STATE OF CALIFORNIA
ARNOLD SCHWARZENEGGER, *Governor*

PUBLIC UTILITIES COMMISSION

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SAN FRANCISCO, CA 94102-3298

Tel. No. (415) 703-1691

May 12, 2004

Advice Letter 2479-E

Ms Anita Smith, Rate Analyst
Pacific Gas and Electric Company
77 Beale Street, 10B Mail Code
San Francisco, CA 94177

Subject: New Electric Rate Schedule NEMFC – Net Energy Metering Service For Fuel Cell Customer-Generators

Dear Ms Smith:

Advice Letter 2479-E is effective April 9, 2004. A copy of the advice letter is sent herewith for your records.

Sincerely,

Paul Clanon

Director
Energy Division

Pacific Gas and Electric Company

Karen A. Tomcala
Vice President
Regulatory Relations

77 Beale Street, Room 1065
San Francisco, CA 94105

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Mail Code B10A
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March 1, 2004

Advice 2479-E
(Pacific Gas and Electric Company ID U39 E)

Public Utilities Commission of the State of California (CPUC)

Subject: **PG&E's New Electric Rate Schedule *NEMFC--Net Energy Metering Service For Fuel Cell Customer-Generators* (To Provide Eligible Fuel Cell Customer-Generators With Net Energy Metering Under a Pilot Program In Compliance With Assembly Bill 1214)**

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

Purpose

The purpose of this filing is to comply with Assembly Bill (AB) 1214, which adds Section 2827.10 to the Public Utilities Code. This bill became effective January 1, 2004. In this filing, PG&E presents a new Rate Schedule Tariff Sheet, NEMFC – *Net Energy Metering Service For Fuel Cell Customer-Generators*, a new interconnection agreement for electric Rate Schedule NEMFC *Interconnection Agreement for Net Energy Metering of Fuel Cell Generating Facilities* (Form 79-1010), and modifications to pages 1, 3, 5, and 6 of Electric Rule 21's-*Generating Facility Interconnection Application* (Form 79-974).

Background

On October 2, 2003, the Governor of California approved AB 1214. The bill establishes a pilot program to provide net energy metering for eligible fuel cell customer-generators. The pilot program will allow eligible generators to net out generation charges and thereby, "encourage substantial private investment in these energy resources, stimulate in-state economic growth, reduce demand for electricity during peak consumption periods, help stabilize California's energy supply infrastructure, enhance the continued diversification of California's energy resource mix, and reduce interconnection and administrative costs for electricity suppliers".

PG&E is filing this advice letter with the Commission in compliance with the timeline set out in AB 1214, which requires filing no later than March 1, 2004.

Tariff Addition

The attached electric rate schedule NEMFC provides a net energy metering tariff for bundled customers with an eligible fuel cell generating facility with a capacity of one (1) megawatt or less:

a) which uses technology that meets the definition of an "ultra-clean and low-emission distributed generation as defined in subdivision (a) of Section 353.2,

b) that is located on or adjacent to the customer's owned, leased, or rented premises, is interconnected and operates in parallel with the electric grid, and is sized to offset part or all of the eligible fuel cell customer-generator's own electrical requirements; and

c) that is the recipient of local, state, or federal funds, or who self-finances projects designed to encourage the development of eligible fuel cell electrical generating facilities.

Schedule NEMFC will be offered until the total cumulative rated generating capacity used by eligible PG&E fuel cell customer-generators equals 45 megawatts (mW), or until January 1, 2006, (unless extended by legislation), whichever comes first.

Consistent with California Public Utilities Code Section 2827.10, the definition of "net energy metering" and the "net metering calculation" are carried out in accordance with Public Utilities Code Section 2827.9 (the net metering statute for biogas digester customer-generators).[1] Accordingly, a customer served under Schedule NEMFC is required to select a time-of-use (TOU) otherwise applicable rate schedule (OAS). Each month the customer is billed for all non-energy charges in accordance with the OAS. Energy charges are billed at the end of 12 monthly billing cycles or at service termination (the Relevant Period). In order to determine energy charges and credits, the customer's TOU meter(s) must separately register total electricity supplied by PG&E and total electricity fed back into PG&E's distribution system. Each month, for each TOU period, credits for net consumption and net generation are calculated based on the generation rate component of the energy charge of the customer's OAS. (Surcharges, if any, are not to be included in the generation component used to calculate credits.) All other charges for energy, other than generation, are calculated under the OAS based on the customer's total consumption for the month.[2]

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[1] Unlike Rate Schedule E-BIO, there is no dairy account aggregation feature included in Rate Schedule NEMFC.

[2] Issues regarding departed load charges are currently before the Commission in Advice Letter 2375-E and 2375-E-A. While still pending, PG&E anticipates that customers served under Rate

At the end of the Relevant Period all the generation charges, eligible generation credits and other total charges, are added together and the customer is billed accordingly. In addition, as part of this annual reconciliation, the total amount of the energy supplied by PG&E is compared with the total energy fed back to PG&E's distribution system. If the total energy supplied by PG&E is greater than the energy fed back, the customer is a Fuel Cell Net Consumer; otherwise the customer is a Fuel Cell Net Producer.

For Fuel Cell Net Producers, an averaging process is used to calculate the customer's credit at the time of the annual reconciliation. PG&E totals all of the customer's monthly credits, and divides this amount by the total number of kilowatt-hours (kWh) the customer delivered to the grid. This resulting average per kWh price is then multiplied by the total number of kWh the customer consumed in order to calculate the customer's total eligible credit for the annual reconciliation period ("year"). This may result in a credit that is less than the total generation charges paid for the year. Also, regardless of whether a customer is a Net Producer or a Net Consumer, the total credit for the year may not exceed the total generation charges paid for the year.

Public Utilities Code Section 2827.10 does not include a specific provision providing for dairy account aggregation, so this feature is not included in the NEMFC tariff.

Also, NEMFC applicants with facilities which, at the time of installation, "are located in a community with significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, or both, based on the ambient air quality standards established pursuant to Section 39607 of the Health and Safety Code", and who are seeking preference for NEMFC eligibility will file with the CPUC to 1) establish that their facilities are located in such a community, and 2) determine how such preference shall be implemented. The tariff provides that in no event shall the cumulative rated generating capacity served by PG&E under this schedule exceed 45 mW.

