW. If there is more than one type of inverter being installed, the inverter rating equals the nameplate rating of one unit of each model being installed.

<sup>4</sup> Equipment not currently listed on the Go Solar website, or equipment formerly listed but no longer listed, may be subject to additional review or testing before being authorized to continue interconnection with PG&E, depending on the reason it is no longer listed.

**E. Photovoltaic Generator Equipment (if applicable)**

List the photovoltaic (PV) panel information requested below. If the panels are not all identical modules, list the total capacity connected to each inverter you listed above. (Please attach additional sheets if more space is needed).

No.	PV Panel Manufacturer	PV Panel Model	PV Panel Nameplate Rating <sup>5</sup> kW (per unit)	PV Panel CEC Rating kW (per unit)	Quantity of PV Panels	Total Capacity <sup>6</sup> (kW)	Inverter number from (C.) above (1 or 2)
1							
2							

**F. PV Panels CEC Approved**

Are all the PV panel models listed above currently listed on the <http://www.gosolarcalifornia.ca.gov/equipment/> website?

Yes  No<sup>7</sup>

**G. Wind Turbine Equipment (if applicable)**

List the wind turbine information requested below. Write NONE if the inverter is incorporated in the wind turbine and no inverter is required.

No.	Wind Turbine Manufacturer	Wind Turbine Model	Wind Turbine Nameplate Rating <sup>8</sup> kW (per unit)	Wind Turbine CEC Rating (kW) per unit	Quantity of Wind Turbines	Total Capacity (kW) <sup>3</sup>	Turbine Output Voltage	Single or Three Phase	Inverter number from (C) above (1 or 2)
1									

**H. Wind Turbine CEC Approved**

Are all the wind turbine models listed above currently listed on the <http://www.gosolarcalifornia.ca.gov/equipment/> website?

Yes  No<sup>9</sup>

<sup>5</sup> For all generation equipment ratings, please use the nameplate rating found on the equipment or in the equipment specifications.

<sup>6</sup> The total capacity is the photovoltaic (PV) panel (or wind turbine) rating times the quantity.

<sup>7</sup> Id. Footnote 4 above.

<sup>8</sup> Id. Footnote 6 above.

<sup>9</sup> Id. Footnote 4 above.

**I. Renewable Electrical Generation Facility (if applicable)**

Identify the Renewable Electrical Generation Facility generator type code(s) from the table below and write it into the following table. Write NONE if no inverter is incorporated in each Generating Facility.

Generator Type Code Table		
A – biomass	B – solar thermal	C – geothermal
D – fuel cell	E – small hydroelectric generation	F – digester gas
G – municipal solid waste	H – landfill gas	I – ocean wave
J – ocean thermal	K – tidal current	

No.	Generator Type Code(s) for Renewable Electrical Generation Facility	Model	Nameplate Rating <sup>10</sup> kW (per unit)	Quantity (if multiple units)	Total Capacity (kW) <sup>6</sup>	Output Voltage	Single or Three Phase	Inverter number from (C) above (1 or 2)
1								

Customers with non-certified generation equipment, such as synchronous generators, shall retain qualified testing personnel to perform the necessary tests specified in Rule 21 to meet this requirement. Customer or Inspector shall provide PG&E with 30 days notice of such facility testing, the testing shall be conducted at a mutually agreeable time, and PG&E shall be given the opportunity to witness the tests.

**J. Other Interconnected Generators**

Are there other generators interconnected on this account at this location?  Yes  No

If Yes, list generator technology and capacity for all generators

---

Are there any backup generators?  Yes  No

If yes, there are backup generators, is the back-up generator is open or close transition?  
 Open  Closed

**K. Operational Tests**

**1.) Anti-islanding test**

Pursuant to PG&E’s Electric Rule 21, Section H.1.a.(3), verify the Generating Facility ceases to output within two seconds of opening the disconnect switch or otherwise disconnecting the Generating Facility from PG&E electrical system.

Passes test?  Yes

**2.) Reclose and return to service within Rule 21 guidelines**

Pursuant to PG&E’s Electric Rule 21, Section H.1.a.(2), verify that the time-delay function reconnects the Generating Facility with PG&E’s Distribution System after at least 60 seconds.

Passes test?  Yes

---

<sup>10</sup> Id. Footnote 6 above.

**L. Governing Authority**

The terms and conditions of this inspection report shall at all times be subject to such changes or modification by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

**M. Inspector Signature**

I certify that I am currently a California licensed electrician, that the responses given in Part II of this Report for the Generating Facility are true and accurate to the best of my knowledge, and that the Generating Facility satisfies the Operational Tests in Part II, Section I.

Name California licensed electrical contractor  
(Please Print): \_\_\_\_\_

Name California licensed electrical contractor \_\_\_\_\_ Date: \_\_\_\_\_  
Signature:

California licensed electrician License No: \_\_\_\_\_



**ELECTRIC SAMPLE FORM 79-1131** Sheet 1  
 NEMV APPLICATION AND INTERCONNECTION AGREEMENT FOR A SOLAR (PV) OR WIND GENERATING FACILITY OF 1 MW OR LESS

T  
 T

PLEASE REFER TO ATTACHED  
 SAMPLE FORM

Advice Letter No: 4110-E  
 Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
 Vice President  
 Regulatory Relations

Date Filed September 20, 2012  
 Effective September 20, 2012  
 Resolution No. \_\_\_\_\_



NEMV



Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less

Please note: This agreement does not constitute an application for rebate and/or incentive programs. For more information on these programs, please visit the program website at the links provided below.

- California Solar Initiative (CSI): www.pge.com/csi
Self-Generation Incentive Program (SGIP): www.pge.com/sgip

Project Identification Number \_\_\_\_\_ (for PG&E's use only)

Part I - Identifying the Generating Facility's Location and Responsible Parties

A. Applicability and Purpose:

This Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less (Agreement) applies to electric rate schedule NEMV—Virtual Net Energy Metering For A Multi-Tenant And Multi-Meter Property Served At The Same Service Delivery Point for the Owner or designated agent of the Owner (Owner) who interconnects a single solar photovoltaic and/or wind generating facility sized no larger than for the energy requirements of all eligible Benefitting Accounts (as defined in Schedule NEMV) of the past year but with a maximum total size of no larger than one MW or 1,000 kW (Renewable Electric Generation Facility) that is located at a Single Delivery Point with other individually metered PG&E Benefitting Accounts the will be allocated the benefits of the Renewable Electric Generation Facility as described in NEMV, that meets all the applicability requirements in Schedule NEMV, and that operates in parallel with Pacific Gas and Electric Company's (PG&E) Distribution System.

The purpose of this Agreement is to allow the Owner to interconnect the Renewable Electric Generation Facility with PG&E's Distribution System, subject to the provisions of this Agreement and PG&E's rate schedule NEMV. Owner has elected to interconnect and operate its Renewable Electric Generation Facility in parallel with PG&E's Distribution System, primarily to offset part or all of the NEMV Arrangement's own electrical requirements of the Benefitting Accounts at the affiliated service delivery point as listed in Appendix A. Owner shall comply at all times with this Agreement as well as with all applicable laws, tariffs and applicable requirements of the Public Utilities Commission of the State of California.

Note: If this application is for a Renewable Electric Generation Facility with a generator type that is other than solar (PV) and wind covered in Schedule NEMV, please use Application Form 79-1142.

B. Description of Service (This Agreement is being filed for, check all that apply):

- A New NEMV Renewable Electric Generation Facility interconnection (at an existing service).
For Physical/Electrical Changes to an interconnected NEMV Renewable Electric Generation Facility with previous approval by PG&E (adding PV panels, changing inverters, or changing load and/or operations).
A New NEMV 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 (or 1-800-743-5000).
A Reallocation of Eligible Energy Generation Credits under NEMV for an Existing Renewable Electric Generation Facility (see Appendix A). For a reallocation, Owner only needs to fill out Part I, sign Part IV, and complete Appendix A with the reallocation for the NEMV accounts.

1 Customer-owned line extensions that deliver power to other meters on the same property are not considered separate SDPs.

Special Condition 6 of Schedule NEMV requires that any Customer with an existing generating facility and meter who enters into a new NEMV agreement shall complete and submit a copy of Form 79-1125 *NEM / NEMV / NEMVMASH Inspection Report* to PG&E, unless the electrical generating facility and meter have been installed and/or inspected within the previous three years.

**C. Owner's Renewable Electric Generation Facility Information - Where will the Generating Facility be installed?**

Name shown on Owner's PG&E service account (Must Match Owner's Name on PG&E Energy Bill)			
Street Address			
City	State	Zip	
Mailing Address			
City	State	Zip	
Business Phone	Home Phone	Fax	Email

**D. Contractor Information** (Must be completed even if Contractor will not serve as a PG&E contact).

Contractor	Company Name		
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contractor is to be used as PG&E contact and is authorized by Owner to receive confidential Owner information and act on behalf of Owner with respect to this agreement.			

**E. Other Contact Information** (This information is optional).

Contact Person	Company Name		
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contact person is to be used as PG&E contact and is authorized by Owner to receive confidential Owner information and act on behalf of Owner with respect to this agreement.			

By checking the boxes above and signing this agreement, Owner authorizes PG&E to release information to the contact(s) named above regarding Owner's usage and billing information, Renewable Electric Generation Facility location, size and operational characteristics as requested in the course of this interconnection process. PG&E is granted

permission to share information with authorized recipients for a period of **two years** from the date this agreement is received by PG&E. Contact(s) are also authorized to make changes to rates and metering arrangements that may result in charges to Owner. Should Owner wish to select a different authorization period, Owner may utilize the *Authorization to Received Customer Information or Act on a Customer's Behalf*, which may be found at:  
[www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer\\_behalf\\_app.pdf](http://www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer_behalf_app.pdf)

In addition, Owner authorizes PG&E to release to the California Energy Commission (CEC) information regarding Owner's facility, including Owner's name and Renewable Electric Generation Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

## Part II – Selecting the Study Process

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.

## Part III – Requirements for Interconnection

*In submitting this document, I the Owner, understand and agree to the following terms and conditions:*

### Permission to Interconnect

**Owner must not operate their Renewable Electric Generation Facility in parallel with PG&E's Distribution System until they receive written authorization for Parallel Operation from PG&E.** Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Owner may be liable.

### Safe Operation of the Renewable Electric Generation Facility

Notwithstanding any other provision of this Agreement, if at any time PG&E determines that either (a) the Owner's Facility, or its operation, may endanger PG&E personnel, or (b) the continued operation of the Owner's Facility may endanger the safe and reliable operation of PG&E's electrical system, PG&E shall have the right to disconnect the Facility from PG&E's system. Owner's Facility shall remain disconnected until such time as PG&E is satisfied that the unsafe condition(s) have been corrected.

### Interconnections on PG&E's Secondary Network

Applications to interconnect systems located in San Francisco or Oakland may require additional analysis to determine whether or not their proposed installation is on PG&E's networked secondary system. Networked secondary systems are in place to provide heightened levels of reliability in densely populated areas and may affect the ability of PG&E to interconnect NEMV Owner's Renewable Electric Generation Facility. **Please contact Generation Interconnection Services at 415-972-5676 or email [gen@pge.com](mailto:gen@pge.com) if your proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland and where the zip code is 94607 or 94612.**

### Meter access

Owner's generator output meter and the AC disconnect switch must be installed in a safe, PG&E-accessible location and remain unobstructed by locked gates or pets. Additionally, meter and AC disconnect switch access must be maintained at all times for meter reading and system maintenance. Any animals owned by the Owner or Multifamily residents, including pet dogs, should not have access to these areas to avoid hindering PG&E service personnel, preventing them from completing their work. Customers who currently have generator meters inaccessible from the outside of the building and who choose to place their generator AC disconnect switch near their meter, must place the required generator AC disconnect switch in a location readily accessible to PG&E in order to participate in this program. Should future access problems arise, PG&E reserves the right to terminate service, in accordance with its filed tariffs.

### Document and Fee Requirements

Other Documents and/or Fees *may* be required and there may be requirements for interconnection in addition to the above list, depending on the specifics of the planned Renewable Electric Generation Facility. Other approvals and/or other agreements may be needed for special PG&E programs or regulatory agency requirements.

### Stale Agreements

If this agreement is still pending two years from its date of submittal and Owner has not met all of the requirements, PG&E will close this application and Owner will be required to submit a new application should Owner wish to take service on Schedule NEMV.

**A. Agreement Package:**

These documents are needed to ensure safe and reliable operation of PG&E's Distribution System and to confirm that Owner's interconnection has been performed in accordance with PG&E's tariffs. (Additional forms are available upon request by telephoning 415-972-5676, emailing [gen@pge.com](mailto:gen@pge.com), or visiting PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem)). **Owners should not delay sending any part of the agreement package to PG&E.** As PG&E receives the documentation described in Sections (1) through (7) below, PG&E will begin to process the application.

**Required Documents for New Applicants:**

1. A completed copy of this **Agreement, including completed Appendices A, B and C.** *Please note:* the Owner's name (as identified in Part I, Section C) must be the same name as on the PG&E bill. In this Agreement, Owner will confirm their otherwise-applicable rate schedule (OAS) for all Benefitting accounts in Owner's name as listed in Appendix A – Owners who don't specify an OAS for their Benefitting accounts will be defaulted to Rate Schedule E-1, for residential accounts, A1 for general service accounts (unless required to be on a mandatory rate schedule such as E19 or E20), and AG-1 for agricultural rates when establishing how Owner's Benefitting Account's monthly usage or net generation will be charged/credited. Owner's-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.
2. A **single-line diagram** showing Owner's actual installation of his/her Renewable Electric Generation Facility. The diagram must include the electrical rating and operating voltages of the significant electrical components such as the service panel, the disconnect switch (if required), inverters, all generators, circuit breakers and other protective devices of the Renewable Electric Generation Facility, the general location of the Owner's loads relative to the Renewable Electric Generation Facility, and the interconnection with PG&E's Distribution System. The diagram must include the following information:
  - a. A description and location of the visible, lockable **AC disconnect switch**.

PG&E requires an Owner to install an AC disconnect switch to facilitate maintenance of the Owner's equipment (i.e. inverter, PV arrays, etc). The AC disconnect switch provides PG&E the ability to isolate the Owner's generator from the NEMV Eligible Renewable Electric Generation Facility and utility's Distribution System.
  - b. A description of the specific **inverter(s)** used to control the interconnection between PG&E and the Renewable Electric Generation Facility, including rating, brand name, and model number. Only CEC-certified inverters<sup>2</sup> will pass the requirements for Simplified Interconnection per PG&E's Electric Rule 21. Non-certified units will require further study and may involve additional costs.
  - c. A complete description of the **generating equipment Owner plans to install**. The description must include the photovoltaic panel or wind turbine manufacturer name, model number, number of panels, and the nameplate rating. As with the inverters, only CEC-certified will pass the requirements for Simplified Interconnection. (See the PG&E website [www.pge.com/gen](http://www.pge.com/gen) or the CEC website in footnote 1 below).
  - d. A description of how the power output from the inverter is connected to the **main service panel via a branch breaker**. The ampere rating of this branch breaker and the main service panel breaker must be compatible with the output rating of the Generating Facility. The output rating is computed based on the total nameplate rating of the inverter.
  - e. PG&E requires a **generation output meter**. The description must include the meter manufacturer, model number and type (socket or panel), as well as any other relevant information (e.g., socket, panels, breakers, etc.). If instrument transformers are required, the description should include this information. NEMV customers may be able to combine the generator output meter with an incentive meter. See Schedule NEMV for details and the cost.
3. **Site Diagram** – The site diagram must show the building or buildings at the same Service Delivery Point that will be included as part of the NEMV Arrangement that meets the single Service Delivery Point requirement in the Applicability Section of NEMV, the meter locations, and denote where the Renewable Electric Generation Facility will be located and interconnected.

<sup>2</sup> The CEC's eligible equipment list can be found under the CSI heading at: [www.consumerenergycenter.org/erprebate/equipment.html](http://www.consumerenergycenter.org/erprebate/equipment.html)

4. Information regarding any existing **insurance coverage** (liability and/or property) for the Schedule NEMV Generating Facility location:

Owner shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability. An Owner with a Renewable Electric Generation Facility that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

To the extent that Owner has currently in force property insurance and commercial general liability or personal liability insurance, Owner agrees that it will maintain such insurance in force for the duration of this Agreement in no less amounts than those currently in effect. Pacific Gas and Electric Company shall have the right to inspect or obtain a copy of the original policy or policies of insurance prior to commencing operation. As long as Owner meets the requirements of this section, Owner shall not be required to purchase any additional liability insurance.

I **have** insurance. I hereby certify that there is presently insurance coverage in the amount of \$\_\_\_\_\_ for the Schedule NEMV Generating Facility location.

Insuring Company's Name: \_\_\_\_\_

Insurance Policy # \_\_\_\_\_

I **do not** have insurance. I hereby certify that there is presently \$0 (zero) dollars of insurance for the Schedule NEMV Generating Facility location.

