

PG&E's Bidders' Webinar

PG&E's Request for Offers: Photovoltaic Program (PV)

December 21, 2016

Agenda

Topics

Introduction

Solicitation Overview

Eligibility Requirements

PPA Overview

Evaluation Methodology

Offer Submittal Process

Interconnection Process

Intermission

Q & A

Presenter

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Team

Objective

- The purpose of this webinar is to provide information to participants who may submit offers to the PG&E's Photovoltaic (PV) Request for Offers (RFO).
- This webinar will not cover other procurement programs such as:
 - RPS Program
 - Storage
 - Feed-in-Tariff Programs
 - Net Metering
 - BioRAM
 - Green Tariff or Enhanced Community Renewables programs

Q&A / List of Attendees / Audio Replay

- At any time during this presentation participants should e-mail their questions to the RFO mailbox: PVProgram@pge.com
- There will be time to answer questions at the end of the webinar
 - PG&E may not address all of the questions during the Q&A portion of the webinar
 - After the webinar, PG&E will compile and post a Q&A document on PG&E's website at: <http://www.pge.com/rfo/PV2016>
- PG&E will be posting a list of attendees on PG&E's website. If you do not want your name or the name of your company published, please let us know by sending us an email to the PVRFO mailbox at PVProgram@pge.com by December 22.
- The audio portion of the webinar will be posted on PG&E's website at: www.pge.com/rfo/PV2016

Document Conflicts

- This presentation is intended to be a summary level discussion of the information and requirements established in the RFO materials (it does not include all of the detailed information in the RFO materials).
- To the extent that there are any inconsistencies between the information provided in this presentation and the requirements in the RFO materials, the **RFO materials shall govern.**
- PG&E encourages participants to carefully review:
 - PG&E Advice Letter [4950-E](#) (PV AL)
 - 2016 PV Solicitation RFO Protocol dated October 28, 2016
 - Form of Power Purchase Agreement that is posted on PG&E's PV RFO website as Appendix B to the Protocol
 - Monitor the Q&A link on PG&E's PV RFO website
- Given that the Power Purchase Agreement is **non-negotiable**, PG&E urges bidders to **ask clarifying questions** regarding the PPA **prior to submittal of an offer** under this RFO.

Public Disclosure of Information

- By participating in the PV RFO, each participant acknowledges and expressly authorizes PG&E to publicly disclose the following information as required by the CPUC:
 - Names of the companies that submitted offers into PG&E’s RFO
 - Number of offers received from each company
 - Number of offers received and selected by PG&E
 - Project size
 - Participating technologies
 - Location of bids by county level shown in a map format; and
 - Progression of each executed contract’s project development milestones
- PG&E will provide periodic updates to the CPUC on each PV project’s progress toward the achievement of project development milestones

Solicitation Overview

Overview

How did the PV program become a solicitation?

- D. 10-04-052 authorized PG&E to procure 250 MW of PV Products over a five year period.
- On 02/26/2014 PG&E filed a Petition for Modification (PFM) to transfer capacity from the PV program to the Renewable Auction Mechanism (RAM) program.
- D.14-11-042 granted the PFM with restrictions. PG&E was directed to roll half of the remaining capacity into RAM 6, with the remaining half procured equally in two solicitations to be held in 2016 and 2017.

Basics

- Procurement target for the 2016 PV RFO is 68.75 MW
- GCOD is 36 months from the Effective Date of the PPA
- COD cannot occur more than 180 days prior to the GCOD
- Permitted delay extension is 6 months for limited circumstances under the PPA

PV RFO Schedule

Date/Time	Event
December 21	Bidders' Webinar
January 18 by 1:00 P.M. PPT	Deadline for Participants to submit Offers through Power Advocate
April 18	PG&E notifies Selected Participants and any Waitlisted Participants
April 21	Primary and Waitlisted Participants must return signed acceptance letters
April 26	Waitlisted Participants updated regarding their status
April 28 by 1:00 P.M. PPT	Primary Participants must return signed PPA and the required documents as shown in Appendix VIII of the PPA
May 5 by 1:00 P.M. PPT	Waitlisted Participants must return signed PPA and required documents as shown in Appendix VIII of the PPA
~May 25	PG&E executes PPAs
~June 26	PG&E files Advice Letter for CPUC approval

Independent Evaluator (IE)