This filing will not increase any rate or charge, cause the withdrawal of service, or conflict with any other rate schedule or rule.

Protests

Anyone wishing to protest this filing may do so by sending a letter by **March 21, 2004**, which is 20 days from the date of this filing. The protest must state the grounds upon which it is based, including such items as financial and service impact, and should be submitted expeditiously. Protests should be mailed to:

Schedule NEMFC would be treated the same as customers taking service under Rate Schedule E-BIO.

IMC Branch Chief – Energy Division
California Public Utilities Commission
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102
Facsimile: (415) 703-2200
E-mail: jjr@cpuc.ca.gov

Protests also should be sent by e-mail and facsimile to Mr. Jerry Royer, Energy Division, as shown above, and by U.S. mail to Mr. Royer at the above address.

The protest should be sent via both e-mail and facsimile to PG&E on the same date it is mailed or delivered to the Commission at the address shown below.

Pacific Gas and Electric Company
Attention: Brian Cherry
Director, Regulatory Relations
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, California 94177
Facsimile: (415) 973-7226
E-mail: RxDd@pge.com

Effective Date

In accordance with General Order 96-A, PG&E requests that this advice filing become effective on **April 9, 2004,** which is 40-days from the date of filing.

Notice

In accordance with General Order 96-A, Section III, Paragraph G, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list, and the service list parties for Rulemaking (R.) 99-10-025. Address changes should be directed to Sandra Ciach at (415) 973-7572. Advice letter filings can also be accessed electronically at:

http://www.pge.com/tariffs/

Karen D. Tomcala/SZ
Vice President - Regulatory Relations

Attachments

cc: Service List R. 99-10-025

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
21479-E	Electric Rate Schedule NEMFC – Net Energy Metering Service for Fuel Cell Customer-Generators	New
21480-E	Electric Rate Schedule NEMFC (Continued)	New
21481-E	Electric Rate Schedule NEMFC (Continued)	New
21482-E	Electric Rate Schedule NEMFC (Continued)	New
21483-E	Electric Rate Schedule NEMFC (Continued)	New
21484-E	Sample Form – Generating Facility Interconnection Application Form (Form 79-974)	20855-E
21485-E	Sample Form – Interconnection Agreement for Net Energy Metering of Fuel Cell Generating Facilities (Form 79-1010)	New
21486-E	Table of Contents – Sample Forms (Continued)	20856,20473-E
21487-E	Table of Contents – Sample Forms (Continued)	20472-E
21488-E	Table of Contents – Rate Schedules (Continued)	21106, 20829-E
21489-E	Table of Contents	21107-E

SCHEDULE NEMFC—NET ENERGY METERING SERVICE FOR FUEL CELL CUSTOMER-GENERATORS

APPLICABILITY: This schedule is applicable to Bundled Service Customers who are served under a Time-of-Use (TOU) rate schedule, and who (1) interconnect and operate in parallel with PG&E's electrical system an Eligible Fuel Cell Electrical Generating Facility, as defined in Special Condition 5.a below pursuant to California Public Utilities Code Section 2827.10 (PU Code Section 2827.10), with a generating capacity no greater than 1,000 kW, located on or adjacent to the customers' owned, leased or rented premises as the sole source of customer generation, is interconnected and operates in parallel with PG&E grid while the grid is operational, and is sized to offset part or all of the Customers' electrical requirements, (2) are the recipient of local, state, or federal funds, or who self-finance projects designed to encourage the development of Eligible Fuel Cell Electrical Generating Facilities, and (3) use technology that meets the definition of an "ultra-clean and low-emission distributed generation," pursuant to California Public Utilities Code Section 353.2 (PU Code Section 353.2). Such a customer will be referred to hereafter as a "Fuel Cell Customer-Generator." Customers eligible for service under this schedule are exempt from any new or additional charges not included in their Otherwise Applicable Schedule (OAS). (N)

Pursuant to PU Code Section 2827.10, this schedule is available on a first-come, first-serve basis and will be closed to new customers once 45 MW of cumulative rated generating capacity is served under this schedule.

Customers seeking preference for eligibility under this rate shall file an application with the CPUC to establish that their facilities are located in a community with significant exposure to air contaminants, or localized air contaminants, or both, including but not limited to communities of minority populations or low-income populations, or both, based on the ambient air quality standards established pursuant to Section 39607 of Health and Safety Code. The CPUC shall determine how such preference shall be implemented. In no event shall such an application, if granted, cause the cumulative rated generating capacity served by PG&E under this schedule to exceed 45 MW.

A customer's NEMFC account is not eligible for service under Schedule E-NET.

NEMFC will expire on January 1, 2006, unless extended by legislation.

TERRITORY: The entire territory served.

RATES: Only the Generation Rate Component of the Fuel Cell Customer-Generator's OAS, without generation surcharges such as those from Schedule E-EPS, if any, shall be used in the calculation of credits when the Fuel Cell Customer-Generator is a net energy producer, on a monthly basis, for any TOU period. Only the Generation Rate Component of the Fuel Cell Customer-Generator's OAS, including any and all generation surcharges, if any, shall be used to calculate the charge for generation when the Fuel Cell Customer-Generator is a Net Energy consumer on a monthly basis, for any TOU period. All other charges, including but not limited to, Transmission Charges, Distribution Charges, Monthly Customer Charges, Minimum Charges, Demand Charges, and non-energy related charges, shall be calculated according to the Fuel Cell Customer-Generator's OAS prior to the netting of energy supplied or produced, for all energy supplied. (N)

(Continued)

SCHEDULE NEMFC—NET ENERGY METERING SERVICE FOR FUEL CELL CUSTOMER-GENERATORS
(Continued)

SPECIAL CONDITIONS:

1. REQUIRED CONTRACT: A *Generating Facility Interconnection Application* (Form 79-974) and an *Interconnection Agreement for Net Energy Metering of Fuel Cell Generating Facilities* (Form 79-1010) are required for service under this Schedule. (N)

2. METERING:

   a. Fuel cell Net Energy metering shall be accomplished using a TOU meter capable of separately registering the flow of electricity in two directions. If the Fuel Cell Customer-Generator's existing meter is not capable of separately measuring the flow of electricity in two directions, the Fuel Cell Customer-Generator shall be responsible for all expenses involved in purchasing and installing a meter that is able to separately measure electricity flow in two directions. If dual metering is installed, the Net Energy metering calculation shall yield a result identical to that of a single meter capable of separately measuring the flow of electricity in two directions.

   b. If none of the normal metering options at PG&E's disposal that are necessary to render accurate billing are acceptable to the Fuel Cell Customer-Generator, PG&E shall have the right to refuse service under this rate schedule.