5. A copy of the **final, signed, jurisdictional approval (building permit) for Owner's Generating Facility** from the local government entity with jurisdiction over the Owner's project. **Owner's agreement package will not be complete until PG&E receives this document.**
6. Schedule NEMV may include charges where applicable, including but not limited to that in Special Conditions: 1 (metering), 2 (one-time set-up or modification charges) and/or 3 (demand credit set-up charges).
7. **Appendix C Site Assessment Documentation** as described in the cover sheet for Appendix C.

### Internet Agreement Forms

If this Agreement has been completed electronically, it may be submitted to PG&E via e-mail or U.S. mail. Copies or forms requiring a signature, attachments or any applicable fees described in Part II must be mailed or emailed (with all aforementioned documents scanned and included as attachments) to PG&E at the address noted in Section IV (F), "Notices".

### Part IV – General Facility

A. Expected **date** of Project Completion and PG&E Receipt of Final, Signed-Off Building Permit for Generating Facility?

Date: \_\_\_\_\_

B. Are there any other generators interconnected on this account?

Yes

**If yes**, specify what kind of generator \_\_\_\_\_

No

C. Are there any possible generator meter access issues?

Yes **If yes**, check all that apply:

Locked Room/Gate

Meter located inside of facility/residence

Unrestrained animal at meter or AC disconnect switch location

Other (Please explain) \_\_\_\_\_

No

**D. Are any of your accounts on a Demand Response program?**

Qualified Customers are eligible for the same demand response programs and solar tariffs as NEM customers. Demand response payments to Qualified Customers will be based on the Qualified Customer's metered usage disregarding any contributions from virtually net-metered generation. Similarly, any other demand response programmatic elements that are affected by a customer's load (e.g., program eligibility) should also exclude from consideration any impacts of NEMV generation.

Yes

**If yes, what program are you on?** \_\_\_\_\_

No.

**E. Generator Interconnection Tie-in Point – Does your interconnection satisfy PG&E's Meter Standards (Appendix C of this Agreement)?**

Yes

No. Reason: \_\_\_\_\_

If after review of a customer's NEMV application PG&E determines a site assessment is essential, then PG&E may conduct a site assessment. Please note that entering PG&E sealed sections of their service panels is unsafe and not permitted without PG&E's supervision and express authorization.

**F. Are you planning to meet the requirements specified in the PG&E Greenbook (current reference is "VNEM Installation Requirements", Utility Bulletin TD6999B-005, 02/06/2012)?**

Yes

No. Reason: \_\_\_\_\_

**G. Where are you planning to tie in? Can you provide Switchgear cutsheets, detailing the proposed point of connection and bussing modification / clearances, cutsheets of the NGOM socket, to clearly identify proposed tie-in point?**

Location: \_\_\_\_\_

**H. Is the currently proposed tie-in point a result of restrictions placed on altering the existing panel or equipment within, as imposed by the local authority having jurisdiction?**

Yes - What restriction? \_\_\_\_\_

No.

**I. Have you confirmed the Ampere Interrupting capacity (AIC) rating of the existing panel?**

Yes

No. Reason: \_\_\_\_\_

**J. Is the account located within a PG&E secondary "network" system?**

(Note: PG&E does not allow exporting generators to connect to secondary network systems. Portions of San Francisco and Oakland, where PG&E has a network grid. Customers seeking generator interconnections in San Francisco and Oakland must contact PG&E before beginning any work. See Section II above for more details.)

Yes.

No.

**K. Are there existing PG&E gas or other utility's facilities in the vicinity of the proposed point of interconnection? (Note: Minimum clearances must be maintained from PG&E facilities, as specified in PG&E's Greenbook)**

Yes - Describe: \_\_\_\_\_

No.

L. Are you going to require PG&E to arrange to de-energize the service panel for you to safely connect the generator to the service panel?

(Note: that the de-energizing process may be as simple as a PG&E Troublemaker opening a switch, or as involved as a PG&E crew performing switching, and rearrangement of service wires, and coordinating with neighboring customers that might be impacted by this de-energizing project. **PG&E requires ten (10) business days advance notice prior to performing such a request.**)

Yes - Describe: \_\_\_\_\_

No.

M. Can this de-energizing of the service panel be done during normal business hours?

Yes

No. If not, what time of the week and time of the day do you request this service disconnection to occur?

Mon Tues Wed Thu Fri Sat Sun  
(circle day of week)

\_\_\_\_\_: \_\_\_\_\_ AM / PM  
(enter time & circle AM or PM)

Note- the time of de-energizing the service panel will also depend on whether other customers are impacted and their input to the process.

N. What is the duration of the service disconnection requested?

Duration \_\_\_\_\_

O. Do you need PG&E personnel to stand by while you perform your work?

Yes

No

P. Will you need to obtain clearance from the local authority having jurisdiction prior to PG&E re-energizing the service panel?

**(Note:** Some cities/counties require that they have inspected the panel prior to reenergizing. You will need to provide proof of the local authority that your work will not require such approval, or be prepared to provide that to PG&E prior to PG&E re-energizing the panel).

Yes

No

**Part V – Description of the Generating Facilities** *Use additional sheets, if necessary.*

**A. AC Disconnect Switch** (see Part II, Section A.2.a above for policy on disconnect switches).

List the AC disconnect switch that will be used at this Generating Facility.

Disconnect Switch Manufacturer	Disconnect Switch Model Number	Disconnect Switch Rating (amps)

**B. Inverters interconnected with PG&E**

List all the inverters that will be interconnected to PG&E.

**Owners with non-standard inverters** which do not meet the UL and IEEE requirements specified in Electric Rule 21, or Owners whose aggregate Generating Facility capacity exceeds 15% of the peak load on the distribution line section as described in Electric Rule 21 (Section G.1.m) require a **Supplemental Review** which may entail a study, additional equipment, and/or other requirements.

No.	Inverter Manufacturer	Inverter Model Number	Inverter Nameplate Rating <sup>3</sup> kW (per unit)	Quantity of Inverters	Inverter Output Voltage	Single or Three phase?
1						
2						

**C. Photovoltaic Generator Equipment**

List the photovoltaic (PV) panel information requested below. If the panels are not all identical modules, list the total capacity connected to each inverter you listed above. (Please attach additional sheets if more space is needed).

No.	PV Panel Manufacturer	PV Panel Model	PV Panel CEC Rating kW (per unit)	Quantity of PV Panels	Total Capacity <sup>4</sup> (kW)	Inverter number from (B.) above (1 or 2)
1						
2						

**D. Wind Turbine Equipment (if applicable)**

List the wind turbine information requested below. If there is more than one wind turbine of the same type, list the total capacity connected to each inverter you listed in B) above. Write NONE if the inverter is incorporated in the wind turbine and no inverter is required.

No.	Wind Turbine Manufacturer	Wind Turbine Model	Wind Turbine Nameplate Rating kW (per unit) <sup>5</sup>	Wind Turbine CEC Rating (kW) per unit	Quantity of Wind Turbines	Total Capacity (kW) <sup>6</sup>	Turbine Output Voltage	Single or Three Phase	Inverter number from (B) above (1 or 2)
1									

<sup>3</sup> The inverter rating equals the nameplate rating, in kW. If there is more than one inverter of one type being installed, the inverter rating equals the nameplate rating of one unit of the model being installed.

<sup>4</sup> The total capacity is the PV panel rating times the quantity.

<sup>5</sup> For all generation equipment ratings, please use the nameplate rating found on the equipment or in the equipment specifications.

<sup>6</sup> The total capacity is the PV panel (or wind turbine) rating times the quantity.

**E. Service Panel Short Circuit Interrupting Rating**

For systems larger than 10 kW, what is the short circuit interrupting rating (SCIR) rating of the service panel connected to this generating facility? \_\_\_\_\_

**F. Notices - Mailing Instructions and Assistance:**

When this agreement has been completed it should be mailed, along with the required attachments and any applicable fees, to:

PG&E'S P.O. BOX ADDRESS	PG&E'S STREET ADDRESS
Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L P.O. Box 770000 San Francisco, California 94177	Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L 245 Market St. San Francisco, California 94105

Phone calls and questions may be directed to the Generation Interconnection Services' hotline at: 415-972-5676 or an electronic application may be submitted to [gen@pge.com](mailto:gen@pge.com)

**G. Governing Law**

This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California.

**H. Term of Agreement**

After receipt of all applicable fees, required documents, and this completed Agreement, this Agreement shall become effective on the date of PG&E issues the permission to operate letter. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Owner takes service with PG&E operating this approved generating facility. This new Owner will be interconnected subject to the terms and conditions as set forth in Schedule NEMV.

**I. Governing Authority**

This contract shall at all times be subject to such changes or modification by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

**J. Appendix A, Appendix B and Appendix C**

Attached to this agreement are:

- *Appendix A - Designation of NEMV Generating Account and Benefitting Accounts and their respective Eligible Energy Credit Allocation*
- *Appendix B – Owner Affidavit Warranting That NEMV Arrangement Is Sized to Load; and*
- *Appendix C – Generator Interconnection Tie-in Point Documentation*

Owner Name (Please Print): \_\_\_\_\_

(Signature): \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

A copy of this signed agreement should be retained with the "Permission to Operate" letter to confirm project approval.

## Appendix A – Designation of NEMV Generating Account and Benefitting Accounts and Their Respective Eligible Energy Credit Allocation

Project Identification Number \_\_\_\_\_ (for PG&E's use only)

### Section 1 Instructions

- a. Complete the section below (this information must match the Owner information on the associated *Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less Serving Multi-Tenant And Multi-Meter Property* for the same NEMV Renewable Electric Generation Facility.

Owner Name	Address	Date

- b. Is this an application to establishing the Annual Eligible Energy Credit Allocation for a new NEMV Arrangement or for a change to the Allocation for an existing NEMV facility, as described in either NEMV Special Condition 2 or 3(g)?

- This application is for an allocation for the initial, new NEMV Arrangement:  
 This application is for a reallocation for an existing NEMV Arrangement:

- c. Please use the attached Appendix A, Section 2 page to list all Benefitting Accounts in the Arrangement that will be taking service on NEMV. The Benefitting Accounts must be associated with the same Generator Account and all must satisfy the applicable Service Delivery Point requirements in the NEMV Applicability Section to be Eligible for Schedule NEMV.

Please note for each row:

- **Account Type** – (required) – The Generator Account row should be completed for the pertinent information for each column indicated; the Benefitting Account rows should be complete for the pertinent information for each column indicated. If there are more Benefitting Accounts than will fit on one page please use additional sheets as required and number pages accordingly.
- **Account Address** – (required) -- Provide an address, including unit / apartment number, for all Accounts (for the Generator Account you may use the street address of the building upon which the generator will be installed).
- **Occupant's / Owner's Name** – (required) - For the Generator Account enter the Owner's name; for all Benefitting accounts enter the name of the occupant or PG&E customer name for that location.
- **PG&E Meter Number** – (required) - Enter the PG&E Meter Numbers for the all benefitting accounts.
- **Otherwise Applicable Rate Schedule** – required -- Enter the PG&E Otherwise Applicable Rate Schedule (OAS) for the Generator Account and all Benefitting Accounts.
- **Eligible Allocation Percentage** – (required) -- For each Benefitting Account listed, enter the Eligible Allocation Percentage to two decimal places. The Eligible Energy Allocation Percentage for each Benefitting Account should be established so that the annual kilowatt hours allocated offsets no more than part or all of the customer's own annual electrical requirements. The total of all Benefitting Account Eligible Allocation Percentages in Appendix A for this NEMV Arrangement must equal exactly 100%. If Owner is changing the Eligible Allocation Percentage on an existing NEMV Arrangement, please list all allocations to confirm they add up to 100% and **circle** the changed allocations.
- **Designated Unallocated Credit Account** "system operator/qualified customer" has the option to designate the disposition of unallocated credits to either: the Common Area Account, or one Benefitting Account. In the NEMV tariff this is referred to as the "Default Account."
- **Appendix A, Section 2 Page Numbers** – In the space provided on the bottom of each page, please mark the page number and total number of pages for your Appendix A, Section 2, Account List. (Start with Page 1 and do not count the page numbers for this instruction page. Also indicate on one of the pages if the allocation is for a new Arrangement or an existing Arrangement).

If Owner would like billing data from a Benefitting Account in order to verify the credit allocation they need the Benefitting Account customer's consent. To facilitate this process, here is a link to the *Authorization to Receive Customer Information or Act Upon a Customer's Behalf*: [www.pge.com/tariffs/tm2/pdf/ELEC\\_FORMS\\_79-1095.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_FORMS_79-1095.pdf) - (Form 79-1095) that would need to be submitted to PG&E prior to release of the Benefitting Account customer's billing data to the Owner.

**Section 2**

Account Type	Account Address <i>(required field)</i>  (for Generator Account use street address for building with generator account)	Occupant's Name, <i>(Required field)</i>  (Generator Accounts should be under the Owner's Name  Please use name listed on PG&E Account bill)	PG&E Meter Number <i>(Required field)</i>	Otherwise Applicable Rate Schedule <i>(Required field)</i>	Eligible Allocation Percentage <i>(required – to 2 decimal places, the sum of all Benefitting Account Allocation must total 100%. For changes to Existing NEMV Arrangements, list all percentages but circle all changed percentages)</i>	Designated Unallocated Credit Account  (optional – check one Common Area or Benefitting Account to receive unallocated credits)
Generator Account						
Benefitting Accounts						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

Project Identification Number \_\_\_\_\_ (for PG&E's use only) Account List - Appendix A, Section 2 Page \_\_\_\_\_ of \_\_\_\_\_  
 Is this a reallocation of an existing NEMV Arrangement?  Yes  N

**Appendix B – Owner Affidavit Warranting That NEMV Arrangement Is Sized to Load**

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Project Identification Number \_\_\_\_\_  
(for PG&E's use only)

Address of Generator \_\_\_\_\_  
\_\_\_\_\_

In accordance with Schedule NEMV, I, Owner warrant that:

- 1) the Generator Account associated with this NEMV agreement is sized to offset no more than part or all of the annual usage (kWh) requirements of all the Benefitting Accounts in this NEMV Arrangement, and
- 2) the Eligible Allocation Percentage established for each Benefitting Account in Appendix A is sized to offset no more than part or all or the annual usage (kWh) requirement for that specific Benefitting Account.

Signed, \_\_\_\_\_, Owner, on date: \_\_\_\_\_

Owner's Name (printed) \_\_\_\_\_

## **Appendix C – Generator Interconnection Point Documentation**

---

[PG&E to attach current copy or web link providing PG&E's standards and requirements for Virtual Net Metering and PG&E GIS contact information when sending this form to Applicant].

Applicant attaches the following Documentation:

- the single line diagram to illustrate connection with the selected option provided in the Metering Standard
- the switchgear, switchboard, or main panel cut-sheets/shop drawings detailing the bussing, any modifications, clearances, and proposed point of interconnection. The proposal must include a signed PE stamp and modifications must be certified by the manufacturer or a qualified third party
- pictures of the point of interconnection (see safety "Note" below).
- the meter socket cut-sheets of the net generation output meter socket
- additional material as specified by PG&E

Note: If after review of a customer's NEMV application PG&E determines a site assessment is needed, then PG&E may conduct a site assessment. Owners are reminded that entering PG&E sealed sections of their service panels is unsafe and not permitted without PG&E's supervision and express authorization.



**ELECTRIC SAMPLE FORM 79-1137**  
INTERCONNECTION AGREEMENT FOR NET METERING FOR A  
RENEWABLE ELECTRICAL GENERATION FACILITY OF 1,000 KILOWATTS OR  
LESS, EXCEPT SOLAR OR WIND

Sheet 1

T

PLEASE REFER TO  
ATTACHED SAMPLE FORM  
79-1137

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



# INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A RENEWABLE ELECTRICAL GENERATION FACILITY OF 1,000 KW OR LESS, EXCEPT SOLAR OR WIND

This Interconnection Agreement for Net Energy Metering for a Renewable Electrical Generation Facility of 1,000 kW or Less, Except Solar Or Wind (Agreement)<sup>1</sup> is entered into by and between \_\_\_\_\_ (Customer-Generator), and Pacific Gas and Electric Company (PG&E), a California Corporation. Customer-Generator and PG&E are sometimes also referred to in this Agreement jointly as "Parties" or individually as "Party." In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties agree as follows:

## 1. SCOPE AND PURPOSE

This Agreement provides for Customer-Generator to interconnect and operate a Renewable Electrical Generation Facility as defined in Schedule NEM (if this is a NEM Solar or Wind Generating Facility, please use form 79-978) (Generating Facility) in parallel with PG&E's Distribution System to serve the electrical loads connected to the electric service account that PG&E uses to interconnect Customer-Generator's Generating Facility. Customer-Generator's Generating Facility is intended primarily to offset part or all of the Customer-Generator's own electrical requirements. Consistent with, and in order to effectuate, the provisions of Sections 2827 of the California Public Utilities Code and PG&E's electric rate Schedule NEM (NEM), Parties enter into this Agreement. This Agreement applies to the Customer-Generator's Generating Facilities identified below with the specified characteristics and generating capacity, and does not allow interconnection or operation of facilities different than those described.