- Primary role of the IE is to:
 - Monitor RFO processes to ensure fair and equal treatment of all potential counterparties
 - Monitor evaluation processes to ensure PG&E has implemented methodology as described and that offers are treated consistently
 - Report on RFO process and proposed transactions to CPUC when filed for CPUC approval
- The IE may review all proposal data and communications with Participants
- 2016 PV RFO IE is Merrimack Energy. Contact is:
 - Wayne Oliver (waynejoliver@aol.com)

Updates from the 2014 PV PPA RFO

Major Program Updates

- Least Cost Best Fit (LCBF) evaluation methodology
- TOD factors – updated per 2015 RPS Plan
- Must interconnect within the electric distribution or transmission system of PG&E, SCE, or SDG&E
- Phase II Interconnection Study (or equivalent)
- Participants may offer projects as a Full Capacity, Partial Capacity, or Energy Only resource

Eligibility Requirements

Eligibility Requirements

- Studies, where applicable, must show that commercial operation can be achieved by July 2020.
- Project must employ PV technology currently in use at a minimum of two operating facilities of similar capacity worldwide.
- PV projects with a capacity of greater than 3 MW and up to 20 MW only.
- Must not have received funds in the California Solar Initiative (CSI) or Net Energy Metering programs.
- Must interconnect within the electric distribution or transmission system of PG&E, SCE, or SDG&E
- Sellers that have previously bid projects into other solicitations may bid into the RFO as long as they meet the eligibility requirements.
- New and existing generating facilities are eligible. Existing facilities currently under contract may participate provided the existing contract is scheduled to expire by July 2020.

Eligibility Requirements – Deliverability

- Projects can bid in as Energy Only, Partially Deliverable, or Fully Deliverable. PG&E is not requiring, nor has it stated a preference for, deliverable projects.
- Projects bid in as Partially or Fully Deliverable must achieve the corresponding deliverability status by their submitted Deliverability Date or face penalties and/or default.
 - Participants are encouraged to review these provisions carefully in the PPA and only bid Partially Deliverable or Fully Deliverable Offers if they are prepared to meet the terms of the PPA.
 - Participants are encouraged to submit an Energy Only bid (instead of or in addition to their deliverability bid) if there is **any chance** that deliverability might not be achieved.

Deliverability Studies

- Projects bidding as Energy Only do not have to pursue any deliverability studies
- Projects bidding as Fully or Partially Deliverable must:
 - Identify date by which project will have FCDS or PCDS status.
 - Provide documentation that the Project has received FCDS/PCDS or is in the Phase II process of the deliverability study via:
 - the project's Interconnection Agreement or Interconnection Study Process Agreement, whichever is more recent, reflects the requested deliverability; and
 - evidence that the project has posted all required Interconnection Financial Security (Initial, Second, or Final) as required by the Interconnection Process; and
 - maintain their identified deliverability request status as evidenced by the CAISO or PG&E Interconnection Queue lists or Interconnection Agreement.
 - An application for deliverability through any CAISO annual process is not sufficient unless there is a finding of deliverability at the time of Offer submittal.

Power Purchase Agreement (PPA) Overview

Time of Delivery (TOD) Factors

Period	Peak	Mid-Day	Night
A. Jul – Sep	1.479	0.604	1.087
B. Oct – Feb	1.399	0.718	1.122
C. Mar – Jun	1.270	0.280	1.040

Peak = hours ending 17-22 (Pacific Prevailing Time (PPT)) for all days in the applicable Monthly Period.

Mid-Day = hours ending 10-16 PPT for all days in the applicable Monthly Period

Night = hours ending 23-09 PPT for all days in the applicable Monthly Period

- For each hour of energy generated, Seller is paid contract price multiplied by the applicable TOD factor.
- $\text{Payment} = \text{Contract Price} * \text{TOD Factor} * \text{MWh}$

The TOD Factors shown above are consistent with those shown in PG&E's 2015 RPS Decision D.15-12-025

PPA: Overview

- Terms and conditions are non-negotiable.
- Seller must sell and deliver all “Product” to PG&E. “Product” means:
 - the Energy, capacity, Ancillary Services, and all products, services and/or attributes similar to the foregoing which are or can be produced by or associated with the Project, including renewable attributes, Renewable Energy Credits, Capacity Attributes and Green Attributes
- Commercial operation must occur within 36 months of the Effective Date of the PPA, with potential six (6) month permitted extension. Sellers must provide progress development updates on a monthly basis.
- Failure to meet the guaranteed commercial operation date after any excused delay is an Event of Default which would allow PG&E to terminate the PPA and retain the Project Development Security as damages for the Seller’s default.
- All output from the Project must be delivered through a single CAISO revenue meter located on the high-voltage side of the Project’s final step-up transformer (which must be dedicated solely to the Project) nearest to the Interconnection Point.