3. BILLING: Fuel Cell Customer-Generator will be billed monthly for all charges other than Generation Rate Component. Then, at the end of each Relevant Period, as defined in 5.d, following the Date of Final Interconnection, PG&E shall proceed as follows:

   a. PG&E will complete an Annual Reconciliation per Section 5.f.

   b. Any remaining Generation credit greater than the Eligible Generation Credit calculated per Section 5.g will be zeroed out and the Fuel Cell Customer-Generator shall not be entitled to compensation for such credit, and a new Relevant Period shall commence.

   c. With each monthly billing statement, PG&E shall provide the Fuel Cell Customer-Generator with information regarding gross energy (kWh) consumption and net energy (kWh) consumption/production. (N)

(Continued)

SCHEDULE NEMFC—NET ENERGY METERING SERVICE FOR FUEL CELL CUSTOMER-GENERATORS
(Continued)

SPECIAL CONDITIONS: (Cont'd.)

4. STANDBY CHARGES: Consistent with electric Rate Schedule S – *Standby Service*, to the extent that charges for transmission and distribution services are recovered through demand charges in any billing period, no standby charges shall apply in that monthly billing cycle. (N)

5. DEFINITIONS: The following definitions are applicable to service provided under this Schedule.

   a. ELIGIBLE FUEL CELL ELECTRICAL GENERATING FACILITY: A Generating Facility used to produce electricity by a fuel cell, that meets 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 Public Utilities Commission regarding safety and reliability. In addition, the Generating Facility must include the following:

      1) Integrated powerplant systems containing a stack, tubular array, or other functionally similar configuration used to electrochemically convert fuel to electric energy,

      2) An inverter and fuel processing system where necessary, and

      3) Other plant equipment, including heat recovery equipment necessary to support the plant's operation or its energy conversion.

   b. DATE OF FINAL INTERCONNECTION: The date PG&E provides the Fuel Cell Customer-Generator with PG&E's written approval to commence parallel operation of the Eligible Fuel Cell Electrical Generating Facility and commences service under Schedule NEMFC.

   c. OTHERWISE APPLICABLE SCHEDULE (OAS): The Fuel Cell Customer-Generator's regularly filed TOU rate schedule under which service is rendered.

   d. RELEVANT PERIOD: Twelve monthly billing cycles commencing on the anniversary Date of Final Interconnection or pursuant to Special Condition 3b, or a portion thereof in the event service under this tariff terminates.

   e. ELIGIBLE METERED SERVICE ACCOUNT: A TOU metered service account serving an Eligible Fuel Cell Electrical Generating Facility. (N)

(Continued)

SCHEDULE NEMFC—NET ENERGY METERING SERVICE FOR FUEL CELL CUSTOMER-GENERATORS
(Continued)

SPECIAL CONDITIONS: (Cont'd.)

5. DEFINITIONS: (Cont'd) (N)

f. ANNUAL RECONCILIATION: PG&E will total all the electricity (kWh) supplied by PG&E to the Fuel Cell Customer-Generator and all the electricity (kWh) fed back to the PG&E Distribution System by the Fuel Cell Customer-Generator during the Relevant Period. If the total electricity supplied by PG&E is greater than the total of electricity fed back to the PG&E Distribution System, then the Fuel Cell Customer-Generator is a Fuel Cell Net Consumer. Otherwise, the Fuel Cell Customer is a Fuel Cell Net Producer.

As Part of the Annual Reconciliation, Fuel Cell Net Consumers and Fuel Cell Net Producers will receive a bill for energy usage that totals 1) all generation charges; 2) all Eligible Generation Credits; and 3) all other charges, due in that billing cycle.

The balance of all moneys owed by Fuel Cell Net Consumers and Fuel Cell Net Producers shall be paid in accordance with PG&E's tariff schedules. (N)

SCHEDULE NEMFC—NET ENERGY METERING SERVICE FOR FUEL CELL CUSTOMER-GENERATORS
(Continued)

SPECIAL CONDITIONS: (Cont'd.)

5. DEFINITIONS: (Cont'd) (N)

g. ELIGIBLE GENERATION CREDIT: The Eligible Generation Credit for Fuel Cell Net Consumers equals the lesser of (1) all net generation charges for the Relevant Period; or (2) the absolute value of all net generation credits for the Relevant Period.

For Fuel Cell Net Producers, generation credits for kWh in excess of total kWh consumed, are not Eligible Generation Credits. To calculate the Eligible Generation Credit for a Fuel Cell Net Producer, PG&E will, as part of the Annual Reconciliation, (1) determine the average credit for energy (per kWh) produced by taking the total credit calculated for generation delivered to PG&E's Distribution System by the Fuel Cell Net Producer and dividing by the total kWh delivered to the Distribution System during the Relevant Period; and (2) multiply this amount by the total energy (kWh) consumed by the Fuel Cell Net Producer over the corresponding period. This Eligible Generation Credit shall be no greater than the total of all net generation charges for the Relevant Period. Any credit for excess energy (kWh) will be retained by PG&E and Fuel Cell Net Producer will not be owed any compensation for this excess energy.

h. NET ENERGY: The difference between the electricity (kWh) supplied by PG&E to the Fuel Cell Customer-Generator, and the electricity (kWh) generated by the Fuel Cell Customer-Generator and fed back into PG&E's Distribution System, measured over a given period.