## 2. SUMMARY AND DESCRIPTION OF CUSTOMER-GENERATOR'S GENERATING FACILITY AND DESIGNATION OF OTHERWISE-APPLICABLE RATE SCHEDULE

2.1 A description of the Generating Facility, including a summary of its significant components, and a single-line diagram showing the general arrangement of how Customer-Generator's Generating Facility and loads are interconnected with PG&E's Distribution System, is attached to and made a part of this Agreement. (This description is supplied by Customer-Generator as Appendix A).

2.2 Generating Facility identification number: \_\_\_\_\_ (Assigned by PG&E).

2.3 Customer-Generator's electric service agreement ID number: \_\_\_\_\_ (Assigned by PG&E).

2.4 Name and address used by PG&E to locate the electric service account used to interconnect the Generating Facility with PG&E's Distribution System:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/Zip Code: \_\_\_\_\_

2.5 Interconnected Equipment:

\_\_\_\_\_

<sup>1</sup> Additional forms are available on PG&E's website at <http://www.pge.com/gen>.

**INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A  
RENEWABLE ELECTRICAL GENERATION FACILITY OF 1,000 KW OR  
LESS, EXCEPT SOLAR OR WIND**

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List all the generating equipment interconnected with, or without, an inverter to PG&E, using the code in the Generation Type Code Table below. (For those generators interconnecting without an inverter, write in "N/A" in the right three columns. If an inverter is shared by more than one generator, write "shared" on the same line as that generator under the manufacturer column and do not enter the inverter rating. Attach list of additional equipment, if applicable).

<b>Generator Type Code Table</b>		
A – biomass	B – solar thermal	C – geothermal
D – fuel cell	E – small hydroelectric generation	F – digester gas
G – municipal solid waste	H – landfill gas	I – ocean wave
J – ocean thermal	K – tidal current	

1	Type of Generator (Enter Generator Type Code)	Generator Rating (kilowatts)	Manufacturer of Inverter used with Generator (if Applicable)	Inverter Model Number (if Applicable)	Inverter Rating (kilowatts) <sup>2</sup> (if Applicable)
1					
2					
3					

- 2.6 Customer-Generator's otherwise-applicable rate schedule under the provisions of Schedule NEM will be \_\_\_\_\_.
- 2.7 The Generating Facility's expected date of Initial Operation is \_\_\_\_\_.  
The expected date of Initial Operation shall be within two years of the date of this Agreement.
- 2.8 If the date of the permits allowing the Customer-Generator to commence construction of the Generating Facility is prior to January 1, 2003, please provide the date the permits were issued: \_\_\_\_\_.
- 2.9 If this Generating Facility is non-inverter based, provide the Gross Nameplate Rating of the Generating Facility: \_\_\_\_\_ kW.
- 2.10 If this Generating Facility is non-inverter based, provide the Net Nameplate Rating of the Generating Facility: \_\_\_\_\_ kW.
- 2.11 The expected annual energy production of the Generating Facility is \_\_\_\_\_ kWh.

**3. DOCUMENTS INCLUDED AND DEFINED TERMS**

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<sup>2</sup> If installing an inverter, the inverter rating equals: (the CEC efficiency for each installed inverter) TIMES (the nameplate rating, in kW, of each inverter). The CEC efficiency is obtained on the CEC website at [http://www.consumerenergycenter.org/erprebate/eligible\\_inverters.html](http://www.consumerenergycenter.org/erprebate/eligible_inverters.html) as listed on the date the application is reviewed. Enter the total of all inverter ratings for multiple inverter installations in the Table above.

# INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A RENEWABLE ELECTRICAL GENERATION FACILITY OF 1,000 KW OR LESS, EXCEPT SOLAR OR WIND

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3.1 This Agreement includes the following exhibits that are specifically incorporated herein and made a part of this Agreement.

Appendix A Description of Generating Facility and Single-Line Diagram (Supplied by Customer-Generator).

Appendix B A Copy of *PG&E's Agreement for Installation or Allocation of Special Facilities* (Forms 79-255, 79-280, 79-702) or *Agreements to Perform Any Tariff Related Work* (62-4527), if applicable (Formed by the Parties).

Appendix C Schedule NEM / NEMV Customer-Generator Warranty That it Meets the Requirements for an Eligible Customer-Generator and Is an Eligible Renewable Electrical Generation Facility Pursuant to Section 2827 of the California Public Utilities Code.

In addition, PG&E Electric Tariff Rules and Rates, including but not limited to Electric Rules 2, 14, 15, 16, and 21, Schedule NEM, and Customer-Generator's otherwise-applicable rate schedule, available at PG&E's website at [www.pge.com](http://www.pge.com) or by request, are specifically incorporated herein and made part of this Agreement.

3.2 When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Agreement or in PG&E's Electric Rule 21, Section G.1.m.

## 4. CUSTOMER BILLING AND PAYMENT

Customer-Generator initially selects Pacific Gas and Electric Company's electric rate schedule referenced in Section 2.6 of this Agreement as its otherwise-applicable rate schedule. Customer-Generator understands that they will be billed according to the otherwise-applicable rate schedule and Schedule NEM.

## 5. TERM AND TERMINATION

5.1 This Agreement shall become effective as of the last date entered in Section 18 below. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:

(a) The Parties agree in writing to terminate the Agreement.

(b) Unless otherwise agreed in writing by the Parties, at 12:01 A.M. on the day following the date the electric service account through which Customer-Generator's Generating Facility is interconnected to PG&E is closed or terminated.

**INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A  
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LESS, EXCEPT SOLAR OR WIND**

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- (c) At 12:01 A.M. on the 61<sup>st</sup> day after Customer-Generator or PG&E provides written Notice pursuant to Section 11 below to the other Party of Customer-Generator's or PG&E's intent to terminate this Agreement.
- 5.2 Customer-Generator may elect to terminate this Agreement pursuant to the terms of Section 5.1(c) for any reason. PG&E may elect to terminate this Agreement pursuant to the terms of Section 5.1(c) for one or more of the following reasons:
- (a) A change in applicable rules, tariffs, or regulations, as approved or directed by the Commission, or a change in any local, state or federal law, statute or regulation, either of which materially alters or otherwise affects PG&E's ability or obligation to perform PG&E's duties under this Agreement; or,
- (b) Customer-Generator fails to take all corrective actions specified in PG&E's Notice that Customer-Generator's Generating Facility is out of compliance with the terms of this Agreement within the time frame set forth in such Notice; or,
- (c) Customer-Generator abandons the Generating Facility. PG&E shall deem the Generating Facility to be abandoned if PG&E determines, in its sole opinion, the Generating Facility is nonoperational and Customer-Generator does not provide a substantive response to PG&E Notice of its intent to terminate this Agreement as a result of Customer-Generator's apparent abandonment of the Generating Facility affirming Customer-Generator's intent and ability to continue to operate the Generating Facility; or,
- (d) Customer-Generator's Generating Facility ceases to meet all applicable safety and performance standards set out in Section 6.
- 5.3 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application to terminate this Agreement.
- 5.4 Any agreements attached to and incorporated into this Agreement shall terminate concurrently with this Agreement unless the Parties have agreed otherwise in writing.

**6. GENERATING FACILITY REQUIREMENTS**

- 6.1 Customer-Generator's Generating Facility must meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Commission regarding safety and reliability including Rule 21.
- 6.2 Customer-Generator shall: (a) maintain the Generating Facility and Interconnection Facilities in a safe and prudent manner and in conformance with all applicable laws and regulations including, but not limited to, Section 6.1, and (b) obtain any governmental authorizations and permits required for the construction and operation of the Generating Facility and Interconnection Facilities. Customer-Generator shall

# INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A RENEWABLE ELECTRICAL GENERATION FACILITY OF 1,000 KW OR LESS, EXCEPT SOLAR OR WIND

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reimburse PG&E for any and all losses, damages, claims, penalties, or liability it incurs as a result of Customer-Generator's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of Customer-Generator's Generating Facility.

- 6.3 Customer-Generator shall not commence parallel operation of the Generating Facility until PG&E has provided express written approval. Such approval shall normally be provided no later than thirty (30) business days following PG&E's receipt of: (1) a completed *Generating Facility Interconnection Application for Non-Export or Certain Net Energy Metered Generating Facilities (Between 30 kW and 1000 kW)* (Form 79-974), including all supporting documents and payments as described in the Application; (2) a completed *Expanded Net Energy Metering (NEM) Supplemental Application* (Form 79-998); (3) a signed and completed *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* (Form 79-978); and (4) a copy of the Customer-Generator's final inspection clearance from the governmental authority having jurisdiction over the Generating Facility. Such approval shall not be unreasonably withheld. PG&E shall have the right to have representatives present at the Commissioning Test as defined in Rule 21. Customer-Generator shall notify PG&E at least five (5) business days prior to the initial testing.

## 7. INTERCONNECTION FACILITIES

- 7.1 Customer-Generator and/or PG&E, as appropriate, shall provide Interconnection Facilities that adequately protect PG&E's Distribution System, personnel, and other persons from damage or injury, which may be caused by the operation of Customer-Generator's Generating Facility.
- 7.2 Customer-Generator shall be solely responsible for the costs, design, purchase, construction, permitting, operation, and maintenance of the Interconnection Facilities that Customer-Generator owns.
- 7.3 If the provisions of PG&E's Electric Rule 21, or any other tariff or rule approved by the Commission, require PG&E to own and operate a portion of the Interconnection Facilities, Customer-Generator and PG&E shall promptly execute a Special Facilities Agreement that establishes and allocates responsibility for the design, installation, operation, maintenance, and ownership of the Interconnection Facilities. This Special Facilities Agreement shall be attached to and made a part of this Agreement as Appendix B.

## 8. LIMITATION OF LIABILITY

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A  
RENEWABLE ELECTRICAL GENERATION FACILITY OF 1,000 KW OR  
LESS, EXCEPT SOLAR OR WIND

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**9. INSURANCE**

Customer-Generator Facility is required to comply with standards and rules set forth in section 6 and provide the following for insurance policies in place.

Customer-Generator shall furnish the required certificates and all endorsements to PG&E prior to Parallel Operation.

The certificate shall provide thirty (30) calendar days' written notice to PG&E prior to cancellation, termination, alteration, or material change of such insurance.

PG&E shall have the right to inspect or obtain a copy of the original policy or policies of insurance.

9.1 If at any time during this agreement the Customer-Generator fails to meet the requirements in section 6, the following insurance shall apply:

Customer-Generator shall procure and maintain a commercial general liability insurance policy at least as broad as the Insurance Services Office (ISO) commercial general liability coverage "occurrence" form; or, if Customer-Generator is an individual, then liability coverage with respect to premises and use at least as broad as the ISO homeowners' or personal liability Insurance occurrence policy form, or substitute, providing equivalent coverage no less than the following limits, based on generator size:

- (a) Two million dollars (\$2,000,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is greater than one hundred (100) kW; or
- (b) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is greater than twenty (20) kW and less than or equal to one hundred (100) kW; or
- (c) Five hundred thousand dollars (\$500,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is twenty (20) kW or less;
- (d) Two hundred thousand dollars (\$200,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is ten (10) kW or less and the Generating Facility is connected to an account receiving residential service from PG&E.

The insurance shall, by endorsement:

- (a) Add PG&E as an additional insured;
- (b) State that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by PG&E.
- (c) Contain a severability of interest clause or cross-liability clause.

9.2 If Customer-Generator's Generating Facility is connected to an account receiving residential service from PG&E and the requirement of Section 9.1 prevents Customer-Generator from obtaining the insurance required in this Section, then upon Customer-Generator's written Notice to PG&E in accordance with Section 11.1, the requirements of Section 9.1 may be waived.

**INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A  
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LESS, EXCEPT SOLAR OR WIND**

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- 9.3 Customer-Generator may self-insure with approval from PG&E. Evidence of an acceptable plan to self-insure, at least thirty (30) calendar days' prior to operations shall be submitted.

If Customer-Generator ceases to self-insure to the level required hereunder, or if Customer-Generator is unable to provide continuing evidence of Customer-Generator's ability to self-insure, Customer-Generator agrees to immediately obtain the coverage required under agreement.

- 9.4 All required certificates, endorsements or letters of self-insurance shall be issued and submitted via email or fax to the following:

Pacific Gas and Electric Company  
c/o EXIGIS LLC  
[support@exigis.com](mailto:support@exigis.com)  
Fax: 646-755-3327

**10. INDEMNITY FOR FAILURE TO COMPLY WITH INSURANCE PROVISIONS**

- 10.1 If Customer-Generator fails to comply with the insurance provisions of this Agreement, Customer-Generator shall, at its own cost, defend, save harmless and indemnify PG&E, its directors, officers, employees, agents, assignees, and successors in interest from and against any and all loss, liability, damage, claim, cost, charge, demand, or expense of any kind or nature (including attorney's fees and other costs of litigation) resulting from the death or injury to any person or damage to any property, including the personnel and property of the utility, to the extent that the utility would have been protected had Customer-Generator complied with all such insurance provisions. The inclusion of this Section 10.1 is not intended to create any expressed or implied right in Customer-Generator to elect not to provide any such required insurance.

- 10.2 The provisions of this Section 10 shall not be construed to relieve any insurer of its obligations to pay any insurance claims in accordance with the provisions of any valid insurance policy.

**11. NOTICES**

- 11.1 Any written notice, demand, or request required or authorized in connection with this Agreement (Notice) shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

If to PG&E: Pacific Gas and Electric Company  
Attention: Generation Interconnection Services- Contract  
Management  
245 Market Street  
Mail Code N7L  
San Francisco, California 94105-1702

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If to Customer-Generator:

Customer-Generator Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

FAX: ( \_\_\_\_\_ ) \_\_\_\_\_

- 11.2 A Party may change its address for Notices at any time by providing the other Party notice of the change in accordance with Section 11.1.
- 11.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's Notice to the other.

**12. REVIEW OF RECORDS AND DATA**

- 12.1 PG&E shall have the right to review and obtain copies of Customer-Generator's operations and maintenance records, logs, or other information such as Generating Facility availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Customer-Generator's Generating Facility or its interconnection to PG&E.
- 12.2 Customer-Generator authorizes to release to the California Energy Commission (CEC) information regarding Customer-Generator's facility, including customer name and Generating Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

**13. ASSIGNMENT**

Customer-Generator shall not voluntarily assign its rights nor delegate its duties under this Agreement without PG&E's written consent. Any assignment or delegation Customer-Generator makes without PG&E's written consent shall not be valid. PG&E shall not unreasonably withhold its consent to Customer-Generator's assignment of this Agreement.

**14. NON-WAIVER**

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the

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relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

**15. GOVERNING LAW, JURISDICTION OF COMMISSION, INCLUSION OF PG&E's TARIFF SCHEDULES AND RULES**

15.1 This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.

15.2 This Agreement shall, at all times, be subject to such changes or modifications by the Commission as it may from time to time direct in the exercise of its jurisdiction.

15.3 The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the Tariff Schedules and Rules applicable to the electric service provided by PG&E, which Tariff Schedules and Rules are hereby incorporated into this Agreement by this reference.

15.4 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

**16. AMENDMENT AND MODIFICATION**

This Agreement can only be amended or modified by a writing signed by both Parties.

**17. ENTIRE AGREEMENT**

This Agreement, including any incorporated Tariff Schedules and Rules, contains the entire Agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated Tariff Schedules and Rules.

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A  
RENEWABLE ELECTRICAL GENERATION FACILITY OF 1,000 KW OR  
LESS, EXCEPT SOLAR OR WIND

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**18. SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

CUSTOMER-GENERATOR'S NAME

PACIFIC GAS AND ELECTRIC COMPANY

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Manager,  
Generation Interconnection Services

Date: \_\_\_\_\_

Date: \_\_\_\_\_

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APPENDIX A  
DESCRIPTION OF GENERATING FACILITY  
AND SINGLE-LINE DIAGRAM  
(Provided by Customer-Generator)

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APPENDIX B  
(If Applicable)

Any Rule 2 or Rule 21 Agreements for the Installation or Allocation of Special Facilities (Forms 79-255, 79-280, 79-702) or Agreements to Perform Any Tariff Related Work (62-4527)  
(Formed between the Parties)

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A  
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**Appendix C**

SCHEDULE NEM CUSTOMER-GENERATOR WARRANTY THAT  
IT MEETS THE REQUIREMENTS FOR AN ELIGIBLE CUSTOMER-  
GENERATOR AND IS AN ELIGIBLE RENEWABLE ELECTRICAL  
GENERATION FACILITY PURSUANT TO SECTION 2827 OF THE  
CALIFORNIA PUBLIC UTILITIES CODE

(This Affidavit needs to be completed and submitted to PG&E by the Customer-Generator every time a  
new NEM or NEMV interconnection agreement for a Renewable Electrical Generation Facility is  
executed or whenever there is a change in ownership of the Generating Facility)

Circle Type of Renewable Electrical Generation Facility:

biomass	geothermal	municipal solid waste
solar thermal	fuel cell	landfill gas
small hydroelectric generation	ocean wave	digester gas
ocean thermal	tidal current	

NEM / NEMV Customer-Generator (Customer) declares that

- (1) it meets the requirements to be an "Eligible Customer-Generator" and its Generating Facility.
- (2) (a) meets the requirements of a "Renewable Electrical Generation Facility", as defined in Section 2827(b)(5) of the California Public Utilities Code and (b) satisfies the definitions of the renewable resource for the Renewable Electrical Generation Facility in the latest version of the California Energy Commission's (CEC's) Renewables Portfolio Standard (RPS) Eligibility Guidebook and the Overall Program Guidebook.<sup>3</sup> (Eligibility Requirements).