PPA: Overview

Energy deliveries

- Energy Deliveries: PG&E will pay for energy deliveries up to 100% of the Contract Quantity in a given year.
- Delivery shortfalls: Based on the performance characteristics of As-Available technologies, Sellers must agree to deliver a minimum quantity, which is the Guaranteed Energy Production (“GEP”) of the Product:
 - As-Available : 160% over two consecutive years
 - GEP is based on contract quantity, which is the estimated amount of megawatt-hours of energy that the Project will generate on an annual basis. If Seller fails to meet GEP, then Seller may be required to pay PG&E liquidated damages. If Seller repeatedly fails to meet GEP, then PG&E may default Seller and terminate the PPA.

PPA: Overview

- PG&E is Scheduling Coordinator.
 - Sellers provide availability data and other information to PG&E.
 - PG&E schedules energy from the project.
 - PG&E may assess a “Forecasting Penalty” if Seller fails to meet the forecasting and data requirements under the PPA and exceeds the performance tolerance band.
 - Projects must be PIRP/VER certified before the delivery term begins. This generally occurs at least 45 days after COD.
- Seller must curtail energy deliveries in response to curtailment requests from the CAISO, PTO or Buyer. Review the PPA carefully to better understand under what circumstances Seller will or will not be reimbursed for curtailed energy deliveries.
- PG&E has the right to require the seller to curtail energy deliveries during the “Buyer Curtailment Period” for unlimited hours per year and PG&E will pay for such curtailed energy at the contract price.
- Seller is required to respond to electronic signals from PG&E or the CAISO to curtail.

PPA: Overview

Performance Assurance

- “Project Development Security” is due to PG&E within five (5) business days following CPUC approval of the PPA and must be in the form of a letter of credit or cash and in the following amounts:
 - \$60 per kW for As-Available resources
- Damage Payment will be equal to the amount to be posted as Project Development Security
- “Delivery Term Security” (5% of expected total Project revenues) is due to PG&E before the Initial Energy Delivery Date and will be held by PG&E throughout the delivery term.

Evaluation Methodology

Evaluation Methodology

- PG&E will screen Offers on a “pass-fail” basis against the eligibility criteria discussed in the Eligibility Requirements section of this presentation.
- Eligible Offers will be selected based on Least Cost Best Fit (LCBF) criteria, which include quantitative and qualitative criteria
- **Quantitative criteria**
 - Net Market Value
 - Portfolio Adjusted Value – specifically location will be taken into consideration
- **Qualitative criteria**
 - Preference for shorter delivery term
 - Seller concentration

See Attachment K of the 2014 RPS Solicitation Protocol for details of the evaluation criteria

Market Valuation

$$\text{(Adjusted) Net Market Value} = E + C + S - (P + T + G + I)$$

- **E - G = Energy benefit – Congestion Cost**
 - Based on market prices and Locational Marginal Pricing (LMPs) multipliers applied to reflect congestion and losses
 - Includes energy value from Buyer Curtailments for avoiding (presumably negative) wholesale market price for the Offer's energy delivery
- **C = Capacity benefit** is based on
 - PG&E's internal estimate of avoided cost of capacity, and
 - Offer's contribution to meeting PG&E's future Resource Adequacy requirements
- **S = Ancillary Service benefit** based on Offer's Ancillary Service capability. Assumed to be zero for non-dispatchable offers.
- **P = Post TOD Adjusted PPA Price** based on Offer's contract price and TOD factors and includes debt equivalence
- **T = Transmission Network Upgrade Cost** based on study results or interconnection agreement
- **I = Integration Cost** calculated pursuant to D. 14-11-042

Market Valuation (Capacity and Transmission)

- Transmission Network Upgrade Costs (\$/MWh): will be taken from applicable study.
 - Energy Only projects: Only the reimbursable portion of the costs associated with reliability network upgrades required for will be used.
 - Fully Capacity Deliverability Status and Partial Capacity Deliverability Status projects: Will use the reimbursable portion of the reliability network upgrade cost and the deliverability network upgrades net of the Project's resource adequacy value.
- PG&E assumes that all projects will achieve Full Capacity Deliverability Status or Partial Capacity Deliverability Status by the date provided in the Offer Form.
 - Resource Adequacy (RA) benefit will be included from the date indicated through the remaining delivery term of the PPA.
- RA benefits will be evaluated by applying the Net Qualifying Capacity (NQC) to the avoided capacity costs forecast.

