



PPA Guide for 2014 Photovoltaic Request for Offer (PV PPA RFO)

The PPA for the 2014 PV PPA RFO solicitation is based off of the Renewable Action Mechanism 5's PPA which contemplates various project specifications that do not apply to the PV RFO solicitation. This document is a guide to identifying program specific fields which should be completed and referenced for the PV PPA RFO program only, and fields that can be ignored. For avoidance of doubt, projects in this program must adhere to the 'As Available' or 'As-Available Peaking' requirements. This is only a guide and does not capture all terms. To the extent there are any inconsistencies between this document and the PPA, the PPA will govern.

Section	Section Title	PPA Language	Guide Notes
Cover Sheet A	Transaction Type	Product: <ul style="list-style-type: none"> <input type="checkbox"/> As-Available Non-Peaking <input type="checkbox"/> As-Available Peaking <input type="checkbox"/> Baseload 	Please check the 'As-Available Peaking' field.
Cover Sheet A	Transaction Type	Seller shall elect one of the following types of transactions pursuant to Section 3.1(b) of the Agreement: <ul style="list-style-type: none"> <input type="checkbox"/> Full Buy/Sell <input type="checkbox"/> Excess Sale 	Please check the 'Full Buy/Sell' field.
Cover Sheet A	Transaction Type	Seller shall elect one of the following Delivery Terms: <ul style="list-style-type: none"> <input type="checkbox"/> ten (10) Contract Years <input type="checkbox"/> fifteen (15) Contract Years <input type="checkbox"/> twenty (20) Contract Years 	Please check the 'twenty (20) Contract Years' field.
Cover Sheet B(vi)	Project Description Including Description of Site	(vi) Service territory of Project (must be in PG&E's, SCE's or SDG&E's service territories):	Project must be in PG&E's service territory.
Cover Sheet B(viii)	Project Description Including Description of Site	(viii) Technology type (e.g., wind, solar, geothermal, etc.):	Project must be solar PV.
Cover Sheet B(xi)(a)	Project Description Including Description of Site	(a) The Project is an: <ul style="list-style-type: none"> <input type="checkbox"/> Existing Project <input type="checkbox"/> New Project 	Please check the 'New Project' field.
Cover Sheet F	Byer Bid Curtailment and Buyer Curtailment Orders	[For Baseload Products] <ul style="list-style-type: none"> • Maximum number of Buyer Bid Curtailment and Buyer Curtailment Orders per calendar day, month, year (if any such operational limitations exist): _____ 	Not applicable.

		<ul style="list-style-type: none"> • Maximum number of Start-ups per calendar day, month, year (if any such operational limitations exist): ____ • Advance notification required for a Buyer Bid Curtailment or Buyer Curtailment Order: ____ Minutes 	
1.8	As-Available Non-Peaking	“As-Available Non-Peaking” Product is As-Available Product with a Capacity Factor of eighty percent (80%) or less averaged over all TOD Periods and less than ninety-five percent (95%) of expected output is in the Peak and Shoulder periods, as defined in Section 4.2.	Not applicable.
1.13	Available Capacity	“Available Capacity” means the expected amount of Energy to be produced from the Project, expressed in megawatts. <i>[For Baseload Product facilities and small hydro facilities]</i>	Not applicable.
1.16	Baseload	“Baseload” means a Product for which the Energy delivery levels are uniform twenty-four (24) hours per day, seven (7) days per week and has a Capacity Factor (averaged over all TOD Periods) greater than or equal to eighty percent (80%).	Not applicable.
1.34	Capacity Test	“Capacity Test” has the meaning set forth in Appendix IV-3 attached hereto. <i>[For Baseload Product only]</i>	Baseload reference not applicable.
1.38	Commercial Operation	“Commercial Operation” means the Project is operating and able to produce and deliver the Product to Buyer pursuant to the terms of this Agreement and in the case of Baseload Product, as further provided in Appendix IV-3.	Baseload reference not applicable.
1.39	Commercial Operation Date	“Commercial Operation Date” means <i>[For As-Available Products use the following language]</i> the date on which Seller (a) notifies Buyer that Commercial Operation has commenced, (b) notifies Buyer that all Reliability Network Upgrades identified in the Project’s Generator Interconnection Agreement have been completed, and (c) provides a certification of a Licensed Professional Engineer, substantially in the form attached hereto as Attachment A to <u>Appendix IV-2</u> , demonstrating satisfactory completion of the Commercial Operation Certification Procedure as provided in <u>Appendix IV-2</u> hereto. <i>[For Baseload Products use the following language]</i> the date on which (a) Seller notifies Buyer that Commercial Operation has commenced, (b) Seller notifies Buyer that all Reliability Network Upgrades identified in the Project’s Generator Interconnection Agreement have been completed, (c) provides a certification of a Licensed Professional Engineer, substantially in the form attached hereto as Attachment A to <u>Appendix IV-2</u> , demonstrating satisfactory completion of the Commercial Operation Certification Procedure as provided in <u>Appendix IV-2</u> hereto, and (d) Buyer accepts in writing the results of Seller’s initial Capacity Test report in compliance with the Capacity Test Procedure as provided in	Baseload provision not applicable.