Included in these eligibility requirements (check as applicable) pursuant to Public Utilities Code section 2827(b)(5) and Public Resource Code Section 25741 paragraph 1(a):

If the Renewable Electrical Generation Facility is a fuel cell, or otherwise uses renewable biogas or otherwise, Eligible Customer-Generator warrants that the fuel cell is powered solely with renewable fuel.

If the Renewable Electrical Generation Facility is a Small hydroelectric generating facility, customer warrants that it will not cause an adverse impact on instream beneficial uses, nor cause a change in the volume or timing of streamflow).

If the Customer uses biogas or a renewable fuel as the fuel for their Renewable Electric Generation Facility:

Eligible Customer-Generator warrants that the Renewable Generation Facility is powered solely with renewable fuel.

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<sup>3</sup> The RPS Guidebooks can be found at: <http://www.energy.ca.gov/renewables/documents/index.html#rps>

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING FOR A  
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Eligible Customer-Generator warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, Eligible Customer-Generator and the Generating Facility shall continue to meet the Eligibility Requirements. If Eligible Customer-Generator or the Generating Facility ceases to meet the Eligibility Requirements, Eligible Customer-Generator shall promptly provide PG&E with Notice of such change pursuant to Section 11 of this Agreement. If at any time during the term of this Agreement PG&E determines, at its sole discretion, that Eligible Customer-Generator or Generating Facility may no longer meet the Eligibility Requirements, PG&E may require Eligible Customer-Generator to provide evidence that Eligible Customer-Generator and/or Generating Facility continues to meet the Eligibility Requirements, within 15 business days of PG&E's request for such evidence. Additionally, PG&E may periodically (typically, once per year) inspect Producer's Generating Facility and/or require documentation from Eligible Customer-Generator to monitor the Generating Facility's compliance with the Eligibility Requirements. If PG&E determines at its sole judgment that Eligible Customer-Generator either failed to provide evidence in a timely manner or that it provided insufficient evidence that its Generating Facility continues to meet the Eligibility Requirements, then the Eligibility Status shall be deemed ineffective until such time as Eligible Customer-Generator again demonstrates to PG&E's reasonable satisfaction that Eligible Customer-Generator meets the requirements for an Eligible Customer-Generator and/or the Generating Facility meets the requirements for a Eligible electrical generating facility (the Eligibility Status Change).

PG&E shall revise its records and the administration of this Agreement to reflect the Eligibility Status Change and provide Notice to Eligible Customer-Generator of the Eligibility Status Change pursuant to Section 11 of this Agreement. Such Notice shall specify the effective date of the Eligibility Status Change. This date shall be the first day of the calendar year for which PG&E determines in its sole discretion that the Eligible Customer-Generator and/or Generating Facility first ceased to meet the Eligibility Requirements. PG&E shall invoice the Eligible Customer-Generator for any tariff charges that were not previously billed during the period between the effective date of the Eligibility Status Change and the date of the Notice in reliance upon Eligible Customer-Generator's representations that Eligible Customer-Generator and/or Generating Facility complied with the Eligibility Requirements and therefore was eligible for the rate treatment available under the Net Energy Metering provisions of PG&E's Schedule NEM or NEMV, Net Energy Metering Service for Eligible Customer-Generators.

Any amounts to be paid or refunded by Eligible Customer-Generator, as may be invoiced by PG&E pursuant to the terms of this warranty, shall be paid to PG&E within 30 days of Eligible Customer-Generator's receipt of such invoice.

Unless otherwise ordered by the CPUC, this Agreement at all times shall be subject to such modifications as the CPUC may direct from time to time in the exercise of its jurisdiction.

I certify the above is true and correct,

Customer-Generator Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_



**ELECTRIC SAMPLE FORM 79-1142**  
NEMV INTERCONNECTION APPLICATION FOR A RENEWABLE  
ELECTRICAL GENERATION FACILITY OF 1 MEGAWATT OR LESS

Sheet 1

PLEASE REFER TO ATTACHED  
SAMPLE FORM

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



## Interconnection Application for a Renewable Electrical Generation Facility of 1 Megawatt or Less

**Please note:** This Application does not constitute an application for rebate and/or incentive programs. For more information on these programs, please visit the program website at the links provided below.

- California Solar Initiative (CSI): [www.pge.com/csi](http://www.pge.com/csi)
- Self-Generation Incentive Program (SGIP): [www.pge.com/sgip](http://www.pge.com/sgip)

Project Identification Number \_\_\_\_\_ (for PG&E's use only)

### Part I – Identifying the Generating Facility's Location and Responsible Parties

#### A. Applicability and Purpose:

This *NEMV Interconnection Application for a Renewable Electrical Generation Facility of 1 Megawatt or Less* (Application) applies to electric rate schedule NEMV—*Virtual Net Energy Metering For A Multi-Tenant Or Multi-Meter Property Served At The Same Service Delivery Point* for the Owner or designated agent of the Owner (Owner) who interconnects a Renewable Electrical Generation Facility sized no larger than for the energy requirements of all eligible Benefitting Accounts (as defined in Schedule NEMV) of the past year but with a maximum total size of no larger than one megawatt or 1,000 kilowatts (Renewable Electric Generation Facility) that is located at a Single Delivery Point<sup>1</sup> with other individually metered PG&E Benefitting Accounts the will be allocated the benefits of the Renewable Electric Generation Facility as described in NEMV, that meets all the applicability requirements in Schedule NEMV, and that operates in parallel with Pacific Gas and Electric Company's (PG&E) Distribution System.

The purpose of this Application is to allow the Owner to apply for the interconnect the Renewable Electric Generation Facility with PG&E's Distribution System, subject to the provisions of this Application and PG&E's rate schedule NEMV. Owner has elected to interconnect and operate its Renewable Electric Generation Facility in parallel with PG&E's Distribution System, primarily to offset part or all of the NEMV Arrangement's own electrical requirements of the Benefitting Accounts at the affiliated service delivery point as listed in Appendix A. Owner shall comply at all times with this Application as well as with all applicable laws, tariffs and applicable requirements of the Public Utilities Commission of the State of California.

**Note:** If this application is for a Renewable Electric Generation Facility with a generator type that is solar (PV) and/or wind, please use Application form 79-1131.

#### B. Description of Service (this Application is being filed for, check all that apply):

- A New NEMV Renewable Electric Generation Facility interconnection (at an existing service).
- For Physical/Electrical Changes to an interconnected NEMV Renewable Electric Generation Facility with previous approval by PG&E (adding PV panels, changing inverters, or changing load and/or operations).
- A New NEMV 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 (or 1-800-743-5000).
- A Reallocation of Eligible Energy Generation Credits under NEMV for an Existing Renewable Electric Generation Facility (see Appendix A). For a reallocation, Owner only needs to fill out Part I, sign Part IV, and complete Appendix A with the reallocation for the NEMV accounts.

<sup>1</sup> Customer-owned line extensions that deliver power to other meters on the same property are not considered separate Service Delivery Points.

**Please complete this agreement in its entirety**

Special Condition 6 of Schedule NEMV requires that any Customer with an existing generating facility and meter who enters into a new NEMV Agreement (Form 79-1137) shall complete and submit a copy of form 79-1125 *NEM / NEMV / NEMVMASH Inspection Report* to PG&E, unless the electrical generating facility and meter have been installed and/or inspected within the previous three years.

**C. Owner's Renewable Electric Generation Facility Information - Where will the Generating Facility be installed?**

Name shown on Owner's PG&E service account (Must Match Owner's Name on PG&E Energy Bill)			
Street Address			
City	State	Zip	
Mailing Address			
City	State	Zip	
Business Phone	Home Phone	Fax	Email

**D. Contractor Information (Must be completed even if Contractor will not serve as a PG&E contact).**

Contractor	Company Name		
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contractor is to be used as PG&E contact and is authorized by Owner to receive confidential Owner information and act on behalf of Owner with respect to this Application.			

**E. Other Contact Information (This information is optional).**

Contact Person	Company Name		
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contact person is to be used as PG&E contact and is authorized by Owner to receive confidential Owner information and act on behalf of Owner with respect to this Application.			

By checking the boxes above and signing this Application, Owner authorizes PG&E to release information to the contact(s) named above regarding Owner's usage and billing information, Renewable Electric Generation Facility location, size and operational characteristics as requested in the course of this interconnection process. PG&E is granted permission to share information with authorized recipients for a period of **two years** from the date this Application is received by PG&E. Contact(s) are also authorized to make changes to rates and metering arrangements that may result in charges to Owner. Should Owner wish to select a different authorization period, Owner may utilize the "Authorization to Received Customer Information or Act on a Customer's Behalf", which may be found at: [www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer\\_behalf\\_app.pdf](http://www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer_behalf_app.pdf)

In addition, Owner authorizes PG&E to release to the California Energy Commission (CEC) information regarding Owner's facility, including Owner's name and Renewable Electric Generation Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

## Part II – Selecting the Study Process

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.

## Part III – Requirements for Interconnection

*In submitting this document, I the Owner, understand and agree to the following terms and conditions:*

### Permission to Interconnect

**Owner must not operate their Renewable Electric Generation Facility in parallel with PG&E's Distribution System until they receive written authorization for Parallel Operation from PG&E.** Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Owner may be liable.

### Safe Operation of the Renewable Electric Generation Facility

Notwithstanding any other provision of this Application, if at any time PG&E determines that either (a) the Owner's Facility, or its operation, may endanger PG&E personnel, or (b) the continued operation of the Owner's Facility may endanger the safe and reliable operation of PG&E's electrical system, PG&E shall have the right to disconnect the Facility from PG&E's system. Owner's Facility shall remain disconnected until such time as PG&E is satisfied that the unsafe condition(s) have been corrected.

### Interconnections on PG&E's Secondary Network

Applications to interconnect systems located in San Francisco or Oakland may require additional analysis to determine whether or not their proposed installation is on PG&E's networked secondary system. Networked secondary systems are in place to provide heightened levels of reliability in densely populated areas and may affect the ability of PG&E to interconnect NEMV Owner's Renewable Electric Generation Facility. **Please contact Generation Interconnection Services at 415-972-5676 or email [gen@pge.com](mailto:gen@pge.com) if your proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland and where the zip code is 94607 or 94612.**

### Meter access

Owner's generator output meter and the AC disconnect switch must be installed in a safe, PG&E-accessible location and remain unobstructed by locked gates or pets. Additionally, meter and AC disconnect switch access must be maintained at all times for meter reading and system maintenance. Any animals owned by the Owner or Multifamily residents, including pet dogs, should not have access to these areas to avoid hindering PG&E service personnel, preventing them from completing their work. Customers who currently have generator meters inaccessible from the outside of the building and who choose to place their generator AC disconnect switch near their meter, must place the required generator AC disconnect switch in a location readily accessible to PG&E in order to participate in this program. Should future access problems arise, PG&E reserves the right to terminate service, in accordance with its filed tariffs.

**Please complete this agreement in its entirety**

Automated Document, Preliminary Statement Part A

Page 3 of 15  
Form 79-1142  
Advice 4110-E  
Revised September 2012

## Document and Fee Requirements

Other Documents and/or Fees *may* be required and there may be requirements for interconnection in addition to the above list, depending on the specifics of the planned Renewable Electric Generation Facility. Other approvals and/or other agreements may be needed for special PG&E programs or regulatory agency requirements.

## Stale Applications

If this Application is still pending two years from its date of submittal and Owner has not met all of the requirements, PG&E will close this application and Owner will be required to submit a new application should Owner wish to take service on Schedule NEMV.

### A. Application Package:

These documents are needed at the time of application to ensure safe and reliable operation of PG&E's Distribution System and to confirm that Owner's interconnection has been performed in accordance with PG&E's tariffs. (Additional forms are available upon request by telephoning 415-972-5676, emailing [gen@pge.com](mailto:gen@pge.com), or visiting PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem)). **Owners should not delay sending any part of the Application package to PG&E.** As PG&E receives the documentation described in Sections (1) through (5) below, PG&E will begin to process the application.

### Required Documents for New Applicants:

1. A completed copy of this **Application, including completed Appendices A, B and C**. *Please note:* the Owner's name (as identified in Part I, Section C) must be the same name as on the PG&E bill. In this Application, Owner will confirm their otherwise-applicable rate schedule (OAS) for all Benefitting accounts in Owner's name as listed in Appendix A – Owners who don't specify an OAS for their Benefitting accounts will be defaulted to Rate Schedule E-1, for residential accounts, A1 for general service accounts (unless required to be on a mandatory rate schedule such as E19 or E20), and AG-1 for agricultural rates when establishing how Owner's Benefitting Account's monthly usage or net generation will be charged/credited. Owner's-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.
2. A **single-line diagram** showing Owner's actual installation of his/her Renewable Electric Generation Facility. The diagram must include the electrical rating and operating voltages of the significant electrical components such as the service panel, the disconnect switch (if required), inverters, all generators, circuit breakers and other protective devices of the Renewable Electric Generation Facility, the general location of the Owner's loads relative to the Renewable Electric Generation Facility, and the interconnection with PG&E's Distribution System. The diagram must include the following information:
  - a. A description and location of the visible, lockable **AC disconnect switch**.

PG&E requires an Owner to install an AC disconnect switch to facilitate maintenance of the Owner's equipment (i.e. inverter, PV arrays, etc). The AC disconnect switch provides PG&E the ability to isolate the Owner's generator from the NEMV Eligible Renewable Electric Generation Facility and utility's Distribution System.
  - b. A description of the specific **inverter(s)**, if any, used to control the interconnection between PG&E and the Renewable Electric Generation Facility, including rating, brand name, and model number. Only CEC-certified inverters<sup>2</sup> will pass the requirements for Simplified Interconnection per PG&E's Electric Rule 21. Non-certified units will require further study and may involve additional costs.
  - c. A complete description of the **generating equipment Owner plans to install**. The description must include the generator manufacturer name, model number, number of panels, and the nameplate rating. As with the inverters, only CEC-certified equipment will pass the requirements for Simplified Interconnection. (See the PG&E website [www.pge.com/gen](http://www.pge.com/gen) or the CEC website in footnote below). For generator equipment that is not CEC certified, Applicant may need to provide additional information and/or documentation at PG&E's request.
  - d. A description of how the power output from the inverter is connected to the **main service panel via a branch breaker**. The ampere rating of this branch breaker and the main service panel breaker must be compatible with the output rating of the Generating Facility. The output rating is computed based on the total nameplate rating of the inverter.

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<sup>2</sup> The CEC's eligible equipment list can be found under the CSI heading at: [www.consumerenergycenter.org/erprebate/equipment.html](http://www.consumerenergycenter.org/erprebate/equipment.html)  
**Please complete this agreement in its entirety**

e. PG&E requires a **generation output meter**. The description must include the meter manufacturer, model number and type (socket or panel), as well as any other relevant information (e.g., socket, panels, breakers, etc.). If instrument transformers are required, the description should include this information. NEMV customers may be able to combine the generator output meter with an incentive meter. See Schedule NEMV for details and the cost.

3. **Site Diagram** – The site diagram must show the building or buildings at the same Service Delivery Point that will be included as part of the NEMV Arrangement that meets the single Service Delivery Point requirement in the Applicability Section of NEMV, the meter locations, and denote where the Renewable Electric Generation Facility will be located and interconnected.

4. Information regarding any existing **insurance coverage** (liability and/or property) for the Schedule NEMV Generating Facility location:

Owner shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability. An Owner with a Renewable Electric Generation Facility that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

To the extent that Owner has currently in force property insurance and commercial general liability or personal liability insurance, Owner agrees that it will maintain such insurance in force for the duration of this Application in no less amounts than those currently in effect. Pacific Gas and Electric Company shall have the right to inspect or obtain a copy of the original policy or policies of insurance prior to commencing operation. As long as Owner meets the requirements of this section, Owner shall not be required to purchase any additional liability insurance.

I have insurance. I hereby certify that there is presently insurance coverage in the amount of \$\_\_\_\_\_ for the Schedule NEMV Generating Facility location.

Insuring Company's Name: \_\_\_\_\_

Insurance Policy # \_\_\_\_\_

I **do not** have insurance. I hereby certify that there is presently \$0 (zero) dollars of insurance for the Schedule NEMV Generating Facility location.

5. A copy of the **final, signed, jurisdictional approval (building permit) for Owner's Generating Facility** from the local government entity with jurisdiction over the Owner's project. **Owner's Application package will not be complete until PG&E receives this document.**

6. Schedule NEMV may include charges where applicable, including but not limited to that in Special Conditions 1 (metering), 2 (one-time set-up or modification charges), and/or 3 (demand credit set-up charges).

7. **Appendix C, Site Assessment Documentation-** as described in the cover sheet for Appendix C.