Portfolio Adjusted Value (“PAV”)

- PAV modifies the NMV to make explicit and systematic adjustments for elements that impact a particular Offer’s value in the context of PG&E’s electric portfolio
- PG&E has a preference for resources located in NP15
- PAV adjusts the value of energy and capacity for offers from resources in SP15
 - Energy Benefit Adjustment
 - PAV Energy Benefit for projects in SP15 or outside of CAISO is no greater than the Energy Benefit calculated using NP15 energy prices
 - Capacity Benefit Adjustment
 - SP capacity prices are no higher than the short-run avoided cost of capacity, and less than the NP capacity prices
 - The adjustment reflects the fact that PG&E may be more likely to be long in capacity from SP15 in counting toward PG&E’s RA requirements
 - PG&E currently discounts the capacity value of SP15 resources due to a RA capacity constraint (this constraint may change in the future).

Offer Submittal Process and Offer Form

Offer Price Assumptions

The price that participant submits in the offer, must assume the following:

- Grid Interconnection Costs
 - Direct Assignment Costs: Sellers bears the direct assignment costs because there is no reimbursement of these costs to Seller.
 - Network Upgrades: Seller bears the cost of financing the reliability network upgrades¹ for Energy Only projects. If a Seller submits its project as fully deliverable, the Seller must also fund any upgrades required to achieve Full Capacity Deliverability Status¹.
- Credits/Benefits: Investment tax credits and all other benefits, credits or grants that Seller reasonably expects to apply. If the project or Seller do not ultimately benefit from any expected benefit, tax credit or other award; Seller will not be permitted to terminate the PPA or seek a price adjustment.
- Offer Price: Will be adjusted by the Time of Delivery (“TOD”) factor for each period.

¹ Developer may be entitled to repayment with interest over a 5-year period following initial operation for a portion of these upgrades.

Offer Price Assumptions

- Generation Profile
 - Participant must provide hourly generation forecast
- Collateral Requirements
 - Factor in costs, if any, to provide Project Development Security and Delivery Term Security

Offer Submittal

- Offers must be submitted via the online platform at Power Advocate. Only accepted registrants are permitted to submit offers.
 - Register through Power Advocate at:
<https://www.poweradvocate.com/pR.do?okey=64443&pubEvent=true>
 - PG&E strongly encourages you to register well in advance of Offer due date of **January 18th at 1:00 PM (PPT)**.
- PG&E will only consider offers that, as of the submittal deadline, are complete and conforming offers.
 - PG&E will notify participants of errors (e.g. incomplete or incorrect documents) and will allow two (2) Business days to correct.
- By submitting an offer into this RFO, each participant is required to abide by the confidentiality obligations specified in Section IX of the PV RFO Protocol.

Keys to a Successful Proposal

- Sellers may choose the option to bid a single project with four variations. Variations include:
 - Size
 - Delivery Term
 - Fixed Price vs. Escalating Price
 - Full (or Partial) Capacity Deliverability Status vs. Energy Only¹
- Submit a competitively priced offer – price refreshes are not allowed.
- Submit a complete offer including:
 - Most recent interconnection study or interconnection agreement, where applicable
 - Supply chain responsibility questionnaire

¹Participants are encouraged to submit an Energy Only bid (instead of or in addition to their deliverability bid) if there is any chance the deliverability may not happen.

Required Offer Submission Forms

- Offer package must be in the format as specified in the 2016 PV RFO Protocol.
- Fully Completed Offer Form; includes Developer Experience and Supplier Diversity Questionnaire (Appendix A). Format: MS Excel.
- Completed PPA Cover Sheet and Appendix XIII (Appendix B). Format: MS Word.
- Site Control Questionnaire and Attestation (Appendix C). Format: PDF and applicable GIS data file format.
- Acknowledgement and Commitment of Site Owner (Appendix D). Format: PDF.
- Interconnection Studies. Format: PDF or MS Word.
- Single Line Diagram. Format: PDF.