i. GENERATION RATE COMPONENT: The generation rate component of the energy charge of the Fuel Cell Customer-Generator's OAS. (N)

PACIFIC GAS AND ELECTRIC COMPANY

GENERATING FACILITY INTERCONNECTION APPLICATION
FORM NO. 79-974 (03/04) (T)
(ATTACHED)

Pacific Gas and Electric Company

GENERATING FACILITY INTERCONNECTION APPLICATION

Part 1 – Introduction and Overview

A. **Applicability:** This Generating Facility Interconnection Application (Application) may be used to request the interconnection of a Generating Facility to Pacific Gas and Electric Company's (PG&E's) Distribution System (over which the California Public Utilities Commission (CPUC) has jurisdiction). Refer to PG&E's Electric 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 Electric 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 the Customer's electric service requirements that would otherwise be served by PG&E, including "distributed" generation, "cogeneration," emergency, backup, and standby generation, and Net Energy Metered wind, solar, biogas or fuel cell Generating Facilities. A simpler, shorter form is also available from PG&E for most solar and/or wind Net Energy Metered Generating Facilities (Form Number 79-994. This form is available upon request by telephoning 415-972-5676 or on PG&E's website at http://www.pge.com/gen). For Customers applying for PG&E's Self Generation Incentive Program, a separate application is required and can be obtained at PG&E's website at http://www.PGE.com/selfgen. While Customers or Producers operating isolated Generating Facilities are not obligated to enter into an Interconnection Agreement with PG&E, some parts of this Application will need to be completed even for Generating Facilities that will always be isolated from PG&E's Distribution System. Completing this application will satisfy PG&E's notice requirements for operating an isolated Generating Facility.

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 (CAISO). Such transactions are subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC) and require a different application available from PG&E.

B. **Guidelines and Steps for Interconnection:** This Application must be completed and sent to PG&E along with the additional information indicated below to initiate PG&E's review and authorization to operate the proposed Generating Facility in parallel with PG&E's Distribution System. An application fee of $800 (payable by check or money order to PG&E) must accompany most Applications. Exceptions to this fee requirement include Applications used for isolated Generating Facilities, Solar Generating Facilities up to 1 MW that do not export power, and Net Energy Metered Generating Facilities. Additional fees and charges may also apply for large and/or more complex Generating Facility Interconnections; see PG&E's Electric Rule 21 Section C.1 (b) and (c).

This document is only an application. Upon acceptance, PG&E will prepare an Interconnection Agreement for execution by PG&E and 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 any related Interconnection Facilities prior to giving the Producer written authorization for Parallel Operation. **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 the Producer 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 for Parallel Operation does not satisfy the need for an Applicant to acquire such other approvals.

C. **Required Documents:** Four copies of this Application and each of the following documents are required to be submitted. Drawings must conform to accepted engineering standards and must be legible. 11"x17" drawings 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.
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.
3. If **transformers** are used to interconnect the Generating Facility with PG&E 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's 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, please 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.

D. **Mailing Instructions, Assistance:** When this application has been completed it may be printed and mailed, along with the required attachments to:

Pacific Gas and Electric Company
Attention: Generation Interconnection Services
Mail Code B13M
P.O. Box 770000
San Francisco, California 94177

Alternatively, you may contact PG&E at [(415) 972-5676] or [gen@pge.com] and make arrangements to e-mail or fax copies of the required information with payment of the required fees to follow. If you have questions or need assistance in completing this application, please call [(415) 972-5676].

Project Name:	*Date Received:*	*Generating Facility ID:*

(For PG&E Use Only)

Part 2 – Identifying the Generating Facility's Location and Responsible Parties

A. Host Customer Facility Information (Where will the Generating Facility be installed?)

Name shown on PG&E service account	Electric Account Number	Meter Number

NOTE: If available, please also submit a copy of the host Customer facility's utility bill.

Street Address	City	State	Zip

B. Contact Information (Who should be contacted for additional information, if necessary?)

Contact Person	Company Name

Phone	Fax	Email

Mailing Address	City	State	Zip

Backup Contact Person (Optional)	Company Name

Phone	Fax	Email

Mailing Address	City	State	Zip

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

Part 3 – Describing the Generating Facility and Host Customer's Electrical Facilities

A (MP&I)	Indicate how this Generating Facility will interface with PG&E's Distribution System.	1 2 3 (Choose one)

Instructions and Notes

Choose from the following three interface 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, referred to as Type 1
2. **Momentary Parallel Operation:** 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 switches or circuit breakers specifically designed and engineered for such operation, referred to as Type 2.
3. **Isolated Operation:** 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, referred to as Type 3.

If the answer is 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 option 2, "momentary parallel operation," only questions A, E and F of this Part 3 and questions A, B, E, F, I, L, M, N, and S of Part 4 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 option 3, "Isolated Operation," only questions A, E, and F of this Part 3 and questions A, B, F, and S of Part 4 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	If the Answer to Question A was option 1, please indicate the type of agreement that is being requested with this Application. If options 2 or 3 were selected, please skip to questions E and F. If options 2, 3, or 4 to this question B are chosen, please provide an estimate of the monthly kWh the Generating Facility is expected to deliver to PG&E's Distribution System. If PG&E determines that the amount of power to be exported is significant in relation to the capacity available on its Distribution System, it may request additional information, including time of delivery or seasonal kWh estimates.	1 2 3 4 (Choose one) _____ KWh

Instructions and Notes

Sample agreements are available from PG&E for review. Choose from the following four agreement options:

1. **A Generating Facility Interconnection Agreement** that provides for parallel or momentary parallel operation of the Generating Facility, but does not provide for exporting power to PG&E's Distribution System.
2. **A Generating Facility Interconnection Agreement** that provides for parallel operation of the Generating Facility, and the occasional, inadvertent, non-compensated, export of power to PG&E's Distribution System. (This type of Agreement has not yet been developed by PG&E or approved by the CPUC. Check with PG&E for availability.)
3. **A "Qualifying Facility" Power Purchase Agreement** that provides for parallel operation of the Generating Facility, and exporting power to PG&E's Distribution System for sale to PG&E. This option is available only to "Qualifying Facilities" with a total Nameplate Capacity of 100 kW or less. See Question F for the definition of a Qualifying Facility. (This type of Agreement has not yet been developed by PG&E or approved by the CPUC. Check with PG&E for availability.)
4. **A Net Energy Metering Agreement** that provides for parallel operation of the Generating Facility, and exporting power to PG&E's Distribution System for credit under the terms of PG&E's Net Energy Metering Tariff. This option is available only to solar, wind, biogas and fuel cell powered Generating Facilities per the terms of Sections 2827, 2827.9 and 2827.10 of the California Public Utilities Code.