### Internet Application Forms

If this Application has been completed electronically, it may be submitted to PG&E via e-mail or U.S. mail. Copies or forms requiring a signature, attachments or any applicable fees described in Part II must be mailed or emailed (with all aforementioned documents scanned and included as attachments) to PG&E at the address noted in Section IV (D), "Notices".

### Part IV – General Facility

A. Expected **date** of Project Completion and PG&E Receipt of Final, Signed-Off Building Permit for Generating Facility?

Date: \_\_\_\_\_

B. Are there any other generators interconnected on this account?

Please complete this agreement in its entirety

Yes

If yes, specify what kind of generator \_\_\_\_\_

No

C. Are there any possible generator meter access issues?

Yes If yes, check all that apply:

<input type="checkbox"/> Locked Room/Gate	<input type="checkbox"/> Meter located inside of facility/residence
<input type="checkbox"/> Unrestrained animal at meter or AC disconnect switch location	<input type="checkbox"/> Other (Please explain) _____

No

D. Are any of your accounts on a Demand Response program?

(Qualified Customers are eligible for the same demand response programs and solar tariffs as NEM customers. Demand response payments to Qualified Customers will be based on the Qualified Customer's metered usage disregarding any contributions from virtually net-metered generation. Similarly, any other demand response programmatic elements that are affected by a customer's load (e.g., program eligibility) should also exclude from consideration any impacts of NEMV generation.)

Yes

If yes, what program are you on? \_\_\_\_\_

No.

E. Generator Interconnection Tie-in Point – Does your interconnection satisfy PG&E's Meter Standards (Appendix C of this Application)?

Yes

No. Reason: \_\_\_\_\_

If after review of a customer's NEMV application PG&E determines a site assessment is essential, then PG&E may conduct a site assessment. Please note that entering PG&E sealed sections of their service panels is unsafe and not permitted without PG&E's supervision and express authorization.

F. Are you planning to meet the requirements specified in the PG&E Greenbook (current reference is "VNEM Installation Requirements", Utility Bulletin TD6999B-005, 02/06/2012)?

Yes

No. Reason: \_\_\_\_\_

G. Where are you planning to tie in? Can you provide Switchgear cutsheets, detailing the proposed point of connection and bussing modification / clearances, cutsheets of the NGOM socket, to clearly identify proposed tie-in point?

Location: \_\_\_\_\_

H. Is the currently proposed tie-in point a result of restrictions placed on altering the existing panel or equipment within, as imposed by the local authority having jurisdiction?

Yes - What restriction? \_\_\_\_\_

No.

I. Have you confirmed the Ampere Interrupting capacity (AIC) rating of the existing panel?

Yes

No. Reason: \_\_\_\_\_

J. Is the account located within a PG&E secondary "network" system?

Please complete this agreement in its entirety

(Note: PG&E does not allow exporting generators to connect to secondary network systems. Portions of San Francisco and Oakland, where PG&E has a network grid. Customers seeking generator interconnections in San Francisco and Oakland must contact PG&E before beginning any work. See Section II above for more details.)

- Yes.
- No.

K. Are there existing PG&E gas or other utility's facilities in the vicinity of the proposed point of interconnection? (Note: Minimum clearances must be maintained from PG&E facilities, as specified in PG&E's Greenbook)

- Yes - Describe: \_\_\_\_\_
- No.

L. Are you going to require PG&E to arrange to de-energize the service panel for you to safely connect the generator to the service panel?

(Note: that the de-energizing process may be as simple as a PG&E Troublemaker opening a switch, or as involved as a PG&E crew performing switching, and rearrangement of service wires, and coordinating with neighboring customers that might be impacted by this de-energizing project. **PG&E requires ten (10) business days advance notice prior to performing such a request.**)

- Yes - Describe: \_\_\_\_\_
- No.

M. Can this de-energizing of the service panel be done during normal business hours?

- Yes
- No. If not, what time of the week and time of the day do you request this service disconnection to occur?

Mon Tues Wed Thu Fri Sat Sun  
(circle day of week)

\_\_\_\_\_ : \_\_\_\_\_ AM / PM  
(enter time & circle AM or PM)

Note: The time of de-energizing the service panel will also depend on whether other customers are impacted and their input to the process.

N. What is the duration of the service disconnection requested?

Duration \_\_\_\_\_

O. Do you need PG&E personnel to stand by while you perform your work?

- Yes
- No

P. Will you need to obtain clearance from the local authority having jurisdiction prior to PG&E re-energizing the service panel?

(Note: Some cities/counties require that they have inspected the panel prior to reenergizing. You will need to provide proof of the local authority that your work will not require such approval, or be prepared to provide that to PG&E prior to PG&E re-energizing the panel.)

- Yes
- No

Please complete this agreement in its entirety

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**A. AC Disconnect Switch** (see Part II, Section A.2.a above for policy on disconnect switches)

List the AC disconnect switch that will be used at this Generating Facility.

Disconnect Switch Manufacturer	Disconnect Switch Model Number	Disconnect Switch Rating (amps)

**B. Generating Equipment**

List all the equipment that will be interconnected to PG&E for this NEMV Arrangement:

1. Generation Equipment Detailed Description

NEMV Type of Generation Equipment - Table B.1 (see row 2 below)		
1. biomass	2. geothermal	3. municipal solid waste
4. solar thermal	5. fuel cell	6. landfill gas
7. small hydroelectric generation	8. ocean wave	9. digester gas
10. ocean thermal	11. tidal current	

Generating Equipment Description - Table B.2						
		Generator type 1	Generator Type 2	Generator Type 3	Generator Type 4	Generator Type 5
a	Is the Generator new or existing	<input type="checkbox"/> New <input type="checkbox"/> Existing	<input type="checkbox"/> New <input type="checkbox"/> Existing	<input type="checkbox"/> New <input type="checkbox"/> Existing	<input type="checkbox"/> New <input type="checkbox"/> Existing	<input type="checkbox"/> New <input type="checkbox"/> Existing
b	Number of Type of NEMV generation (from Table B.1)					
c	Please indicate the quantity of each "type" of Generators being installed:					
d	Generator Manufacturer					
e	Generator Model					
f	Is the Generator CEC certified?	<input type="checkbox"/> Yes <input type="checkbox"/> No				
g	Generator Design	<input type="checkbox"/> Synchronous <input type="checkbox"/> Induction <input type="checkbox"/> Inverter				
h	Generator Gross Nameplate Rating					
i	Generator Operating Voltage					
j	Inverter (if any) Manufacturer					
k	Inverter (if any) Model					
l	Is the Inverter (if any) CEC certified?	<input type="checkbox"/> Yes <input type="checkbox"/> No				
m	Inverter (if any) Gross Nameplate Rating					
n	Inverter (if any) Generator Operating Voltage					
o	Power Factor rating (if applicable)					

Please complete this agreement in its entirety

p	PF Adjustment Range (if applicable)					
---	--	--	--	--	--	--

2. Generator Account's otherwise-applicable rate schedule under the provisions of Schedule NEMV will be \_\_\_\_\_.

3. If the date of the permits allowing the Customer-Generator to commence construction of the Generating Facility is prior to January 1, 2003, please provide the date the permits were issued: \_\_\_\_\_.

4. The expected annual energy production of the Generating Facility is \_\_\_\_\_ kWh.

**C. Service Panel Short Circuit Interrupting Rating**

For systems larger than 10 kW, what is the short circuit interrupting rating (SCIR) rating of the service panel connected to this generating facility? \_\_\_\_\_

**D. Notices - Mailing Instructions and Assistance:**

When this Application has been completed it should be mailed, along with the required attachments and any applicable fees, to:

PG&E'S P.O. BOX ADDRESS	PG&E'S STREET ADDRESS
Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L P.O. Box 770000 San Francisco, California 94177	Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L 245 Market St. San Francisco, California 94105

Phone calls and questions may be directed to the Generation Interconnection Services' hotline at: 415-972-5676 or an electronic application may be submitted to [gen@pge.com](mailto:gen@pge.com)

**E. Governing Law**

This Application shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California.

**F. Term of Application**

After receipt of all applicable fees, required documents, and this completed Application, this Application shall become effective on the date of PG&E issues the permission to operate letter. This Application shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Owner takes service with PG&E operating this approved generating facility. This new Owner will be interconnected subject to the terms and conditions as set forth in Schedule NEMV.

**G. Governing Authority**

This contract shall at all times be subject to such changes or modification by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

**H. Appendix A, Appendix B and Appendix C**

Attached to this Application are:

- *Appendix A - Designation of NEMV Generating Account and Benefitting Accounts and their respective Eligible Energy Credit Allocation*
- *Appendix B – Owner Affidavit Warranting That NEMV Arrangement Is Sized to Load; and*
- *Appendix C – Generator Interconnection Tie-in Point Documentation*

Please complete this agreement in its entirety

Owner Name (Please Print): \_\_\_\_\_

(Signature): \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

A copy of this signed Application should be retained with the "Permission to Operate" letter to confirm project approval.

**Please complete this agreement in its entirety**

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## Appendix A – Designation of NEMV Generating Account and Benefitting Accounts and their respective Eligible Energy Credit Allocation

Project Identification Number \_\_\_\_\_ (for PG&E's use only)

### Section 1 Instructions

1) Complete the section below (this information must match the Owner information on the attached Application).

Owner Name	Address	Date

2) Is this an application to establishing the Annual Eligible Energy Credit Allocation for a new NEMV Arrangement or for a change to the Allocation for an existing NEMV facility, as described in either NEMV Special Condition 2 or 3(g)?

- This application is for an allocation for the initial, new NEMV Arrangement
- This application is for a reallocation for an existing NEMV Arrangement:

3) Please use the attached Appendix A, Section 2 page to list all Benefitting Accounts in the Arrangement that will be taking service on NEMV. The Benefitting Accounts must be associated with the same Generator Account and all must satisfy the applicable Service Delivery Point requirements in the NEMV Applicability Section to be Eligible for Schedule NEMV.

Please note for each row:

- **Account Type** – (required) – The Generator Account row should be completed for the pertinent information for each column indicated; the Benefitting Account rows should be complete for the pertinent information for each column indicated. If there are more Benefitting Accounts than will fit on one page please use additional sheets as required and number pages accordingly.
- **Account Address** – (required) -- Provide an address, including unit / apartment number, for all Accounts (for the Generator Account you may use the street address of the building upon which the generator will be installed).
- **Occupant's / Owner's Name** – (required) - For the Generator Account enter the Owner's name; for all Benefitting accounts enter the name of the occupant or PG&E customer name for that location.
- **PG&E Meter Number** – (required) - Enter the PG&E Meter Numbers for the all benefitting accounts.
- **Otherwise Applicable Rate Schedule** – required -- Enter the PG&E Otherwise Applicable Rate Schedule (OAS) for the Generator Account and all Benefitting Accounts.
- **Eligible Allocation Percentage** – (required) -- For each Benefitting Account listed, enter the Eligible Allocation Percentage to two decimal places. The Eligible Energy Allocation Percentage for each Benefitting Account should be established so that the annual kilowatt hours allocated offsets no more than part or all of the customer's own annual electrical requirements. The total of all Benefitting Account Eligible Allocation Percentages in Appendix A for this NEMV Arrangement must equal exactly 100%. If Owner is changing the Eligible Allocation Percentage on an existing NEMV Arrangement, please list all allocations to confirm they add up to 100% and **circle** the changed allocations.
- **Designated Unallocated Credit Account** "system operator/qualified customer" has the option to designate the disposition of unallocated credits to either: the Common Area Account, or one Benefitting Account. In the NEMV tariff this is referred to as the "Default Account."
- **Appendix A, Section 2 Page Numbers** – In the space provided on the bottom of each page, please mark the page number and total number of pages for your Appendix A, Section 2 Account List. (Start with Page 1 and do not count the page numbers for this instruction page). Also indicate on one of the pages if the allocation is for a new Arrangement, or an existing Arrangement.

If Owner would like billing data from a Benefitting Account in order to verify the credit allocation they need the Benefitting Account customer's consent. To facilitate this process, here is a link to the:

Please complete this agreement in its entirety

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[www.pge.com/tariffs/tm2/pdf/ELEC\\_FORMS\\_79-1095.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_FORMS_79-1095.pdf) - (Form 79-1095) that would need to be submitted to PG&E prior to release of the Benefitting Account customer's billing data to the Owner.

**Please complete this agreement in its entirety**

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**Section 2**

Account Type	Account Address <i>(required field)</i>  (for Generator Account use street address for building with generator account)	Occupant's Name, <i>(Required field)</i>  (Generator Accounts should be under the Owner's Name  Please use name listed on PG&E Account bill)	PG&E Meter Number <i>(Required field)</i>	Otherwise Applicable Rate Schedule <i>(Required field)</i>	Eligible Allocation Percentage <i>(required – to 2 decimal places, the sum of all Benefitting Account Allocation must total 100%. For changes to Existing NEMV Arrangements, list all percentages but circle all changed percentages)</i>	Designated Unallocated Credit Account  (optional – check one Common Area or Benefitting Account to receive unallocated credits)
Generator Account						
Benefitting Accounts						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

Project Identification Number \_\_\_\_\_ (for PG&E's use only) Account List - Appendix A, Section 2 Page \_\_\_\_\_ of \_\_\_\_\_  
 Is this a reallocation of an existing NEMV Arrangement?  Yes  N

Please complete this agreement in its entirety

Automated Document, Preliminary Statement Part A

**Appendix B – Owner Affidavit Warranting That NEMV Arrangement Is Sized to Load**

---

Project Identification Number \_\_\_\_\_  
(for PG&E's use only)

Address of Generator \_\_\_\_\_  
\_\_\_\_\_

In accordance with Schedule NEMV, I, Owner warrant that:

- 1) the Generator Account associated with this NEMV Application is sized to offset no more than part or all of the annual usage (kWh) requirements of all the Benefitting Accounts in this NEMV Arrangement, and
- 2) the Eligible Allocation Percentage established for each Benefitting Account in Appendix A is sized to offset no more than part or all or the annual usage (kWh) requirement for that specific Benefitting Account.

Signed, \_\_\_\_\_, Owner, on date: \_\_\_\_\_

Owner's Name (printed) \_\_\_\_\_

## **Appendix C – Generator Interconnection Point Documentation**

---

[PG&E to attach current copy or web link providing PG&E's standards and requirements for Virtual Net Metering and PG&E GIS contact information when sending this form to Applicant.]

Applicant attaches the following Documentation:

- the single line diagram to illustrate connection with the selected option provided in the Metering Standard
- the switchgear, switchboard, or main panel cut-sheets/shop drawings detailing the bussing, any modifications, clearances, and proposed point of interconnection. The proposal must include a signed PE stamp and modifications must be certified by the manufacturer or a qualified third party
- pictures of the point of interconnection (see safety "Note" below)
- the meter socket cut-sheets of the net generation output meter socket
- additional material as specified by PG&E

Note: If after review of a customer's NEMV application PG&E determines a site assessment is needed, then PG&E may conduct a site assessment. Owners are reminded that entering PG&E sealed sections of their service panels is unsafe and not permitted without PG&E's supervision and express authorization.

**Please complete this agreement in its entirety**

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**ELECTRIC SAMPLE FORM 79-1144** Sheet 1 (N)  
Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities (N)  
Interconnecting Under the Fast Track Process (N)

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_

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Attachment 3 - One-line Diagram Depicting the Generating Facility, Interconnection Facilities, Metering Equipment, and Upgrades

Attachment 4 – Milestones

Attachment 5 - Additional Operating Requirements for the Distribution Provider's Distribution System and Affected Systems Needed to Support the Interconnection Customer's Needs

Attachment 6 - Distribution Provider's Description of its Upgrades and Cost Responsibility

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

This Interconnection Agreement (“Agreement” or “GIA”) is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ (“Distribution Provider”), and \_\_\_\_\_ (“Interconnection Customer”) each hereinafter sometimes referred to individually as “Party” or both referred to collectively as the “Parties.”

**Distribution Provider Information**

Distribution Provider: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

**Interconnection Customer Information**

Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Interconnection Customer Application No: \_\_\_\_\_

WHEREAS, Interconnection Customer proposes to interconnect to the Distribution System;

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

WHEREAS, the basis for the Parties entering into this Agreement is:

\_\_\_\_\_  
(Insert Description or N/A)

THEREFORE, in consideration of the mutual covenants set forth herein, the Parties agree as follows:

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

**Article 1. Scope and Limitations of Agreement**

1.1 Applicability

This Agreement shall be used for an interconnection governed by the Distribution Provider's California Public Utilities Commission-("CPUC") approved Electric Rule 21 ("Rule 21") of a Generating Facility that sells all of its exports to the grid to the Distribution Provider. This Agreement is not applicable to NEM Producers, Non-Export Producers and non-compensated exporting Producers.

1.2 Purpose

This Agreement incorporates in its entirety the Distribution Provider's California Public Utilities Commission ("CPUC") approved Electric Rule 21 ("Rule 21"), subject to any modifications the CPUC may direct in the exercise of its jurisdiction. This Agreement governs the terms and conditions under which the Interconnection Customer's Generating Facility will interconnect with, and operate in parallel with, the Distribution Provider's Distribution System. In the event of inconsistency between this Agreement and the terms of Rule 21, the provisions of the latter shall control.