Note: PG&E will review and ensure that the PPA cover sheet and required Appendix XIII are complete and meet the terms of the PPA during the bid evaluation process. Incomplete documentation will require additional communication to resolve any issues.

Communications and Website

- RFO website (www.pge.com/rfo/PV2016) provides everything you need to submit an offer, including (but not limited to) the following:
 - RFO Documents for the joint solicitation
 - Detailed instructions for submitting Offers(s) using Power Advocate
 - Announcements, updates and Q&A
- All solicitation communications should be directed to: PVProgram@pge.com with a copy to the Independent Evaluator at waynejoliver@aol.com

Offer Form Structure

- Instructions
- Validation Worksheet
- Appendix A1: Participant Information and Developer Experience
- Appendix A2: Project Description and Contract Information
- Appendix A3: Energy Pricing Sheet
- Appendix A4: Estimated Energy Production Profile
- Appendix A5: Supply Chain Responsibility
- Help

Instructions

Validation

Developer Experience

Product Description

Energy Pricing

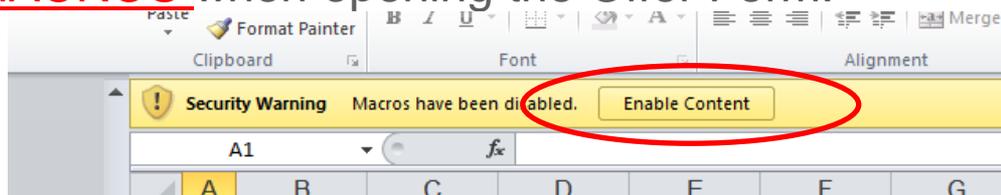
Gen Profile

Supply Chain Responsibility



Offer Form – Instructions

- Be sure to **ENABLE MACROS** when opening the Offer Form.



- Instruction tab provides clear directions on completing the offer form.
- Please make sure you save and submit the form in Microsoft Excel “.xlsb” format. **No other formats will be accepted.**
- Each cell with a yellow background must be filled out. Once completed the yellow background will disappear.
- Grayed out cells are auto-calculated cells.
- If the word “Complete” does not appear at the top of the page the form will be deemed invalid and returned to you.

Offer Form – Developer Experience

Counterparty Information			
Counterparty/Legal Entity Name	ABC Renewables		
Street Address	123 Main Street		
City	Renewables	State	CA Zip Code 12345
Country	USA		
Website			

Legal entity is the legal name that will be signing the PPA

Developer Information			
Developer Name:	ABC Renewables		
Street Address	123 Main Street		
City	Renewables	State	CA Zip Code 12345
Authorized Contact #1		Authorized Contact #2	
First Name		First Name	
Last Name		Last Name	
Title		Title	
Phone 1		Phone 1	
Phone 2		Phone 2	
Email		Email	

The participant must provide evidence that one member of the development team has completed at least one project of similar technology and capacity or have begun construction of a least one similar project.

Key Team Members	Project Developer	Project Title/Role	Project Name	Technology Type	Size (MW)	COD
Jane Doe	Jane Doe	Principal Developer	Solar Project 1	Photovoltaic	0.50	1/1/2011
John Doe	John Doe	Project Manager	Wind Project 2	Wind	20.00	1/1/2010

Offer Form – Developer Experience

Please be sure to read each attestation and affirmation on the Developer Experience tab. A number of these items are specific to and/or new to this RFO.