Appendix IV-3 hereto.

1.64	Deemed Delivered Energy	<p>“Deemed Delivered Energy” means [For As-Available Products use the following language] the amount of Energy expressed in MWh that the Project would have produced and delivered to the Delivery Point, but that is not produced by the Project and delivered to the Delivery Point during a Buyer Curtailment Period, which amount shall be equal to (a) the EIRP Forecast, expressed in MWh, applicable to the Buyer Curtailment Period, whether or not Seller is participating in EIRP during the Buyer Curtailment Period, less the amount of Delivered Energy delivered to the Delivery Point during the Buyer Curtailment Period or, (b) if there is no EIRP Forecast available, the result of the equation provided pursuant to Section 3.1(l)(i)(G) and using relevant Project availability, weather and other pertinent data for the period of time during the Buyer Curtailment Period less the amount of Delivered Energy delivered to the Delivery Point during the Buyer Curtailment Period; provided that, if the applicable difference calculated pursuant to (a) or (b) above is negative as compared to the amount of metered Energy at the CAISO revenue meter for the Project, the Deemed Delivered Energy shall be zero (0).</p> <p>[For Baseload Products use the following language] the amount of Energy expressed in MWh that the Project would have produced and delivered to the Delivery Point, but that is not produced by the Project and delivered to the Delivery Point during a Buyer Curtailment Period, which amount shall be determined by reference to the most recent Day-Ahead Availability Notice Buyer has received from Seller at the time Buyer issues a Buyer Curtailment Order.</p>	Baseload provision not applicable.
1.68	Delivered Energy	<p>“Delivered Energy” means all Energy produced from the Project as measured in MWh at the CAISO revenue meter of the Project based on a power factor of precisely one (1) and net of all Electrical Losses provided that Delivered Energy, in any hour, shall never exceed [As-Available Sellers, use the following bracketed language:] [one hundred ten percent (110%) of Contract Capacity]</p> <p>[Baseload Sellers, use the following bracketed language:] [the Contract Capacity].</p>	Baseload provision not applicable.
1.128	Geothermal Reservoir Report	<p>“Geothermal Reservoir Report” means a report obtained by Seller from an expert independent consulting firm qualified in geothermal reservoir assessment which assesses the geothermal potential at the Site. [For Geothermal Projects only]</p>	Geothermal provision not applicable.
1.129	GEP Base Quantity.	<p>“GEP Base Quantity” means [for As-Available Products] [one hundred seventy percent (170%) for Projects with Contract Capacity less than 3 MW and one hundred and</p>	Wind and Baseload provision not applicable.