C	If the answer to question B was option 1, please indicate the option that will be used to prevent energy from being exported to PG&E's Distribution System. If option 3 to this question C is selected, please provide the continuous current rating of the host Customer facility's service entrance equipment (service panel size): If option 4 to this question C is selected, please provide the minimum load of the host Customer facility:	1 2 3 4 (Choose one) _____ Amps _____ KW

Instructions and Notes

Refer to PG&E's Electric Rule 21, Section I. 4. 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 outflow 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 at the PCC 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's interface 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 (Main Panel size) that is used by the host Customer facility must be stated in the space provided above.
4. The nameplate rating of the Generating Facility will not exceed 50% of the host Customer facility's minimum electrical load. 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.

D	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.) Please indicate the short circuit interrupting rating of the host Customer facility's service entrance ("main") panel:	_____ Amps _____ Amps

Instructions and Notes

Refer to PG&E's Electric Rule 21, Section D. 3. a. (2) and Section I. 9. 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 cable runs 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. However, if the design of the proposed installation will limit 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.*

E (MP&I)	Please indicate the mode of operation of this Generating Facility.	1 2 3 4 5 (Please choose all options that may apply.)

Instructions and Notes

Choose from the following five 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 that 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 tariff. For Solar and/or wind Net Energy Metering applicants other than residential or small commercial customers installing generators 10kW or less, a supplemental application (Form Number 79-998) is also required.

F (MP&I)	Please indicate if Qualifying Facility Status will be obtained from the FERC for this Generating Facility.	Yes No

Instructions and Notes

Parties operating Generating Facilities complying with all of the requirements for qualification as either a small power production facility or cogeneration facility pursuant to the regulations of the Federal Energy Regulatory Commission (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, Qualifying Facilities 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. QF facilities enjoy certain rights and privileges not available to non-QF Generating Facilities.

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

Part 4 – Describe each of the Generators (see Instructions). Use additional sheets, if necessary.

	Generator Information	Generator(s) Type 1 interconnected for parallel operation	Generator(s) Type 2 interconnected for momentary parallel operation	Generator(s) Type 3 interconnected for isolated operation	Totals For All Generators
#	Please indicate the quantity of each "type" of Generator being installed				
A (MP&I)	Generator/Inverter Manufacturer (Name)				
B (MP&I)	Generator/Inverter Model (Name/Number)				
C	Generator/Inverter Software Version (Number)				
D	Is the Generator Certified by a Nationally Recognized Testing Laboratory (NRTL) according to Rule 21?	Yes No	Yes No	Yes No	
E (MP)	Generator Design (Choose One)	Synchronous Induction Inverter	Synchronous Induction Inverter	Synchronous Induction Inverter	
F (MP&I)	Gross Nameplate Rating (kVA)				
G	Gross Nameplate Rating (kW)				
H	Net Nameplate Rating (kW)				
I (MP)	Operating Voltage (Volts or kV)				
J	Power Factor Rating (%)				
K	PF Adjustment Range (%)	Min. _____ Max. _____	Min. _____ Max. _____	Min. _____ Max. _____	
L (MP)	Wiring Configuration (Choose One)	Single-Phase Three-Phase	Single-Phase Three-Phase	Single-Phase Three-Phase	

Part 4 Cont. – Describe each of the Generators (see Instructions). *Use additional sheets, if necessary.*

	Generator Information	Type 1	Type 2	Type 3
M (MP)	3-Phase Winding Configuration (Choose One)	3 Wire Delta 3 Wire Wye 4 Wire Wye	3 Wire Delta 3 Wire Wye 4 Wire Wye	3 Wire Delta 3 Wire Wye 4 Wire Wye
N (MP)	Neutral Grounding System Used (Choose One)	Ungrounded Solidly Grounded Ground Resistor _____ Ohms	Ungrounded Solidly Grounded Ground Resistor _____ Ohms	Ungrounded Solidly Grounded Ground Resistor _____ Ohms
O	*For Synchronous Generators Only:* Synchronous Reactance: Transient Reactance: Subtransient Reactance:	 _____ (Xd %) _____(X'd %) _____(X"d %)	 _____ (Xd %) _____(X'd %) _____(X"d %)	 _____ (Xd %) _____(X'd %) _____(X"d %)
P	*For Induction Generators Only:* Locked Rotor Current: *OR* *Stator Resistance:* Stator Leakage Reactance: Rotor Resistance: Rotor Leakage Reactance:	 _____ (Amps) _____(%) _____(%) _____(%) _____(%)	 _____ (Amps) _____(%) _____(%) _____(%) _____(%)	 _____ (Amps) _____(%) _____(%) _____(%) _____(%)
Q	Short Circuit Current Produced by Generator:	_____ (Amps)	_____ (Amps)	_____ (Amps)
R	*For Generators that are Started as a "Motor" Only* 1. In-Rush Current: 2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating:	 _____ (Amps) _____ (Amps)	 _____ (Amps) _____ (Amps)	 _____ (Amps) _____ (Amps))

Part 4 Cont. – Describe each of the Generators (see Instructions). Use additional sheets, if necessary.

	Generator Information	Type 1	Type 2	Type 3
S (MP&I)	Prime Mover: (Choose 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

Instructions for Part 4 – Describing the Generators

	Generator Information	Instructions and Comments
#	Please indicate the quantity 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 Electric Rule 21, Section J for additional information regarding Generator certification.
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. When the generator is connected in parallel via an inverter, the Gross Nameplate Rating is the smaller of either a) the total nameplate rating for the generator(s) interconnected through the inverter or b) the inverter nameplate rating times the inverter efficiency.