1.3 No Agreement to Purchase of Deliver Power

This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power. The purchase or delivery of power and other services that the Interconnection Customer may require will be covered under separate agreements, if any. The Interconnection Customer will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity.

1.4 Limitations

Nothing in this Agreement is intended to affect any other agreement between the Distribution Provider and the Interconnection Customer.

1.5 Responsibilities of the Parties

1.5.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice.

1.5.2 The Interconnection Customer shall construct, interconnect, operate and maintain its Generating Facility and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, and in accordance with this Agreement, and with Good Utility Practice.

1.5.3 The Distribution Provider shall construct, operate, and maintain its Distribution System, Transmission System, Interconnection Facilities, Distribution Upgrades and Network Upgrades in accordance with this Agreement, and with Good Utility

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

Practice.

- 1.5.4 The Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. The Interconnection Customer agrees to design, install, maintain, and operate its Generating Facility so as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the system or equipment of the Distribution Provider and any Affected Systems. 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.
- 1.5.5 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Attachments to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the point of change of ownership. The Distribution Provider and the Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect the Distribution Provider's Transmission System, Distribution System, personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities shall be delineated in the Attachments to this Agreement.
- 1.5.6 The Distribution Provider shall coordinate with Affected Systems to support the interconnection.
- 1.5.7 The Interconnection Customer shall maintain QF status during the term of this Agreement.
- 1.6 Parallel Operation Obligations  
Once the Generating Facility has been authorized to commence parallel operation, the Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Generating Facility in the applicable balancing authority area, including, but not limited to; 1) the rules and procedures concerning the operation of generation set forth in Rule 21 or by the applicable system operator(s) for the Distribution Provider's Distribution System and; 2) the Operating Requirements set forth in Attachment 5 of this Agreement.

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

1.7 Metering

The Interconnection Customer shall be responsible for the Distribution Provider's reasonable and necessary cost for the purchase, installation, operation, maintenance, testing, repair, and replacement of metering and data acquisition equipment specified in Attachments 2 and 3 of this Agreement. The Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable industry rules and Operating Requirements. Nothing in this provision replaces or alters the metering requirements in the Interconnection Customer's PPA.

1.8 Reactive Power

1.8.1 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.

1.9 Capitalized Terms

Capitalized Terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 or the body of this Agreement.

**Article 2. Inspection, Testing, Authorization, and Right of Access**

2.1 Equipment Testing and Inspection

2.1.1 Pursuant to Rule 21, the Interconnection Customer shall test and inspect its Generating Facility and Interconnection Facilities prior to interconnection. The Interconnection Customer shall notify the Distribution Provider of such activities no fewer than five Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. Testing and inspection shall occur on a Business Day. The Distribution Provider may, at its own expense, send qualified personnel to the Generating Facility site to inspect the interconnection and observe the testing. The Interconnection Customer shall provide the Distribution Provider a written test report when such testing and inspection is completed.

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

2.1.2 The Distribution Provider shall provide the Interconnection Customer written acknowledgment that it has received the Interconnection Customer's written test report. Such written acknowledgment shall not be deemed to be or construed as any representation, assurance, guarantee, or warranty by the Distribution Provider of the safety, durability, suitability, or reliability of the Generating Facility or any associated control, protective, and safety devices owned or controlled by the Interconnection Customer or the quality of power produced by the Generating Facility.

2.2 Authorization Required Prior to Parallel Operation

2.2.1 The Distribution Provider shall use Reasonable Efforts to list applicable parallel operation requirements in Attachment 5 of this Agreement. Additionally, the Distribution Provider shall notify the Interconnection Customer of any changes to these requirements as soon as they are known. The Distribution Provider shall make Reasonable Efforts to cooperate with the Interconnection Customer in meeting requirements necessary for the Interconnection Customer to commence parallel operations by the in-service date.

2.2.2 The Interconnection Customer shall not operate its Generating Facility in parallel with the Distribution Provider's Distribution System without prior written authorization of the Distribution Provider. The Distribution Provider will provide such authorization once the Distribution Provider receives notification that the Interconnection Customer has complied with all applicable parallel operation requirements. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

2.3 Right of Access

2.3.1 Upon reasonable notice, the Distribution Provider may send a qualified person to the premises of the Interconnection Customer at or immediately before the time the Generating Facility first operates in parallel to inspect the interconnection, and observe the commissioning of the Generating Facility (including any required testing), startup, and operation for a period of up to three (3) Business Days after initial start-up of the unit. In addition, the Interconnection Customer shall notify the Distribution Provider at least five (5) Business Days prior to conducting any on-site verification testing of the Generating Facility.

2.3.2 Following the initial inspection process described above, at reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, the Distribution Provider shall have access to the Interconnection Customer's premises for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its customers.

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2.3.3 Costs associated with this Article are subject to the relevant provisions of Rule 21.

**Article 3. Effective Date, Term, Termination, and Disconnection**

3.1 Effective Date

This Agreement shall become effective upon execution by the Parties.

3.2 Term of Agreement

This Agreement shall become effective on the Effective Date and shall remain in effect for a period of \_\_\_\_\_ years from the Effective Date or such other longer period as the Parties may agree and shall be automatically renewed for each successive one-year period thereafter, unless terminated earlier in accordance with article 3.3 of this Agreement.

3.3 Termination

No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination.

3.3.1 The Interconnection Customer may terminate this Agreement at any time by giving the Distribution Provider twenty (20) Business Days written notice.

3.3.2 Either Party may terminate this Agreement after Default pursuant to article 7.6.

3.3.3 In addition, if the basis for 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 Agreement if Interconnection Customer fails to maintain its QF status for the term of this Agreement or upon termination of Interconnection Customer's PURPA PPA.

3.3.3.1 If Section 3.3.3 applies, 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 California Independent System Operator Corporation ("CAISO"), including penalties and charges incurred by the Distribution Provider, as a result of this failure to notify the Distribution Provider.

3.3.3.2 If Interconnection Customer is no longer eligible for a Rule 21 interconnection then Distribution Provider may terminate this Agreement.

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3.3.4 Upon termination of this Agreement, the Generating Facility will be disconnected from the Distribution Provider's 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.

3.3.5 The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.6 This provisions of this article shall survive termination or expiration of this Agreement.

3.3.7 If the Generating Facility no longer falls within the scope and description provided in Section 1.1 of this Agreement, this Agreement is terminated.

3.4 Temporary Disconnection

Temporary disconnection shall continue only for so long as reasonably necessary under Good Utility Practice.

3.4.1 Emergency Conditions -- "Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of the Distribution Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Distribution System, the Distribution Provider's Interconnection Facilities or any Affected Systems(s); or (3) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or the Interconnection Customer's Interconnection Facilities. Under Emergency Conditions, the Distribution Provider may immediately suspend interconnection service and temporarily disconnect the Generating Facility. The Distribution Provider shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer's operation of the Generating Facility. The Interconnection Customer shall notify the Distribution Provider promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Distribution Provider's Distribution System or any Affected Systems. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

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3.4.2 Routine Maintenance, Construction, and Repair

The Distribution Provider may interrupt interconnection service or curtail the output of the Generating Facility and temporarily disconnect the Generating Facility from the Distribution Provider's Distribution System when necessary for routine maintenance, construction, and repairs on the Distribution Provider's Distribution System and/or Transmission System. The Distribution Provider shall provide the Interconnection Customer with five Business Days notice prior to such interruption. The Distribution Provider shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

3.4.3 Forced Outages

During any forced outage, the Distribution Provider may suspend interconnection service to effect immediate repairs on the Distribution Provider's Distribution System and/or Transmission System. The Distribution Provider shall use Reasonable Efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, the Distribution Provider shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 Adverse Operating Effects

The Distribution Provider shall notify the Interconnection Customer as soon as practicable if, based on Good Utility Practice, operation of the Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Generating Facility could cause damage to the Distribution Provider's Distribution System or Affected Systems. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. If, after notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, the Distribution Provider may disconnect the Generating Facility. The Distribution Provider shall provide the Interconnection Customer with five Business Day notice of such disconnection, unless the provisions of article 3.4.1 apply.

3.4.5 Modification of the Generating Facility

The Interconnection Customer must receive written authorization from the Distribution Provider before making any change to the Generating Facility that may have a material impact on the safety or reliability of the Distribution System and/or the Transmission System. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If the Interconnection Customer makes such modification without the Distribution Provider's prior written authorization, the latter shall have the right to temporarily disconnect the Generating Facility.

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3.4.6 Reconnection

The Parties shall cooperate with each other to restore the Generating Facility, Interconnection Facilities, and the Distribution Provider's Distribution System and/or Transmission System to their normal operating state as soon as reasonably practicable following a temporary disconnection.

**Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades**

4.1 Interconnection Facilities

4.1.1 The Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in Attachment 2 of this Agreement. The Distribution Provider shall provide a best estimate cost, including overheads, for the purchase and construction of its Interconnection Facilities and provide a detailed itemization of such costs. Costs associated with Interconnection Facilities may be shared with other entities that may benefit from such facilities by agreement of the Interconnection Customer, such other entities, and the Distribution Provider.

4.1.2 The Interconnection Customer shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its own Interconnection Facilities, and (2) operating, maintaining, repairing, and replacing the Distribution Provider's Interconnection Facilities.

4.2 Distribution Upgrades

The Distribution Provider shall design, procure, construct, install, and own the Distribution Upgrades described in Attachment 6 of this Agreement. If the Distribution Provider and the Interconnection Customer agree, the Interconnection Customer may construct Distribution Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to the Interconnection Customer.

**Article 5. Cost Responsibility for Network Upgrades**

5.1 Applicability

No portion of this Article 5 shall apply unless the interconnection of the Generating Facility requires Network Upgrades.

5.2 Network Upgrades

The Distribution Provider or the Distribution Owner shall design, procure, construct, install, and own the Network Upgrades described in Attachment 6 of this Agreement. If the Distribution Provider and the Interconnection Customer agree, the Interconnection

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Customer may construct Network Upgrades that are located on land owned by the Interconnection Customer. Unless the Distribution Provider elects to pay for Network Upgrades, the actual cost of the Network Upgrades, including overheads, shall be borne by the Interconnection Customer unless Section 5.2.1 directs otherwise.

5.2.1 Repayment of Amounts Advanced for Network Upgrades

To the extent that the CAISO Tariff, currently Section 12.3.2 of Appendix Y, provides for cash repayment to interconnection customers for contribution to the cost of Network Upgrades, the Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to the Distribution Provider and Affected System operator, if any, for Network Upgrades, including any tax gross-up or other tax-related payments associated with the Network Upgrades, and not otherwise refunded to the Interconnection Customer, to be paid to the Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under the 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. The 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 System operator for Network Upgrades, and no cash repayment shall be made pursuant to this Agreement.

5.2.1.1 If the Interconnection Customer is entitled to a cash repayment pursuant to Article 5.2.1, the Interconnection Customer, the Distribution Provider, and any applicable Affected System operators may adopt any alternative payment schedule that is mutually agreeable so long as the Distribution Provider and said Affected System operators take one of the following actions no later than five years from the Commercial Operation Date: (1) return to the Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that the Distribution Provider or any applicable Affected System operators will continue to provide payments to the 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.

5.2.1.2 If the Generating Facility fails to achieve commercial operation, but it or another generating facility is later constructed and requires use of the Network Upgrades, the Distribution Provider and Affected System

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operator shall at that time reimburse the Interconnection Customer for the amounts advanced for the Network Upgrades if the Interconnection Customer is entitled to a cash repayment pursuant to Article 5.2.1. 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.

5.3 [Intentionally Omitted]

5.4 Rights Under Other Agreements

Notwithstanding any other provision of this Agreement, 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 the Interconnection Customer shall be entitled to, now or in 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.

**Article 6. Billing, Payment, Milestones, and Financial Security**

6.1 Billing and Payment Procedures and Final Accounting

6.1.1 The Distribution Provider shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs, including any applicable taxes, of Interconnection Facilities and Upgrades contemplated by this Agreement on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within 30 calendar days of receipt, or as otherwise agreed to by the Parties.

6.1.2 Within three months of completing the construction and installation of the Distribution Provider's Interconnection Facilities and/or Upgrades described in the Attachments to this Agreement, the Distribution Provider shall provide the Interconnection Customer with a final accounting report of any difference between (1) the Interconnection Customer's cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection Customer's previous aggregate payments to the Distribution Provider for such facilities or Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous aggregate payments, the Distribution Provider shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to the Distribution Provider within 30 calendar days. If the Interconnection Customer's previous aggregate payments exceed its cost

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responsibility under this Agreement, the Distribution Provider shall refund to the Interconnection Customer an amount equal to the difference within 30 calendar days of the final accounting report.

6.2 Milestones

The Parties shall agree on milestones for which each Party is responsible and list them in Attachment 4 of this Agreement. A Party's obligations under this provision may be extended by agreement. If a Party anticipates that it will be unable to meet a milestone for any reason other than a Uncontrollable Force Event, it shall immediately notify the other Party of the reason(s) for not meeting the milestone and (1) propose the earliest reasonable alternate date by which it can attain this and future milestones, and (2) requesting appropriate amendments to Attachment 4. The Party affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless it will suffer significant uncompensated economic or operational harm from the delay, (2) attainment of the same milestone has previously been delayed, or (3) it has reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

6.3 Financial Security Arrangements

At least 20 Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of the Distribution Provider's Interconnection Facilities and Upgrades, the Interconnection Customer shall provide the Distribution Provider, at the Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to the Distribution Provider and is consistent with the Uniform Commercial Code of the jurisdiction where the Point of Interconnection is located. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the Distribution Provider's Interconnection Facilities and Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to the Distribution Provider under this Agreement during its term. In addition:

- 6.3.1 The guarantee must be made by an entity that meets the creditworthiness requirements of the Distribution Provider, and contain terms and conditions that guarantee payment of any amount that may be due from the Interconnection Customer, up to an agreed-to maximum amount.
- 6.3.2 The letter of credit or surety bond must be issued by a financial institution or insurer reasonably acceptable to the Distribution Provider and must specify a reasonable expiration date.

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**Article 7. Assignment, Liability, Indemnity, Uncontrollable Force, Consequential Damages, and Default**

7.1 Assignment

This Agreement may be assigned by either Party upon fifteen (15) Business Days prior written notice and opportunity to object by the other Party; provided that:

7.1.1 Either 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, provided that the Interconnection Customer promptly notifies the Distribution Provider of any such assignment;

7.1.2 The Interconnection Customer shall have the right to assign this Agreement, without the consent of the Distribution Provider, for collateral security purposes to aid in providing financing for the Generating Facility, provided that the Interconnection Customer will promptly notify the Distribution Provider of any such assignment.

7.1.3 Any attempted assignment that violates this article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same financial, credit, and insurance obligations as the Interconnection Customer. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

7.2 Limitation of Liability

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages, except as authorized by this Agreement.

7.3 Indemnity

7.3.1 This provision protects each Party from liability incurred to third parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in article 7.2.

7.3.2 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

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third parties, arising out of or resulting from the other Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

- 7.3.3 If an indemnified person is entitled to indemnification under this article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this article, 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.
- 7.3.4 If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this article, 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.
- 7.3.5 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 this article 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.

7.4 Consequential Damages

Other than as expressly provided for in this Agreement, neither Party shall be liable under any provision of this Agreement 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.

7.5 Uncontrollable Force

- 7.5.1 As used in this article, an Uncontrollable Force Event 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

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which could not be avoided through the exercise of Good Utility Practice. An Uncontrollable Force Event does not include an act of negligence or intentional wrongdoing by the Party claiming Uncontrollable Force."

7.5.2 If an Uncontrollable Force Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Uncontrollable Force Event (Affected Party) shall promptly notify the other Party, either in writing or via the telephone, of the existence of the Uncontrollable Force Event. The notification must specify in reasonable detail the circumstances of the Uncontrollable Force Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Uncontrollable Force Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Uncontrollable Force Event cannot be mitigated by the use of Reasonable Efforts. The Affected Party will use Reasonable Efforts to resume its performance as soon as possible.

7.6 Default

7.6.1 No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of an Uncontrollable Force Event as defined in this Agreement or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except as provided in article 7.6.2, the defaulting Party shall have 60 calendar days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 60 calendar days, the defaulting Party shall commence such cure within 20 calendar days after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.

7.6.2 If a Default is not cured as provided in this article, or if a Default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate this Agreement 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 Agreement, to recover from the defaulting 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 Agreement.

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**Article 8. Insurance**

8.1 General Liability and Additional Insurance

The Interconnection Customer shall, at its own expense, maintain in force general liability insurance without any exclusion for liabilities related to the interconnection undertaken pursuant to this Agreement. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. The Interconnection Customer shall obtain additional insurance only if necessary as a function of owning and operating a generating facility. Such insurance shall be obtained from an insurance provider authorized to do business in California. Certification that such insurance is in effect shall be provided upon request of the Distribution Provider, except that the Interconnection Customer shall show proof of insurance to the Distribution Provider no later than ten (10) Business Days prior to the anticipated Parallel Operation date. An Interconnection Customer of sufficient credit-worthiness may propose to self-insure for such liabilities, and such a proposal shall not be unreasonably rejected.