		<p>sixty percent (160%) for Projects with Contract Capacity 3 MW and greater, multiplied by the then-applicable Contract Quantity, except as applied to wind facilities it is one hundred forty percent (140%) multiplied by the Contract Quantity,] [for Baseload Products] [ninety percent (90%) of the then-applicable Contract Quantity] [Photovoltaic facilities only to use the then-applicable Contract Quantities for the Performance Measurement Period].</p>	
1.170	Net Rated Output Capacity	<p>“Net Rated Output Capacity” means the Project’s Energy production capability as measured at the CAISO revenue meter in any Capacity Test inclusive of deductions for all applicable Electrical Losses. [Applies to Baseload or Dispatchable Product only]</p>	Baseload provision not applicable.
1.205	Reliability Must-Run Upgrade	<p>“Reliability Must-Run Contract” has the meaning set forth in the CAISO Tariff. [For Baseload Product only]</p>	Baseload provision not applicable.
1.248	Variation(s)	<p>“Variation(s)” means the absolute value of the difference, in MWh, in any Settlement Interval between (a) DA Scheduled Energy; and (b) Delivered Energy for the Settlement Interval. [For Baseload Product only]</p>	Baseload provision not applicable.
3.1(b)(ii)	Excess Sale	<p><u>Excess Sale.</u> If “Excess Sale” is selected on the Cover Sheet, Seller agrees to sell to Buyer the Project’s gross output of Product as measured in kilowatt-hours, net of station Use, any on-site load and transformation and transmission losses to the Delivery Point. Seller agrees to convey to Buyer all elements of Product associated with the Energy sold to Buyer.</p>	Excess Sale provision not applicable.
3.1(e)(i)	Contract Quantity	<p><u>Contract Quantity.</u> The Contract Quantity during each Contract Year is the amount set forth in the applicable Contract Year in Section D of the Cover Sheet (“Delivery Term Contract Quantity Schedule”), which amount is inclusive of outages. [Seller shall provide the Contract Quantity amount as listed on the Cover Sheet. For a Baseload Product, the minimum qualifying Contract Quantity is equivalent to an eighty percent (80%) Capacity Factor.]</p>	Baseload provision not applicable.
3.1(e)(ii)(A)	Guaranteed Energy Production	<p>[Use the following bracketed language for Baseload Product only]</p> <p>[(ii) Guaranteed Energy Production.</p> <p>(A) Throughout the Delivery Term, Seller shall be required to provide to Buyer an amount of Delivered Energy plus Deemed Delivered Energy, if any, no less than the Guaranteed Energy Production in each Contract Year during the Delivery Term</p>	Baseload provision not applicable.



(“Performance Measurement Period”). “Guaranteed Energy Production” is equal to the product of (x) and (y), where (x) is ninety percent (90%) of the Contract Quantity, and (y) is the difference between (I) and (II), with the resulting difference divided by (I), where (I) is the number of hours in the applicable Performance Measurement Period and (II) is the aggregate number of Seller Excuse Hours in the applicable Performance Measurement Period. Guaranteed Energy Production is described by the following formula:

$$\text{Guaranteed Energy Production} = (90\% * \text{Contract Quantity in MWh}) * \frac{[(\text{Hrs in Performance Measurement Period} - \text{Seller Excuse Hrs in Performance Measurement Period}) / \text{Hrs in Performance Measurement Period}] }{1}$$

[Use the following subparts (B) and (C) to Section 3.1(e)(ii) for both As-Available and Baseload Products and all technologies]

3.1(f)

Contract Capacity

[The following bracketed version of Section 3.1(f) “Contract Capacity” applies to all Baseload Products and Excess Sale transactions of As-Available Products.]

Baseload and Excess Sale transaction provisions not applicable.

[(f) Contract Capacity.

(i) Contract Capacity. The capacity of the Project at any time shall be the lower of the following: (A) the contract capacity in MW designated in the Cover Sheet or (B) the Net Rated Output Capacity of the Project (the “Contract Capacity”). Throughout the Delivery Term, Seller shall sell all Product produced by the Project solely to Buyer. In no event shall Buyer be obligated to receive, in any Settlement Interval, any Surplus Delivered Energy. Seller shall not receive payment for any Surplus Delivered Energy. To the extent Seller delivers Surplus Delivered Energy to the Delivery Point in a Settlement Interval in which the Real-Time Price for the applicable PNode is negative, Seller shall pay Buyer an amount equal to the Surplus Delivered Energy (in MWh) during such Settlement Interval, multiplied by the absolute value of the Real-Time Price per MWh for such Settlement Interval.