Instructions for Part 4 – Describing the Generators – Continued

	Generator Information	Instructions and Comments
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 installation. Please indicate phase-to-phase voltages for 3-phase installations. See PG&E's Electric Rule 21, Section D. 2. a. 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 Electric Rule 21, Section D. 2. f. for additional information.
K	Power Factor Adjustment Range	Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values. See PG&E's Electric Rule 21, Section D. 2. f. for additional information.
L	Wiring Configuration	Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Electric Rule 21, Section D. 3. a. (1) for additional information.
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.
O	*For Synchronous Generators Only:*	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 to be input 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	*For Induction Generators Only:*	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.

Instructions for Part 4 – Describing the Generators - Continued

	Generator Information	Instructions and Comments
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	*For Generators that are Started as a "Motor" Only:* 1. In-Rush Current 2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating	This information is needed only for Generators that are started by "motoring" the generator. Refer to PG&E's Electric Rule 21, Section I. 7. for significance and additional information. If this question was answered in Part 3, question C of this Application, it need not be answered here.
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/Propane Fueled 2 = Internal Combustion Engine – Diesel Fueled 3 = Internal Combustion Engine – Other Fuel 4 = Microturbine (< 250 kW) – Natural Gas/Propane Fueled 5 = Microturbine – Other Fuel 6 = Combustion Turbine (> 250 kW) Natural Gas/Propane Fueled 7 = Combustion Turbine – Other Fuel 8 = Steam Turbine 9 = Photovoltaic Panels 10 = Solar-thermal engine 11 = Fuel Cell – Natural Gas/Propane Fueled 12 = Fuel Cell – Other Fuel 13 = Hydroelectric Turbine 14 = Wind Turbine 15 = Other (please describe)

PACIFIC GAS AND ELECTRIC COMPANY (N)
|
INTERCONNECTION AGREEMENT FOR NET ENERGY METERING |
OF FUEL CELL GENERATING FACILITIES |
FORM NO. 79-1010 (03/04) |
(ATTACHED) (N)

Pacific Gas and Electric Company

WE DELIVER ENERGY.SM

This "Interconnection Agreement for Net Energy Metering of Fuel Cell Generating Facilities" ("Agreement") is entered into by and between _____("Fuel Cell Customer-Generator"), and Pacific Gas and Electric Company ("PG&E"), a California Corporation. Fuel Cell 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 Fuel Cell Customer-Generator to interconnect and operate an Eligible Fuel Cell Electrical 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 Fuel Cell Customer-Generator's Generating Facility. Fuel Cell Customer-Generator's Generating Facility is intended primarily to offset part or all of the Fuel Cell Customer-Generator's own electrical requirements. Consistent with, and in order to effectuate, the provisions of Section 2827.10 of the California Public Utilities Code and PG&E's electric rate Schedule NEMFC ("NEMFC"), Parties enter into this Agreement. This Agreement applies to the Fuel Cell 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 FUEL CELL 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 Fuel Cell Customer-Generator's Eligible Fuel Cell Electrical Generating Facility and loads are interconnected with PG&E's Distribution System, are attached to, and made a part of this Agreement. (This description is supplied by Fuel Cell Customer-Generator as Appendix A).

2.2 Generating Facility identification number: _____ (Assigned by PG&E)

2.3 Fuel Cell Customer-Generator'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 Eligible Fuel Cell Electrical 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 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.

2.9 Fuel Cell Customer-Generator's otherwise-applicable-rate schedule as of the execution of this Agreement is _____.

3. DOCUMENTS INCLUDED; 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 Fuel Cell Customer-Generator)

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, (Formed by the Parties).

Appendix C Fuel Cell Customer-Generator's warranty that it meets the Requirements of an Eligible Fuel Cell Customer-Generator.

In addition PG&E Electric Tariff Rules and Rates, including but not limited to Electric Rules 2, 14, 15, 16, and 21, Schedule NEMFC and Fuel Cell Customer-Generator's otherwise applicable rate schedule, available at PG&E's web-site at 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 Rule 21, Section H, or in Schedule NEMFC

4. CUSTOMER BILLING AND PAYMENT OPTIONS

Fuel Cell Customer-Generator initially selects PG&E's electric rate schedule referenced in Section 2.9 of this Agreement as its otherwise-applicable rate schedule. Fuel Cell Customer-Generator understands that they will be billed according to Schedule NEMFC.

5. TERM AND TERMINATION

5.1 This Agreement shall become effective as of the last date entered in Section 18, below, which shall be no later than 12/31/05. 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 Fuel Cell Customer-Generator's Generating Facility is interconnected to PG&E's Distribution System is closed or terminated.

(c) At 12:01 A.M. on the 61st day after Fuel Cell Customer-Generator or PG&E provides written Notice pursuant to Section 11 below to the other Party of Fuel Cell Customer-Generator's or PG&E's intent to terminate this Agreement.

5.2 Fuel Cell 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, 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,

(b) Fuel Cell Customer-Generator fails to take all corrective actions specified in PG&E's Notice that Fuel Cell 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) Fuel Cell Customer-Generator fails to interconnect and operate the Generating Facility per the terms of this Agreement prior to January 1, 2006; or,

(d) Fuel Cell 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 non-operational and Fuel Cell Customer-Generator does not provide a substantive response to PG&E's Notice of its intent to terminate this Agreement as a result of Fuel Cell Customer-Generator's apparent abandonment of the Generating Facility affirming Fuel Cell Customer-Generator's intent and ability to continue to operate the Generating Facility; or,

(e) Fuel Cell Customer-Generators 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 Fuel Cell Customer-Generator's generator 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 Public Utilities Commission regarding safety and reliability.

6.2 Fuel Cell Customer-Generator shall: (a) maintain the 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 Facility and interconnection facilities. Fuel Cell Customer-Generator shall reimburse PG&E for any and all losses, damages, claims, penalties, or liability it incurs as a result of Fuel Cell Customer-Generator's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of Fuel Cell Customer-Generator's Facility.

