



**Electric Sample Form No.79-1174-03G**  
Interconnection Application, Attachment G, Fuel Cell Technology

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 7149-E  
*Decision* D.23-11-068

*Issued by*  
**Shilpa Ramaiya**  
*Vice President*  
*Regulatory Proceedings and Rates*

*Submitted* January 22, 2024  
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*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-03)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type” and quantity</b> of Generator being installed.</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p>A - Generator/Inverter Manufacturer</p> <p>Enter the brand name of the Generator.</p>				
<p>B - Generator/Inverter Model</p> <p>Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p>C - Generator/Inverter Software Version</p> <p>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.</p>				
<p>D - Is the Generator/Inverter certified?</p> <p>Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&amp;E’s Rule 21, Section L for additional information regarding Generator certification.</p> <p>For Net Billing Customers all major solar system components shall comply with Electric Rule 21 Section L.2-L.4 and Section L.7</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> Yes  <input type="checkbox"/> No



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Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>E – Anti-Islanding Detection Method</b></p> <p>Please select an Anti-Islanding Detection Method</p> <p>Group 1 – Frequency Shift with continuous positive frequency feedback</p> <p>Group 2A – Frequency Shift with discontinuous or stepped positive frequency feedback</p> <p>Group 2B – Frequency Shift similar to Group 2A except with a dead zone around 60Hz</p> <p>Group 2C – Frequency shift with unidirectional frequency feedback</p> <p>Group 3 – Monitors change of impedance</p> <p>Group 4 – Monitors shift at a harmonic frequency (multiple of the fundamental)</p> <p>Group 5 – Passive methods like rate of change of frequency, vector shift</p> <p>Group 6 – Produces negative sequence current and monitor voltage</p>	<p>Group 1 ____</p> <p>Group 2A ____</p> <p>Group 2B ____</p> <p>Group 2C ____</p> <p>Group 3 ____</p> <p>Group 4 ____</p> <p>Group 5 ____</p> <p>Group 6 ____</p>	<p>Group 1 ____</p> <p>Group 2A ____</p> <p>Group 2B ____</p> <p>Group 2C ____</p> <p>Group 3 ____</p> <p>Group 4 ____</p> <p>Group 5 ____</p> <p>Group 6 ____</p>	<p>Group 1 ____</p> <p>Group 2A ____</p> <p>Group 2B ____</p> <p>Group 2C ____</p> <p>Group 3 ____</p> <p>Group 4 ____</p> <p>Group 5 ____</p> <p>Group 6 ____</p>	<p>Group 1 ____</p> <p>Group 2A ____</p> <p>Group 2B ____</p> <p>Group 2C ____</p> <p>Group 3 ____</p> <p>Group 4 ____</p> <p>Group 5 ____</p> <p>Group 6 ____</p>
<p><b>F –Volt-Var Smart Inverter Setting</b></p> <p><i>If proposing non-default inverter settings, please provide:</i></p> <p>Power Factor Value</p> <p>Inverter Power Factor</p> <p>Volt-Var Voltage Values</p> <p>Volt-Var Reactive Values</p> <p>Volt-Watt Real Power Values</p>	<p>V1 _____</p> <p>Q1 _____</p> <p>V1 _____</p> <p>Q1 _____</p> <p>P1 _____</p>	<p>V2 _____</p> <p>Q2 _____</p> <p>V2 _____</p> <p>Q2 _____</p> <p>P2 _____</p>	<p>V3 _____</p> <p>Q3 _____</p> <p>V3 _____</p> <p>Q3 _____</p> <p>P3 _____</p>	<p>V4 _____</p> <p>Q4 _____</p> <p>V4 _____</p> <p>Q4 _____</p> <p>P4 _____</p>
<p><b>G - Generator Design</b></p> <p>Please indicate the design of each Generator.</p> <p>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.</p>	<p>____ Synch</p> <p>____ Induct.</p> <p>____ Inverter</p>	<p>____ Synch</p> <p>____ Induct.</p> <p>____ Inverter</p>	<p>____ Synch</p> <p>____ Induct.</p> <p>____ Inverter</p>	<p>____ Synch</p> <p>____ Induct.</p> <p>____ Inverter</p>



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Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>H - Gross Nameplate Rating (kVA)</b></p> <p>This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate.</p> <p>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.</p>				
<p><b>I - Operating Voltage</b></p> <p>This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.</p> <p>Please indicate phase-to-phase voltages for 3-phase installations.</p> <p>See PG&amp;E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p>				
<p><b>J - Power Factor Rating</b></p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&amp;E's Rule 21, Section H.2.i. for additional information.</p>				
<p><b>K - PF Adjustment Range</b></p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</p> <p>See PG&amp;E's Rule 21, Section H.2.i.</p>				
<p><b>L - Wiring Configuration</b></p> <p>Please indicate whether the Generator is a single-phase or three-phase device. See PG&amp;E's Rule 21, Section H.3.</p>				
<p><b>M - (MP) 3-Phase Winding Configuration (Choose One)</b></p> <p>For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>



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### FUEL CELL TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>N - (MP) Neutral Grounding System Used (Choose One)</p> <p>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.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p>	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms
O - Short Circuit Current Produced by Generator	_____ (Amps)	_____ (Amps)	_____ (Amps)	_____ (Amps)
<p>P – Prime Mover Type</p> <p>Please indicate the type and fuel used as the prime mover or source of energy for the Generator.</p> <p>1 = Natural Gas            2 = Diesel Fueled            3 = Other Fuel</p>	1   2   3	1   2   3	1   2   3	1   2   3
<p>Q - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&amp;E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&amp;E meter?</p>	_____ Manufacturer _____ Model # _____ Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No	_____ Manufacturer _____ Model # _____ Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No	_____ Manufacturer _____ Model # _____ Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No	_____ Manufacturer _____ Model # _____ Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>R - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&amp;E has special requirements for a lineside tap.</p> <p>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</p>	_____ Customer side  <input type="checkbox"/> PG&E side	_____ Customer side  <input type="checkbox"/> PG&E side	_____ Customer side  <input type="checkbox"/> PG&E side	_____ Customer side  <input type="checkbox"/> PG&E side
<p>S – Warranty or Service Agreement</p> <p>Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed "agreement" ensuring proper maintenance and continued system performance.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No



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Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<b>T - Cogeneration</b> Please indicate whether this Generating Facility meets the definition of cogeneration in PUC 216.6 (5% useful thermal and 42.5% efficient):	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>U - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b> Does this interconnection meet the DIH and Greenbook Requirements	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>V - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>W - Back-up Generator Operation</b> Will the generator be operated as a back-up?  If yes, please indicate control device.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker
<b>X - Limited Export</b> Will the generator export be limited?  If yes, please indicate how export will be limited.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS – Option 9)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS – Option 9)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS – Option 9)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS – Option 9)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter



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Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Y - Telemetry</p> <p>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</p> <p>If yes, please select a Telemetry Option.</p>  <p>If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Customer-owned Telemetry - Gateway</p> <p><input type="checkbox"/> Customer-owned Telemetry - Aggregator</p> <p><input type="checkbox"/> Mini RTU</p> <p><input type="checkbox"/> Customer-side net load metering</p> <p><input type="checkbox"/> Replace PG&amp;E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&amp;E Mark V meter</p> <p><input type="checkbox"/> Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter</p> <p><input type="checkbox"/> Install customer-owned meter in existing dual socket meter cabinet.</p>			