(ii) Net Rated Output Capacity Testing. Buyer shall have the right to request a Capacity Test as set forth in Appendix IV-3, to determine the Net Rated Output Capacity no more than one time per Contract Year. The resulting Net Rated Output Capacity shall be used to determine the Contract Capacity, in accordance with Section 3.1(f)(i) above, and shall remain in effect until



		the next Capacity Test requested by Buyer. <u>Appendix IV-3</u> sets forth the agreements of Buyer and Seller with respect to the performance of Capacity Tests.]	
3.1(l)(i)(G)		an equation, updated on an ongoing basis to reflect the potential generation of the Project as a function of [the following bracketed language applies to solar facilities only] [solar insolation, temperature, wind speed, and, if applicable, wind direction] [the following bracketed language applies to wind facilities only] [wind speed, wind direction, ambient temperature, atmospheric pressure]. Such equation shall take into account the expected availability of the facility.	Wind provision not applicable.
3.1 (l)(vi)	Installation and Maintenance and Repair	No later than ninety (90) days before the Initial Energy Delivery Date, Seller shall provide one (1) year, if available, but no less than six (6) months, of recorded meteorological data to Buyer in a form reasonably acceptable to Buyer from a weather station at the Site. Such weather station shall provide, via remote access to Buyer, all data relating to (A) [Include the following bracketed language for solar Projects only] [total global horizontal irradiance, plane of array or direct normal insolation as is applicable for project type, air temperature, wind speed and direction, precipitation, barometric pressure, visibility in fog areas (forward scatter sensor) and humidity at the Site] [Include the following bracketed language for wind Projects only] [wind speed and direction (as close to hub height as possible), standard deviation of wind direction, peak instantaneous values, air temperature, barometric pressure, and humidity at the Site], as well as time-average data including 10-minute and hourly values of irradiance or insolation, air temperature, wind speed, wind direction, standard deviation of wind direction, relative humidity, precipitation, barometric pressure [Include the following bracketed language only if winter season output of solar Project is an issue] [and visibility in fog areas] All data, except peak values, should be 1-second samples averaged into 10-minute periods; (B) elevation, latitude and longitude of the weather station; and (C) any other data reasonably requested by Buyer.]	Wind provision not applicable.
3.2(b)	Biomethane Transactions	<u>Biomethane Transactions.</u> (i) For all electric generation using biomethane as fuel, Seller shall transfer to Buyer sufficient renewable and environmental attributes of biomethane production and capture to ensure that there	Biomethane provision not applicable.

are zero net emissions associated with the production of electricity from the generating facility using the biomethane.

(ii) For all electric generation using biomethane as fuel, neither Buyer nor Seller may make a marketing, regulatory, or retail claim that asserts that a procurement contract to which that entity was a party resulted, or will result, in greenhouse gas reductions related to the destruction of methane if the capture and destruction is required by Law. If the capture and destruction of the biomethane is not required by Law, neither Buyer nor Seller may make a marketing, regulatory, or retail claim that asserts that a procurement contract to which that entity was a party resulted, or will result, in greenhouse gas reductions related to the destruction of methane, unless the environmental attributes associated with the capture and destruction of the biomethane pursuant to that contract are transferred to Buyer and retired on behalf of the retail customers consuming the electricity associated with the use of that biomethane, or unless Seller's procurement contract with the source of biomethane prohibits the source of biomethane from separately marketing the environmental attributes associated with the capture and destruction of the biomethane sold pursuant to that contract, and such attributes have been retired.