6.3 Fuel Cell Customer-Generator shall not commence parallel operation of the Facility until PG&E has provided written approval to the Fuel Cell Customer-Generator to do so. No such approval shall be provided until at least ten (10) working days following the utility's receipt of the inspection clearance of the governmental authority having jurisdiction. Such approval shall not be unreasonably withheld. PG&E shall have the right to have representatives present at the initial testing of Fuel Cell Customer-Generator's protective apparatus. Fuel Cell Customer-Generator shall notify the utility five (5) working days prior to the initial testing.

6.4 The Fuel Cell Customer-Generator warrants that they are the recipient of local, state, or federal funds; or they self-finance pilot projects designed to encourage the development of eligible Fuel Cell electrical generating facilities.

6.5 The Fuel Cell Customer-Generator warrants that pursuant to section 2827.10 (a)(2), of the California Public Utilities Code, it meets the definition of an "Eligible fuel cell electrical generating facility" and its facility includes the following:

(a) Integrated power plant systems containing a stack, tubular array, or other functionally similar configuration used to electrochemically convert fuel to electric energy.

(b) An inverter and fuel processing system where necessary.

(c) Other plant equipment, including heat recovery equipment, necessary to support the plant's operation or its energy conversion.

7. INTERCONNECTION FACILITIES

7.1 Fuel Cell 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 Fuel Cell Customer-Generator's Generating Facility.

7.2 Fuel Cell Customer-Generator shall be solely responsible for the costs, design, purchase, construction, operation, and maintenance of the Interconnection Facilities that Fuel Cell 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, requires PG&E to own and operate a portion of the Interconnection Facilities, Fuel Cell Customer-Generator and PG&E shall promptly execute an 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

9.1 In connection with Customer-Generator's performance of its duties and obligations under this Agreement, Customer-Generator 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 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."

9.2 The general liability insurance required in this Section 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.

9.3 If Fuel Cell Customer-Generator's Generating Facility is connected to an account receiving residential service from PG&E and the requirement of Section 9.2(a) prevents Fuel Cell Customer-Generator from obtaining the insurance required in this Section, then upon Fuel Cell Customer-Generator's written Notice to PG&E in accordance with Section 11.1, the requirements of Section 9.2(a) shall be waived.

9.4 Evidence of the insurance required in Section 9.2 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.

9.5 Fuel Cell Customer-Generator 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.

9.6 If Fuel Cell Customer-Generator is self-insured with an established record of self-insurance, Fuel Cell Customer-Generator may comply with the following in lieu of Section 9.2:

(a) Fuel Cell Customer-Generator 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 9.1.

(b) If Fuel Cell Customer-Generator ceases to self-insure to the level required hereunder, or if Fuel Cell Customer-Generator is unable to provide continuing evidence of Fuel Cell Customer-Generator's ability to self-insure, Fuel Cell Customer-Generator agrees to immediately obtain the coverage required under Section 9.1.

9.7 All insurance certificates, statements of self insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to the following:

Pacific Gas and Electric Company
Attn: Manager, Generation Interconnection Services.
PO Box 770000
Mail Code B13J
San Francisco, California 94177

10 INDEMNITY FOR FAILURE TO COMPLY WITH INSURANCE PROVISIONS

10.1 If Fuel Cell Customer-Generator fails to comply with the insurance provisions of this Agreement, Fuel Cell 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 Fuel Cell 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 Fuel Cell 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: Business Customer Services
P.O. Box 770000
Mail Code B8C
San Francisco, California 94177
Phone: (800) 468-4743
FAX: (415) 972-5309

If to Fuel Cell Customer-Generator:

Fuel Cell 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 Fuel Cell Customer-

Generator's operations and maintenance records, logs, or other information such as, Generation Unit availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Fuel Cell Customer-Generator's Generating Facility or its interconnection with PG&E's Distribution System.

12.2 Fuel Cell Customer-Generator authorizes to release to the California Energy Commission (CEC) information regarding Fuel Cell Customer-Generator'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.

13. ASSIGNMENT

Fuel Cell 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 Fuel Cell Customer-Generator makes without PG&E's written consent shall not be valid. PG&E shall not unreasonably withhold its consent to Fuel Cell 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.

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 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.

FUEL CELL CUSTOMER-GENERATOR'S NAME		PACIFIC GAS AND ELECTRIC COMPANY	
By:	_____	By:	_____
Name	_____	Name:	_____
Title:	_____	Title:	Manager, Generation Interconnection Srvcs
Date:	_____	Date:	_____

APPENDIX A
DESCRIPTION OF GENERATING FACILITY
AND SINGLE-LINE DIAGRAM,
(Provided by Fuel Cell Customer-Generator)

APPENDIX B
(If Applicable)
RULE 21 "SPECIAL FACILITIES" AGREEMENT
(Formed between the Parties)

APPENDIX C

FUEL CELL CUSTOMER-GENERATOR'S WARRANTY THAT IT MEETS THE REQUIREMENTS FOR AN ELIGIBLE FUEL CELL CUSTOMER-GENERATOR AND THE GENERATING FACILITY IS AN ELIGIBLE FUEL CELL ELECTRICAL GENERATING FACILITY PURSUANT TO SECTION 2827.10 OF THE CALIFORNIA PUBLIC UTILITIES CODE

Fuel Cell Customer-Generator has declared that it meets the requirements for an Eligible Fuel Cell customer-generator and the Generating Facility meets the requirements of an "Eligible Fuel Cell Electrical Generating Facility", as defined section 2827.10 of the California Public Utilities Code. ("Eligibility Requirements")

Fuel Cell Customer-Generator warrants that, beginning on the date of Initial Operation and continuing throughout the term of this Agreement, Fuel Cell Customer-Generator and the Generating Facility shall continue to meet the Eligibility Requirements. If Fuel Cell Customer-Generator or the Generating Facility ceases to meet the Eligibility Requirements, Fuel Cell 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, in its sole discretion, that Fuel Cell Customer-Generator or Generating Facility may no longer meet the Eligibility Requirements, PG&E may require Fuel Cell Customer-Generator to provide evidence, that Fuel Cell 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 Fuel Cell Customer-Generator to monitor the Generating Facility's compliance with the Eligibility Requirements. If PG&E determines in its sole judgment that Fuel Cell 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 Fuel Cell Customer-Generator a gain demonstrates to PG&E's reasonable satisfaction that Fuel Cell Customer-Generator meets the requirements for an Eligible Fuel Cell customer–generator and/or the Generating Facility meets the requirements for a Eligible Fuel Cell 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 Fuel Cell 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 Fuel Cell Customer-Generator and/or Generating Facility first ceased to meet the Eligibility Requirements. PG&E shall invoice the Fuel Cell 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 Fuel Cell Customer-Generator's representations that Fuel Cell 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 NEMFC, Net Energy Metering Service for NEMFC Customer-Generators.