8.2 Maintenance of Insurance

The Distribution Provider agrees to maintain general liability insurance or self-insurance consistent with the Distribution Provider's commercial practice. Such insurance or self-insurance shall not exclude coverage for the Distribution Provider's liabilities undertaken pursuant to this Agreement.

8.3 Notification

The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

**Article 9. Confidentiality**

9.1 Definition of Confidential Information

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

9.1.1 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

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Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article.

9.1.2 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.

9.1.3 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.

9.1.4 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.

9.1.5 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.

9.1.6 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

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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.

**Article 10. Disputes**

10.1 Dispute Resolution

Any dispute arising between the Parties 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.

**Article 11. Taxes**

11.1 Applicable Tax Laws and Regulation

The Parties agree to follow all applicable tax laws and regulations, consistent with CPUC policy and Internal Revenue Service requirements.

11.2 Maintenance of Tax Status

Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this Agreement is intended to adversely affect the Distribution Provider's tax exempt status with respect to the issuance of bonds including, but not limited to, local furnishing bonds.

**Article 12. Miscellaneous**

12.1 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of California (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

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12.2 Amendment

The Parties may amend this Agreement by a written instrument duly executed by both Parties.

12.3 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.

12.4 Waiver

12.4.1 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.

12.4.2 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, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Distribution Provider. Any waiver of this Agreement shall, if requested, be provided in writing.

12.5 Entire Agreement

This Agreement, including all Attachments, and any incorporated tariffs or Rules, 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, either Party's compliance with its obligations under this Agreement.

12.6 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.

12.7 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 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.

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12.8 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

12.9 Security Arrangements

Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. All public utilities are expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

12.10 Environmental Releases

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 (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Party copies of any publicly available reports filed with any governmental authorities addressing such events.

12.11 Subcontractors

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

12.11.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. 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 the Distribution Provider be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
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12.11.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

12.12 CPUC Modification

Unless otherwise ordered by the CPUC, this Agreement at all times shall be subject to such modifications as the CPUC may direct from time to time in the exercise of its jurisdiction.

12.13 Review of Records and Data

12.13.1 The Distribution Provider shall have the right to review and obtain copies of Interconnection Customer's operations and maintenance records, logs, or other information such as, unit availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Interconnection Customer's Generating Facility or its interconnection with Distribution Provider's Distribution System.

12.13.2 The Interconnection Customer authorizes the Distribution Provider to release to the California Energy Commission ("CEC"), the CAISO, and/or the CPUC information regarding the Generating Facility, including the Interconnection Customer's name and location, and the size, location and operational characteristics of the Generating Facility, as requested from time to time pursuant to the CEC's, CAISO's, or CPUC's rules and regulations.

**Article 13. Notices**

13.1 General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national carrier service, or sent by first class mail, postage prepaid, to the person specified below:

If to the Interconnection Customer:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

If to the Distribution Provider:

Distribution Provider: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

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Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

13.2 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Distribution Provider: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

13.3 Alternative Forms of Notice

Any notice or request required or permitted to be given by either Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out below:

If to the Interconnection Customer:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

If to the Distribution Provider:

Distribution Provider: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

13.4 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

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Interconnection Customer's Operating Representative:

Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Distribution Provider's Operating Representative:

Distribution Provider: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

13.5 Changes to the Notice Information

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

**Article 14. Signatures**

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Distribution Provider

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

For the Interconnection Customer

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

**Attachment 1**

**Glossary of Terms**

**Affected System** - An electric system other than the Distribution Provider's Distribution System that may be affected by the proposed interconnection, including but not limited to the Transmission System.

**Applicable Laws and Regulations** - 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.

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

**Default** - The failure of a breaching Party to cure its breach under the Agreement.

**Distribution Owner** - The 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 Agreement to the extent necessary.

**Distribution Provider** - The public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity and provides distribution service to the Interconnection Customer. The term Distribution Provider should be read to include the Distribution Owner when the Distribution Owner is separate from the Distribution Provider.

**Distribution System** - Those non-CAISO transmission and distribution facilities, owned, controlled and operated by the Distribution Provider that are used to provide distribution service, which facilities and equipment are used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

**Distribution Upgrades** - 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. Distribution Upgrades do not include Interconnection Facilities.

**Fast Track Process** - The interconnection study process set forth in Section F.2 of Rule 21.

**Generating Facility** - The Interconnection Customer's device for the production or storage of electricity identified in Attachment 2 of the Agreement, but shall not include the Interconnection Customer's Interconnection Facilities.

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**Good Utility Practice** - 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** - 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 the Interconnection Customer, the Distribution Provider, or any Affiliate thereof.

**Interconnection Customer** - Any entity, including the Distribution Provider, Distribution Owner or any of the affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Distribution Provider's Distribution System. 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 Facilities** - The Distribution Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Distribution Provider's Distribution System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

**Interconnection Handbook** - 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. In the event of a conflict between the terms of this Agreement and the terms of the Distribution Provider's Interconnection Handbook, the terms in this Agreement shall govern.

**Network Upgrades** - Additions, modifications, and upgrades to the Distribution Provider's Transmission System required at or beyond the point at which the Distribution System connects to the Distribution Provider's Transmission System to accommodate the interconnection of the Generating Facility to the Distribution Provider's Distribution System. Network Upgrades do not include Distribution Upgrades.

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
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**Operating Requirements** - Any operating and technical requirements that may be applicable due to Regional Transmission Organization, the CAISO, balancing authority area, or the Distribution Provider's requirements, including those set forth in the Agreement.

**Party or Parties** - The Distribution Provider, Distribution Owner, Interconnection Customer, Producer or any combination of the above.

**Point of Interconnection** - The point where the Interconnection Facilities connect with the Distribution Provider's Distribution System.

**Reasonable Efforts** - With respect to an action required to be attempted or taken by a Party under the Agreement, 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.

**Transmission System** - Those facilities owned by the Distribution Provider that have been placed under the CAISO's operational control and are part of the CAISO Grid.

**Upgrades** - The required additions and modifications to the Distribution Provider's Distribution System and Transmission System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

**Attachment 2**

**Description and Costs of the Generating Facility,  
Interconnection Facilities and Metering Equipment**

Equipment, including the Generating Facility, Interconnection Facilities, and metering equipment shall be itemized and identified as being owned by the Interconnection Customer, the Distribution Provider, or the Distribution Owner. The Distribution Provider will provide a best estimate itemized cost, including overheads, of its Interconnection Facilities and metering equipment, and a best estimate itemized cost of the annual operation and maintenance expenses associated with its Interconnection Facilities and metering equipment.

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

**Attachment 3**

**One-line Diagram Depicting the Generating Facility, Interconnection  
Facilities, Metering Equipment, and Upgrades**

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
Interconnecting Under the Fast Track Process

**Attachment 4**

**Milestones**

In-Service Date: \_\_\_\_\_

Critical milestones and responsibility as agreed to by the Parties:

	<b>Milestone/Date</b>	<b>Responsible Party</b>
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____
(4)	_____	_____
(5)	_____	_____
(6)	_____	_____
(7)	_____	_____
(8)	_____	_____
(9)	_____	_____
(10)	_____	_____

Agreed to by:

For the Distribution Provider \_\_\_\_\_ Date \_\_\_\_\_

For the Distribution Owner (If Applicable) \_\_\_\_\_ Date \_\_\_\_\_

For the Interconnection Customer \_\_\_\_\_ Date \_\_\_\_\_

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
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**Attachment 5**

**Additional Operating Requirements for the Distribution Provider's  
Distribution System and Affected Systems Needed to Support  
the Interconnection Customer's Needs**

The Distribution Provider shall also provide requirements that must be met by the Interconnection Customer prior to initiating parallel operation with the Distribution Provider's Distribution System.

Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities  
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**Attachment 6**

**Distribution Provider's Description of its Upgrades and Cost Responsibility**

The Distribution Provider shall describe Upgrades and provide an itemized best estimate of the cost, including overheads, of the Upgrades and annual operation and maintenance expenses associated with such Upgrades. The Distribution Provider shall functionalize Upgrade costs and annual expenses as either transmission or distribution related.



**ELECTRIC SAMPLE FORM 79-1145**  
Rule 21 Exporting Generator  
Interconnection Request

Sheet 1 (N)  
(N)  
(N)

Advice Letter No: 4110-E  
Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
Vice President  
Regulatory Relations

Date Filed September 20, 2012  
Effective September 20, 2012  
Resolution No. \_\_\_\_\_



**RULE 21  
EXPORTING GENERATOR  
INTERCONNECTION REQUEST**

1. The undersigned Applicant submits this request to interconnect its Generating Facility with the Pacific Gas and Electric Company (PG&E or Distribution Provider) Distribution System pursuant to Rule 21 (check only one):

- Detailed Study Process
- Fast Track Process

2. This Interconnection 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.

3. Applicant provides the following information:

a. Address (to the extent known) or location, including the county, of the proposed new Generating Facility site or, 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, State:

County:

Zip Code:

GPS Coordinates:

b. Maximum net megawatt electrical output (as defined by section 2.c. of Attachment A to this appendix) of the proposed new Generating Facility or the amount of net megawatt increase in the generating capacity of an existing Generating Facility;

Maximum net megawatt electrical output (MW): \_\_\_\_\_ or

Net Megawatt increase (MW): \_\_\_\_\_

c. Type of project (i.e., gas turbine, hydro, wind, etc.) and general description of the equipment configuration (if more than one type is chosen, include net MW for each);

**PG&E'S RULE 21  
EXPORTING GENERATOR INTERCONNECTION REQUEST**

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\_\_\_ Cogeneration                      \_\_\_ MW  
\_\_\_ Reciprocating Engine            \_\_\_ MW  
\_\_\_ Biomass                            \_\_\_ MW  
\_\_\_ Steam Turbine                    \_\_\_ MW  
\_\_\_ Gas Turbine                        \_\_\_ MW  
\_\_\_ Wind                                \_\_\_ MW  
\_\_\_ Hydro                                \_\_\_ MW  
\_\_\_ Inverter Based: (e.g., Photovoltaic, Fuel Cell)    \_\_\_ MW  
    If Fuel Cell, please describe primary fuel source:  
\_\_\_ Combined Cycle                  \_\_\_ MW  
\_\_\_ Other (please describe): \_\_\_\_\_

- d. Proposed In-Service Date, and Other Key Dates (Day/Month/Year) (Dates must be sequential)

Proposed In-Service Date:                      /   /  
Proposed Trial Operation Date:                /   /  
Proposed Commercial Operation Date:       /   /  
Proposed Term of Service (years): \_\_\_\_\_

- e. 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:

- f. Approximate location of the proposed Point of Interconnection (i.e., specify distribution facility interconnection point name, voltage level, and the location of interconnection);

- g. Applicant Data (set forth in Attachment A)

***The Applicant shall provide to the Distribution Provider the technical data called for in Attachment A.***

**PG&E'S RULE 21**  
**EXPORTING GENERATOR INTERCONNECTION REQUEST**

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- h. AC Disconnect Switch. List the AC disconnect switch that will be used at this Generating Facility (enter "N/A" if not applicable)

Disconnect Switch Manufacturer: \_\_\_\_\_

Disconnect Switch Model Number: \_\_\_\_\_

Disconnect Switch Rating (amps): \_\_\_\_\_

4. Application Fee and Detailed Study Deposit as specified in Rule 21 is required to complete this application. Upon receipt of this Interconnection Request and Attachment A, PG&E will send a separate invoice for the applicable fee or deposit. **PLEASE DO NOT INCLUDE ANY CHECKS/MONIES WITH THIS INTERCONNECTION REQUEST.** (Any checks/monies submitted with this IR will be returned to the sender and may result in a delay in the application process.)

5. Attach evidence of Site Exclusivity as specified in Rule 21 Section E.2.d as applicable, and name(s), address(es) and contact information of site owner(s).

6. **This Interconnection Request shall be submitted digitally with attachments by email to:**

[www.gen@pge.com](http://www.gen@pge.com)

or by mail to:

Generator Interconnection Services

Pacific Gas and Electric Company

P.O. Box 770000

San Francisco, CA 94177

Overnight address: 245 Market Street Mail Code N7L San Francisco, CA 94105

- 7 Representative of Applicant to contact:

[To be completed by Applicant]

Name:

Title:

Company Name:

Street Address:

City, State:

Zip Code:

Phone Number:

Fax Number:

Email Address:

**PG&E'S RULE 21  
EXPORTING GENERATOR INTERCONNECTION REQUEST**

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8. If the Applicant also requires new Distribution Service, the Distribution Provider will coordinate these efforts with this application. The Applicant must also complete a PG&E Application for Service. 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's Building and Renovation Services Center (BRSC): 1-800-743-7782 to initiate the application for the new Distribution Service. Additional information will be required in conjunction with an application for new Distribution Service.
9. Applicant should be aware that if Applicant has not yet received Rule 21 Screen Q results from PG&E by March 15 following submittal of this IR, Applicant will need to submit, if Applicant voluntarily chooses to do so, an Interconnection Request under PG&E's FERC Wholesale Distribution Tariff (WDT) by the close of the CAISO cluster application window (refer to <http://www.caiso.com/docs/2002/06/11/2002061110300427214.html> for the exact date) in order to participate in the Transmission Cluster Study for the year. An application under WDT will not impact the results of this Rule 21 study.
10. This Interconnection Request is submitted by:

Legal name of Applicant: \_\_\_\_\_

By (signature): \_\_\_\_\_

Name (type or print): \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

# PG&E'S RULE 21 EXPORTING GENERATOR INTERCONNECTION REQUEST

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## Attachment A to PG&E Rule 21 Exporting Generator Interconnection Request

### GENERATING FACILITY DATA

Each Applicant will complete Sections 1 and 2 of this Attachment A.

Each Applicant will complete the applicable data in Sections 3 through 6 of this Attachment A based on the type of generating facility(ies) requesting interconnection. (Section 3 for synchronous generators, Section 4 for induction generators, Section 5 for wind turbine generators, and Section 6 for inverter-based generators).

Each Applicant will complete Sections 7 through 10, as applicable.

At any time, Distribution Provider may require Applicant to provide additional technical data, or additional documentation supporting the technical data provided, as deemed necessary by the Distribution Provider to perform Interconnection Studies, other studies, or evaluations as set forth under Rule 21.

**1. Provide electronic copies of the following:**

- A. Site drawing to scale, showing generator location and Point of Interconnection with the Distribution Provider's Distribution System.
- B. Single-line diagram showing applicable equipment such as generating units, step-up transformers, auxiliary transformers, switches/disconnects of the proposed interconnection, including the required protection devices and circuit breakers. For wind and photovoltaic generator projects, the one line diagram should include the distribution lines connecting the various groups of generating units, the generator capacitor banks, the step up transformers, the distribution lines, and the substation transformers and capacitor banks at the Point of Interconnection with the Distribution Provider's Distribution System. This one-line drawing must be signed and stamped by a licensed Professional Engineer if the Generating Facility is larger than 50 kW.
- C. AC and DC schematics if available. Required for detailed study process.
- D. Description of operations.

Note: Electronic processing is preferred, however, if submitting via U.S. mail, provide one original print of items in A through D, above.

**2. Generating Facility General Information:**

- A. Total Generating Facility rated output (MW): \_\_\_\_\_
- B. Generating Facility auxiliary Load (MW): \_\_\_\_\_
- C. Project net capacity (MW): \_\_\_\_\_
- D. Standby Load when Generating Facility is off-line (MW): \_\_\_\_\_
- E. Number of Generating Units: \_\_\_\_\_  
(Please repeat the following items for each generator)
- F. Individual generator rated output (MW for each unit): \_\_\_\_\_
- G. Type (induction, synchronous, D.C. with inverter): \_\_\_\_\_
- H. Phase (3 phase or single phase): \_\_\_\_\_

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**3. Synchronous Generator –Information:**

**3A Generator Information:**

(Please repeat the following for each generator)

- A. Manufacturer: \_\_\_\_\_
- B. Year Manufactured: \_\_\_\_\_
- C. Rated Generator speed (rpm): \_\_\_\_\_
- D. Rated MVA: \_\_\_\_\_
- E. Rated Terminal Voltage (kV): \_\_\_\_\_
- F. Rated Generator Power Factor Range: \_\_\_\_\_
- G. Generator Efficiency at Rated Load (%): \_\_\_\_\_
- H. Moment of Inertia (including prime mover): \_\_\_\_\_
- I. Inertia Time Constant (on machine base) H: \_\_\_\_\_ sec or MJ/MVA
- J. SCR (Short-Circuit Ratio - the ratio of the field current required for rated open-circuit voltage to the field current required for rated short-circuit current): \_\_\_\_\_
- K. Please attach generator reactive capability curves.
- L. Rated Hydrogen Cooling Pressure in psig (Steam Units only): \_\_\_\_\_
- M. Please attach a plot of generator terminal voltage versus field current that shows the air gap line, the open-circuit saturation curve, and the saturation curve at full load and rated power factor.