3.4(b)(iii)	Available Capacity Forecasting	<p><u>Available Capacity Forecasting.</u> Seller shall provide the Available Capacity forecasts described below. <i>[The following bracketed language applies to As-Available solar or wind Projects only]</i> [Seller's availability forecasts below shall include Project availability and updated status of <i>[The following bracketed language applies to solar Projects only]</i> [photovoltaic panels, inverters, transformers, and any other equipment that may impact availability] or <i>[The following bracketed language applies to wind Projects only]</i> [transformers, wind turbine unit status, and any other equipment that may impact availability].] <i>[The following bracketed language applies to As-Available Product only]</i> [To avoid Forecasting Penalties set forth in Section 4.6(c)(iii),] Seller shall use commercially reasonable efforts to forecast the Available Capacity of the Project accurately and to transmit such information in a format reasonably acceptable to Buyer. Buyer and Seller shall agree upon reasonable changes to the requirements and procedures set forth below from time-to-time, as necessary to comply with CAISO Tariff changes, accommodate</p>	Wind provision not applicable.
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changes to their respective generation technology and organizational structure and address changes in the operating and Scheduling procedures of Buyer, Third-Party SC (if applicable) and the CAISO, including automated forecast and outage submissions.

<p>3.7</p>	<p>Planned Outages</p>	<p><u>Planned Outages.</u> During the Delivery Term, Seller shall notify Buyer of its proposed Planned Outage schedule for the Project for the following calendar year by complying with [Section 3.4[(b)][(c)](iii)(A), (“Annual Forecast of Available Capacity”) and Section 3.4[(b)][(c)](iii)(B), (Monthly Forecast of Available Capacity”) [Applies to intermittent facilities only] [3.4[(b)][(c)](iii)(A), (“Annual Forecast of Available Capacity”) and Section 3.4(b)(iii)(B), (Monthly Forecast of Available Capacity”) [Applies to all facilities other than intermittent facilities] and implementing the notification procedures set forth in <u>Appendix VI</u> no later than July 1st of each year during the Delivery Term. Seller shall also notify Buyer of the proposed Planned Outage schedule for the Project by the earlier of ninety (90) days before the beginning of each month or forty-five (45) days before Buyer’s monthly Resource Adequacy capacity showing must be completed in accordance with the CAISO Tariff or decision of the CPUC. The Planned Outage schedule is subject to Buyer’s approval, which approval may not be unreasonably withheld or conditioned. Seller shall also confirm or provide updates to Buyer regarding the Planned Outage by the earlier of fourteen (14) days prior to each Planned Outage or two (2) Business Days prior to the CAISO deadline for submitting Planned Outages. Seller shall not conduct Planned Outages during the months of January, May through September, and December. During all other months, Seller shall not schedule Planned Outages without the prior written consent of Buyer, which consent may not be unreasonably withheld or conditioned. Seller shall contact Buyer with any requested changes to the Planned Outage schedule if Seller believes the Project must be shut down to conduct maintenance that cannot be delayed until the next scheduled Planned Outage consistent with Good Utility Practices. Seller shall not change its Planned Outage schedule without Buyer’s approval, not to be unreasonably withheld or conditioned. Subject to Section 3.7(a), after any Planned Outage has been scheduled, at any time up to the commencement of work for the Planned Outage, Buyer may direct that Seller change its outage schedule as ordered by CAISO. For non-CAISO ordered changes to a Planned Outage schedule requested by Buyer, Seller shall notify Buyer of any incremental costs associated with such</p>	<p>Non-intermittent facility provision not applicable.</p>
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		<p>schedule change and an alternative schedule change, if any, that would entail lower incremental costs. If Buyer agrees to pay the incremental costs, Seller shall use commercially reasonable efforts to accommodate Buyer's request.</p>	
3.8(a)	Operations Logs	<p><u>Operations Logs</u>. Seller shall maintain a complete and accurate log of all material operations and maintenance information on a daily basis. Such log shall include information on power production, <u>[fuel consumption,]</u><i>[Bracketed language for applicable Baseload Product only]</i> efficiency, availability, maintenance performed, outages, results of inspections, manufacturer recommended services, replacements, electrical characteristics of the generators, control settings or adjustments of equipment and protective devices. Seller shall provide this information electronically to Buyer within thirty (30) days of Buyer's request.</p>	Baseload provision not applicable.
3.9(a)(ix)	New Generation Facility	<p><i>[The following Section 3.9(a)(ix) applies to geothermal Projects only]</i> [(x) provide to Buyer copies of all Geothermal Reservoir Reports and any revisions thereto, for the time period beginning on the Effective Date and ending on the last day of the first Contract Year.]</p>	Geothermal provision not applicable.
4.3	Capacity Factor	<p><i>[Section 4.3 "Capacity Factor" below applies to Baseload Product only]</i> <u>[4.3 Capacity Factor]</u>. The Capacity Factor shall be calculated by TOD Period and defined as the percentage amount resulting from Delivered Energy plus Deemed Delivered Energy, if any, in the applicable TOD Period divided by the product resulting from multiplying the Contract Capacity times the number of hours in the applicable TOD Period minus Seller Excuse Hours in the applicable TOD Period ("Capacity Factor"):</p>	Baseload provision not applicable.
4.7(c)	Reliability Must-Run	<p><i>[Section 4.7(c) below applies to Baseload Product only]</i> (c) <u>Reliability Must-Run Contract and Capacity Procurement Mechanism Obligations</u>. Seller with an existing RMR Contract will assign all of the proceeds of any RMR Contract affecting the Project to Buyer, except as provided below. Buyer shall retain all revenues from said RMR Contract, except for Monthly Surcharge Payments, the CAISO Repair Share, and Motoring Charges for Ancillary Services Dispatch ("Retained Revenues"), as each is defined in the applicable RMR Contract, all of which shall be remitted to Seller. If the CAISO and/or Seller wish to negotiate or renegotiate an RMR Contract or contract related to the Capacity Procurement Mechanism (as</p>	Baseload provision not applicable.