Any amounts to be paid or refunded by Fuel Cell 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 Fuel Cell Customer-Generator's receipt of such invoice.

Fuel Cell Customer-Generator's Initials _____

TABLE OF CONTENTS—SAMPLE FORMS
(Continued)

FORM NO.	DATE SHOWN ON FORM	AGREEMENT/CONTRACT TITLE	CPUC SHEET NO.	
		RESIDENTIAL		
79-744	10/88	Declaration of Eligibility for Baseline Quantities for Residential RV Parks	10629-E	
79-763		Experimental Residential Dispatchable Peak Time-of-Use Service Letter of Understanding	11647-E	
		NET ENERGY METERING		
79-854	REV 6/01	Interconnection Agreement for Net Energy Metering for Residential and Small Commercial Solar or Wind Electric Generating Facilities of 10 kW or Less	18324-E	
79-978	6/01	Interconnection Agreement for Net Energy Metering of Solar or Wind Electric Generating Facilities 1,000 kW or less, other than Residential or Small Commercial Facilities of 10 kW or less	18318-E	
79-994	7/02	Application for Interconnecting Residential or Small Commercial Net Energy Metering (E-NET) Customers With Solar or Wind Electric Generating Facilities of 10 Kilowatts or less	18970-E	
79-997	6/03	Interconnection Agreement for Net Energy Metering of Qualifying Biogas Digester Generating Facilities	20471-E	
79-998	10/03	Expanded Net Energy Metering (E-NET) Supplemental Application	20854-E	
79-1010	03/04	Interconnection Agreement For Net Energy Metering Of Fuel Cell Generating Facilities	21485-E	(N) (N)

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RATE SCHEDULES

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RATE SCHEDULES

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PG&E Electric Advice Filing List
General Order 96-A, Section III(G)

ABAG Power Pool
Aglet Consumer Alliance
Agnews Developmental Center
Ahmed, Ali
Alcantar & Elsesser
Anderson Donovan & Poole P.C.
Applied Power Technologies
APS Energy Services Co Inc
Arter & Hadden LLP
Avista Corp
Barkovich & Yap, Inc.
BART
Bartle Wells Associates
Blue Ridge Gas
Bohannon Development Co
BP Energy Company
Braun & Associates
C & H Sugar Co.
CA Bldg Industry Association
CA Cotton Ginners & Growers Assoc.
CA League of Food Processors
CA Water Service Group
California Energy Commission
California Farm Bureau Federation
California ISO
Calpine
Calpine Corp
Calpine Gilroy Cogen
Cambridge Energy Research Assoc
Cameron McKenna
Cardinal Cogen
Cellnet Data Systems
Childress, David A.
City of Glendale
City of Healdsburg
City of Palo Alto
City of Redding
CLECA Law Office
Constellation New Energy
CPUC
Creative Technology
Crossborder Inc
CSC Energy Services
Davis, Wright Tremaine LLP
Davis, Wright, Tremaine, LLP
Defense Fuel Support Center
Department of the Army
Department of Water & Power City
Dept of the Air Force
DGS Natural Gas Services
DMM Customer Services
Downey, Brand, Seymour & Rohwer
Duke Energy
Duke Energy North America
Duncan, Virgil E.
Dutcher, John
Dynegy Inc.
Ellison Schneider
Energy Law Group LLP
Enron Energy Services
Exeter Associates
Foster, Wheeler, Martinez
Franciscan Mobilehome
Future Resources Associates, Inc
GLJ Energy Publications
Goodin, MacBride, Squeri, Schlotz &
Grueneich Resource Advocates
Hanna & Morton
Heeg, Peggy A.
Hogan Manufacturing, Inc
House, Lon
Imperial Irrigation District
Integrated Utility Consulting Group
International Power Technology
J. R. Wood, Inc
JTM, Inc
Kaiser Cement Corp
Korea Elec Power Corp
Marcus, David
Masonite Corporation
Matthew V. Brady & Associates
Maynor, Donald H.
McKenzie & Assoc
McKenzie & Associates
Meek, Daniel W.
Mirant California, LLC
Modesto Irrigation Dist
Morrison & Foerster
Morse Richard Weisenmiller & Assoc.
New United Motor Mfg, Inc
Norris & Wong Associates
North Coast Solar Resources
Northern California Power Agency
PG&E National Energy Group
Pinnacle CNG Company
PPL EnergyPlus, LLC
Price, Roy
Product Development Dept
Provost Pritchard
R. M. Hairston & Company
R. W. Beck & Associates
Recon Research
Regional Cogeneration Service
RMC Lonestar
Sacramento Municipal Utility District
SCD Energy Solutions
Seattle City Light
Sempra
Sempra Energy
Sequoia Union HS Dist
SESCO
Sierra Pacific Power Company
Silicon Valley Power
Simpson Paper Company
Smurfit Stone Container Corp
Southern California Edison
SPURR
St. Paul Assoc
Stanford University
Sutherland, Asbill & Brennan
Tabors Caramanis & Associates
Tansev and Associates
Tecogen, Inc
TFS Energy
TJ Cross Engineers
Transwestern Pipeline Co
Turlock Irrigation District
United Cogen Inc.
URM Groups
Utility Cost Management LLC
Utility Resource Network
Wellhead Electric Company
Western Hub Properties, LLC
White & Case
WMA