**3B Excitation System Information:**

(Please repeat the following for each generator)

- A. Indicate the Manufacturer \_\_\_\_\_ and Type \_\_\_\_\_ of excitation system used for the generator. For exciter type, please choose from 1 to 9 below or describe the specific excitation system.
  - (1) Rotating DC commutator exciter with continuously acting regulator. The regulator power source is independent of the generator terminal voltage and current.
  - (2) Rotating DC commutator exciter with continuously acting regulator. The regulator power source is bus fed from the generator terminal voltage.
  - (3) Rotating DC commutator exciter with non-continuously acting regulator (i.e., regulator adjustments are made in discrete increments).
  - (4) Rotating AC Alternator Exciter with non-controlled (diode) rectifiers. The regulator power source is independent of the

**PG&E'S RULE 21**  
**EXPORTING GENERATOR INTERCONNECTION REQUEST**

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- generator terminal voltage and current (not bus-fed).
- (5) Rotating AC Alternator Exciter with controlled (thyristor) rectifiers. The regulator power source is fed from the exciter output voltage.
  - (6) Rotating AC Alternator Exciter with controlled (thyristor) rectifiers.
  - (7) Static Exciter with controlled (thyristor) rectifiers. The regulator power source is bus-fed from the generator terminal voltage.
  - (8) Static Exciter with controlled (thyristor) rectifiers. The regulator power source is bus-fed from a combination of generator terminal voltage and current (compound-source controlled rectifiers system).
  - (9) Other (specify): \_\_\_\_\_
- B. Attach a copy of the block diagram of the excitation system from its instruction manual. The diagram should show the input, output, and all feedback loops of the excitation system.
  - C. Excitation system response ratio (ASA): \_\_\_\_\_
  - D. Full load rated exciter output voltage: \_\_\_\_\_
  - E. Maximum exciter output voltage (ceiling voltage): \_\_\_\_\_
  - F. Other comments regarding the excitation system? \_\_\_\_\_
- 

**3C Turbine-Governor Information:**

(Please repeat the following for each generator)

Please complete Part A for steam, gas or combined-cycle turbines, Part B for hydro turbines, and Part C for both.

A. Steam, gas or combined-cycle turbines:

- (1) List type of unit (Steam, Gas, or Combined-cycle): \_\_\_\_\_
- (2) If steam or combined-cycle, does the turbine system have a reheat process (i.e., both high and low pressure turbines)? \_\_\_\_\_
- (3) If steam with reheat process, or if combined-cycle, indicate in the space provided, the percent of full load power produced by each turbine:
  - Low pressure turbine or gas turbine: \_\_\_\_\_%
  - High pressure turbine or steam turbine: \_\_\_\_\_%
- (4) For combined cycle plants, specify the plant net output capacity (MW) for an outage of the steam turbine or an outage of a single combustion turbine: \_\_\_\_\_

B. Hydro turbines:

- (1) Turbine efficiency at rated load: \_\_\_\_\_%

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- (2) Length of penstock: \_\_\_\_\_ ft
- (3) Average cross-sectional area of the penstock: \_\_\_\_\_ ft<sup>2</sup>
- (4) Typical maximum head (vertical distance from the bottom of the penstock, at the gate, to the water level): \_\_\_\_\_ ft
- (5) Is the water supply run-of-the-river or reservoir: \_\_\_\_\_
- (6) Water flow rate at the typical maximum head: \_\_\_\_\_ ft<sup>3</sup>/sec
- (7) Average energy rate: \_\_\_\_\_ kW-hrs/acre-ft
- (8) Estimated yearly energy production: \_\_\_\_\_ kW-hrs

C. Complete this section for each machine, independent of the turbine type.

- (1) Turbine manufacturer: \_\_\_\_\_
- (2) Maximum turbine power output: \_\_\_\_\_ MW
- (3) Minimum turbine power output (while on line): \_\_\_\_\_ MW
- (4) Governor information:
  - (a) Droop setting (speed regulation): \_\_\_\_\_
  - (b) Is the governor mechanical-hydraulic or electro-hydraulic (Electro-hydraulic governors have an electronic speed sensor and transducer.)? \_\_\_\_\_
  - (c) Other comments regarding the turbine governor system?

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**3D Short Circuit Duty Information:**

For each generator, provide the following reactances expressed in p.u. on the generator base:

- X<sub>d</sub> – Direct Axis Synchronous Reactance: \_\_\_\_\_ p.u.
- X'<sub>d</sub> – Direct Axis Transient Reactance: \_\_\_\_\_ p.u.
- X''<sub>d</sub> – Direct Axis Subtransient Reactance: \_\_\_\_\_ p.u.
- X<sub>2</sub> – Negative Sequence Reactance: \_\_\_\_\_ p.u.
- X<sub>0</sub> – Zero Sequence Reactance: \_\_\_\_\_ p.u.

Generator Grounding (select one for each model):

- A. \_\_\_\_\_ Solidly grounded
- B. \_\_\_\_\_ Grounded through an impedance  
 (Impedance value in p.u. on generator base. R: \_\_\_\_\_ p.u.  
 X: \_\_\_\_\_ p.u.)
- C. \_\_\_\_\_ Ungrounded

**PG&E'S RULE 21**  
**EXPORTING GENERATOR INTERCONNECTION REQUEST**

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**4. Induction Generator Information:**

(Please repeat the following for each generator)

- A. Motoring Power (kW): \_\_\_\_\_
- B.  $I_2^2t$  or K (Heating Time Constant): \_\_\_\_\_
- C. Rotor Resistance,  $R_r$ : \_\_\_\_\_
- D. Stator Resistance,  $R_s$ : \_\_\_\_\_
- E. Stator Reactance,  $X_s$ : \_\_\_\_\_
- F. Rotor Reactance,  $X_r$ : \_\_\_\_\_
- G. Magnetizing Reactance,  $X_m$ : \_\_\_\_\_
- H. Short Circuit Reactance,  $X_d''$ : \_\_\_\_\_
- I. Exciting Current: \_\_\_\_\_
- J. Temperature Rise: \_\_\_\_\_
- K. Frame Size: \_\_\_\_\_
- L. Design Letter: \_\_\_\_\_
- M. Reactive Power Required In Vars (No Load): \_\_\_\_\_
- N. Reactive Power Required In Vars (Full Load): \_\_\_\_\_
- O. Total Rotating Inertia, H: \_\_\_\_\_ Per Unit on kVA Base

**5. Wind Turbine Generator (WTG) Information:**

(Proposed projects may include one or more WTG types. Please repeat the following for each type of WTG).

- A. WTG Manufacturer and Model: \_\_\_\_\_
- B. Number of WTGs: \_\_\_\_\_
- C. WTG Type (check one):
  - \_\_\_\_\_ Type 1 (Squirrel-cage induction generator)
  - \_\_\_\_\_ Type 2 (Wound rotor induction machine with variable rotor resistance)
  - \_\_\_\_\_ Type 3 (Doubly-fed asynchronous generator)
  - \_\_\_\_\_ Type 4 (Full converter interface)
- D. Nameplate Rating (each WTG): \_\_\_\_\_ / \_\_\_\_\_ kW/kVA
- E. Rated Terminal Voltage: \_\_\_\_\_ kV
- F. For Type 1 or Type 2 WTGs:
  - (1) uncompensated power factor at full load: \_\_\_\_\_
  - (2) power factor correction capacitors at full load: \_\_\_\_\_ MVAR
  - (3) number of shunt stages and size: \_\_\_\_\_
  - (4) Please attach capability curve describing reactive power or power factor range from no output to full rated output, including the effect of shunt compensation
- G. For Type 3 or Type 4 WTGs:
  - (1) Maximum under-excited power factor at full load: \_\_\_\_\_
  - (2) Maximum over-excited power factor at full load: \_\_\_\_\_
  - (3) Control mode: \_\_\_\_\_ (voltage control, fixed power factor)
  - (4) Please attach capability curve describing reactive power or power factor range from no output to full rated output

## PG&E'S RULE 21 EXPORTING GENERATOR INTERCONNECTION REQUEST

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- H. Short Circuit Characteristics: Applicant to provide technical data related to the short circuit characteristics of proposed WTGs for short circuit duty study modeling purposes. For example, the applicant can provide manufacturer short circuit test data showing faulted condition for three phase and single-line-to-ground fault.

Distribution Provider may require testing verification of voltage and harmonic performance during commissioning test of WTG based generation projects.

### 6. Inverter Based Generation Systems Information:

Proposed inverter based generation projects may include one or more types of inverters. Please provide answers to the following for each type of inverter.

- A. Inverter Manufacturer and Model: \_\_\_\_\_  
B. Number of Inverters: \_\_\_\_\_  
C. Nameplate Rating (AC, each inverter): \_\_\_\_\_ / \_\_\_\_\_ kW  
D. Nameplate Voltage Rating (AC): \_\_\_\_\_ kV  
E. Maximum AC line current: \_\_\_\_\_ Amps  
F. Nameplate Power Factor Rating (AC): \_\_\_\_\_  
G. Please attach capability curve describing reactive power or power factor range from no output to full rated output  
H. Inverter control mode (e.g. voltage, power factor, reactive power): \_\_\_\_\_  
I. Short Circuit Characteristics: Applicant to provide technical data related to the short circuit characteristics of proposed inverter based generation systems. For example, the applicant can provide a sinusoidal waveform test data showing faulted condition at the AC side of the inverter for a three phase and single-line-to-ground fault.  
J. Harmonics Characteristics:  
(1) Inverter switching frequency: \_\_\_\_\_  
(2) Harmonic characteristics for each unit up to switching frequency: \_\_\_\_\_  
(3) Harmonic characteristics for aggregate generation facility: \_\_\_\_\_  
K. Inverter disconnection characteristics: Applicant to provide voltage sinusoidal waveform test data which shows the voltage characteristics during disconnection of inverter system from distribution system at 100% and at 50% of rated output.

Distribution Provider may require testing verification of voltage and harmonic performance during commissioning test of the inverter based generation systems.

### 7. Step-Up Transformer Data:

For each step-up transformer (e.g. main step-up transformers, padmount transformers), fill out the data form provided in Table 1.

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### 8. **Plant-Level Reactive Power Compensation Data:**

Provide the following information for plant-level reactive power compensation, if applicable:

- A. Number of individual shunt capacitor banks: \_\_\_\_\_
- B. Individual shunt capacitor bank rated voltage (kV): \_\_\_\_\_
- C. Individual shunt capacitor bank size (kVAR at rated voltage): \_\_\_\_\_
- D. Planned dynamic reactive control devices (SVC, STATCOM): \_\_\_\_\_
- E. Control range: \_\_\_\_\_ kVAR (lead) \_\_\_\_\_ kVAR (lag)
- F. Control mode (e.g. voltage, power factor, reactive power): \_\_\_\_\_
- G. Please provide the overall plant reactive power control strategy

### 9. **Load Flow and Dynamic Models:**

**Only provide data in this section when requested by the Distribution Provider.**

The WECC Data Preparation Manual for Power Flow Base Cases and Dynamic Stability Data has established power flow and dynamic modeling requirements for generation projects in WECC base cases. In general, if the aggregate sum of generation on a bus exceeds 10 MVA, it should not be netted. Furthermore, the total netted generation in an area should not exceed five percent of the area's total generation. Based on current WECC modeling requirements, the following information will be required for all generation projects whose net capacity is greater than 10 MVA. The following information may also be required for generation projects less than 10 MVA on a case-by-case basis, based on the amount of generation in the area of the requested Point of Interconnection.

- A. Provide load flow model for the generating plant and its interconnection facilities in GE PSLF \*.epc format, including new buses, generators, transformers, interconnection facilities. An equivalent model is required for the plant with generation collector systems. This data should reflect the technical data provided in this Attachment A.
- B. For each generator, governor, exciter, power system stabilizer, WTG, or inverter based generator, select the appropriate dynamic models from the General Electric PSLF Program Manual and provide the required input data. Include any user written \*.p EPCL files to simulate inverter based plants' dynamic responses (typically needed for inverter based PV/wind plants). Provide a completed \*.dyd file that contains the information specified in this section.

The GE PSLF manual is available upon request from GE. There are links within the GE PSLF User's Manual to detailed descriptions of specific models, a definition of each parameter, a list of the output channels, explanatory notes, and a control system block diagram. In addition, GE PSLF modeling information and various modeling guidelines

## **PG&E'S RULE 21 EXPORTING GENERATOR INTERCONNECTION REQUEST**

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documents have been prepared by the WECC Modeling and Validation Work Group. This information is available on the WECC website ([www.wecc.biz](http://www.wecc.biz)).

If you require assistance in developing the models, we suggest you contact General Electric. Accurate models are important to obtain accurate study results. Costs associated with any changes in facility requirements that are due to differences between model data provided by the generation developer and the actual generator test data, may be the responsibility of the generation developer.

# PG&E'S RULE 21 EXPORTING GENERATOR INTERCONNECTION REQUEST

TABLE 1

**TRANSFORMER DATA**  
(Provide for each level of transformation)

UNIT \_\_\_\_\_

NUMBER OF TRANSFORMERS \_\_\_\_\_ PHASE \_\_\_\_\_

RATING	H Winding	X Winding	Y Winding
Rated MVA	_____	_____	_____
Connection (Delta, Wye, Gnd.)	_____	_____	_____
Cooling Type (OA,OA/FA, etc.) :	_____	_____	_____
Temperature Rise Rating	_____	_____	_____
Rated Voltage	_____	_____	_____
BIL	_____	_____	_____
Available Taps (% of rating)	_____	_____	_____
Load Tap Changer? (Y or N)	_____	_____	_____
Tap Settings	_____	_____	_____
IMPEDANCE	H-X	H-Y	X-Y
Percent	_____	_____	_____
MVA Base	_____	_____	_____
Tested Taps	_____	_____	_____
WINDING RESISTANCE	H	X	Y
Ohms	_____	_____	_____

**CURRENT TRANSFORMER RATIOS**

H \_\_\_\_\_ X \_\_\_\_\_ Y \_\_\_\_\_ N \_\_\_\_\_

PERCENT EXCITING CURRENT 100 % Voltage; \_\_\_\_\_ 110% Voltage \_\_\_\_\_

Supply copy of nameplate and manufacturer's test report when available.



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Advice Letter No: 4110-E  
 Decision No. 12-09-018

Issued by  
**Brian K. Cherry**  
 Vice President  
 Regulatory Relations

Date Filed September 20, 2012  
 Effective September 20, 2012  
 Resolution No. \_\_\_\_\_



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**PG&E Gas and Electric  
Advice Filing List  
General Order 96-B, Section IV**

AT&T	Department of Water Resources	North America Power Partners
Alcantar & Kahl LLP	Dept of General Services	North Coast SolarResources
Ameresco	Douglass & Liddell	Northern California Power Association
Anderson & Poole	Downey & Brand	Occidental Energy Marketing, Inc.
BART	Duke Energy	OnGrid Solar
Barkovich & Yap, Inc.	Economic Sciences Corporation	PG&E
Bartle Wells Associates	Ellison Schneider & Harris LLP	Praxair
Bloomberg	Foster Farms	R. W. Beck & Associates
Bloomberg New Energy Finance	G. A. Krause & Assoc.	RCS, Inc.
Boston Properties	GLJ Publications	SCD Energy Solutions
Braun Blaising McLaughlin, P.C.	GenOn Energy Inc.	SCE
Brookfield Renewable Power	GenOn Energy, Inc.	SMUD
CA Bldg Industry Association	Goodin, MacBride, Squeri, Schlotz & Ritchie	SPURR
CENERGY POWER	Green Power Institute	San Francisco Public Utilities Commission
CLECA Law Office	Hanna & Morton	Seattle City Light
California Cotton Ginners & Growers Assn	Hitachi	Sempra Utilities
California Energy Commission	In House Energy	Sierra Pacific Power Company
California League of Food Processors	International Power Technology	Silicon Valley Power
California Public Utilities Commission	Intestate Gas Services, Inc.	Silo Energy LLC
Calpine	Lawrence Berkeley National Lab	Southern California Edison Company
Cardinal Cogen	Los Angeles County Office of Education	Spark Energy, L.P.
Casner, Steve	Los Angeles Dept of Water & Power	Sun Light & Power
Center for Biological Diversity	Luce, Forward, Hamilton & Scripps LLP	Sunrun Inc.
Chris, King	MAC Lighting Consulting	Sunshine Design
City of Palo Alto	MBMC, Inc.	Sutherland, Asbill & Brennan
City of Palo Alto Utilities	MRW & Associates	Tecogen, Inc.
City of San Jose	Manatt Phelps Phillips	Tiger Natural Gas, Inc.
City of Santa Rosa	Marin Energy Authority	TransCanada
Clean Energy Fuels	McKenzie & Associates	Turlock Irrigation District
Clean Power	Merced Irrigation District	United Cogen
Coast Economic Consulting	Modesto Irrigation District	Utility Cost Management
Commercial Energy	Morgan Stanley	Utility Specialists
Consumer Federation of California	Morrison & Foerster	Verizon
Crossborder Energy	Morrison & Foerster LLP	Wellhead Electric Company
Davis Wright Tremaine LLP	NLine Energy, Inc.	Western Manufactured Housing Communities Association (WMA)
Day Carter Murphy	NRG West	eMeter Corporation
Defense Energy Support Center	NaturEner	
Department of General Services	Norris & Wong Associates	