		<p>defined in the CAISO Tariff) or similar capacity commitment under the CAISO Tariff that pertains to Unit(s) under this Agreement as of the Execution Date of this Agreement, Seller shall include Buyer in any such negotiations. If Seller enters into any new RMR Contract or contract related to the Capacity Procurement Mechanism or similar capacity commitment affecting the Project, Seller shall assign the revenues from such contract, except for Retained Revenues, Monthly Surcharge Payments, the CAISO Repair Share, and Motoring Charges for Ancillary Services Dispatch to Buyer.</p>	
8.4(a)(i)	Performance Assurance	<p>Project Development Security pursuant to this Section 8.4(a)(i) in the amounts set forth in Sections 8.2(a)(i)(A) and (B) below, as applicable for As-Available resources, or \$90/kW for Baseload resources multiplied by the capacity of the Project as reflected in Section B of the Cover Sheet, within five (5) Business Days following the Effective Date of this Agreement until Seller posts Delivery Term Security pursuant to Section 8.4(a)(ii) below with Buyer:</p>	Baseload provision not applicable.
10.3(b)(iii)	Seller Covenants	<p><i>[The following clause (iii) applies to Existing Projects only:]</i> (iii) Seller covenants that the Initial Energy Delivery Date shall occur no later than the Expected Initial Energy Delivery Date specified in Section B of the Cover Sheet, except as provided pursuant to Section 11.1(a)(ii).</p>	Not applicable, all projects must be new.
11.1(a)(ii)	Force Majeure Failure	<p><i>[The following bracketed clause (ii) is applicable to Existing Projects:]</i> <i>[(ii) if prior to the Expected Initial Energy Delivery Date, Seller is unable, due solely to a Force Majeure event, to achieve the Initial Energy Delivery Date on or prior to the Expected Initial Energy Delivery Date (a “Force Majeure Development Failure”); provided that in the event of a Force Majeure caused by a catastrophic natural disaster, upon Buyer’s written request to Seller, Seller shall have not more than ninety (90) days to retain an independent, third-party engineer to determine whether the Project is capable of being repaired or replaced within twenty-four (24) additional months and provide Buyer a copy of the engineer’s report, at no cost to Buyer.]</i></p>	Not applicable, all projects must be new.
Appendix IV-3	Capacity Test Procedure	See appendix	Baseload provision not applicable.
Appendix X	Telemetry Parameters for Wind or Solar Facility	See appendix	Solar Thermal or Solar Trough, Wind provisions not applicable.