Acknowledgement of Protocol	
By selecting "Yes" participant hereby agrees to the terms of the Solicitation Protocol. Participant acknowledges that any costs incurred to become eligible or remain eligible for the solicitation, and any costs incurred to prepare an offer for this RFO are solely the responsibility of Participant.	
Section IX: Participant will abide by the confidentiality terms and conditions.	
Section XIV: Participant knowingly and voluntarily waives all remedies or damages at law or equity concerning or related in any way to the Solicitation.	
Electronic Signature _____ Title _____	Select "Yes" to certify that the typed name acts as your electronic signature <Choose>
Participant Authorization	
By selecting "Yes", participant hereby confirms that they are "a duly authorized representative of Participant."	
Electronic Signature _____ Title _____	Select "Yes" to certify that the typed name acts as your electronic signature <Choose>
Attestation	
By providing the electronic signature, below, Participant hereby attests that all information provided in this Offer Form and in response to this RAM RFO is true and correct to the best of Participant's knowledge as of the date such information is provided.	
Electronic Signature _____ Title _____	Select "Yes" to certify that the typed name acts as your electronic signature <Choose>
Affirmation of ability to perform all obligations under the PPA	
I have read and understand the PPA and attest that we are able to perform all obligations under the PPA and Protocol.	
Electronic Signature _____ Title _____	Select "Yes" to certify that the typed name acts as your electronic signature <Choose>
Affirmation of project capacity capability to comply with Section 3.9(q)	
This Project has the capability to comply with Section 3.1(q) (Seller Equipment Required for Curtailment Instruction Communications) of the PPA.	
Electronic Signature _____ Title _____	Select "Yes" to certify that the typed name acts as your electronic signature <Choose>

Offer Form – Product Description



Appendix A2: Participant Proposal Project Description and Contract Information

Complete

General Offer Information			
Total Offers	1	Offer Source	PV
Offer #	1	Solicitation #	2016
Variant	a (base)	Bid ID	_SolarP_PV_1a_of_1_PV2016_5
		Has this project previously been offered to PG&E?	No
		Is this project currently under contract?	No

Project Information			
Project Name	Solar Project 2		
Street Address	456 Main Street		
Project Location			
City	San Francisco	State	CA
County	San Francisco	Zip Code	94108
Latitude	45.00000000	degrees	Longitude -100.00000000
CREZ (Click here for CREZ map)	Non-CREZ	CREZ Location	
Select Facility Status	New		
Is the Project a Qualifying Facility?			
Is the project site subject to restrictions under the Williamson Act?	No		
Project Description	Please enter project description (size, location, permitting status, etc.) here.		

Offer Information	
Product Type	As-Available Peaking
Transaction Type	Full Buy
Capacity Type	Partial Deliverability
Project Size (MW)	20.00
Partial Capacity Offered (MW)	10.00
Guaranteed Commercial Operation Date	1/31/2020
Deliverability Date	2/1/2021
Delivery Term (months)	20.00
Avg Pre-TOD Price (\$/MWh)	

Technology			
ERR Type	Photovoltaic	CHP	No
Solar Technology	TBD		
Describe Other Solar Technology			
Solar Module Detail			
Company Name	TBD	Model	TBD
Tracking and Orientation	Fixed	Commercially Proven Technology	Yes
If filed with the CEC for precertification, enter application date: _____			

Site Control	
Type of Site Control	Own
Enter Site Control Date:	1/1/2016
Site Owner Name (current):	Solar Project Owner
Ownership Type over Term:	Private
Site Owner Address:	444 Main Street
Site Owner City:	San Francisco
Site Owner State:	CA

Offer Form Sequencing

Incorrect Offer sequencing is one of the main causes for delays in Offer processing. Below is an example of incorrect and correct sequencing. Please ensure your Offers meeting this criteria to ensure timely Offer processing with minimal back-and-forth communication between PG&E and the developers.

**Incorrectly Sequenced Offers:
1 Offer with 3 Variants**

Total Offers	1
Offer #	2
Variant	a (base)

Total Offers	1
Offer #	2
Variant	b

Total Offers	1
Offer #	3
Variant	c

**Correctly Sequenced Offers:
2 Offers with 3 Variants**

Total Offers	2
Offer #	1
Variant	a (base)

Total Offers	2
Offer #	1
Variant	b

Total Offers	2
Offer #	1
Variant	c

Total Offers	2
Offer #	2
Variant	a (base)

Total Offers	2
Offer #	2
Variant	b

Total Offers	2
Offer #	2
Variant	c

Offer Form – Product Description

Interconnection Information

Offer Information	
Product Type	As-Available Peaking
Transaction Type	Full Buy
Capacity Type	Partial Deliverability
Project Size (MW)	20.00
Partial Capacity Offered (MW)	10.00
Guaranteed Commercial Operation Date	1/31/2020
Deliverability Date	2/1/2021
Delivery Term (months)	20.00 240.00
Avg Pre-TOD Price (\$/MWh)	-

If Partial or Full Capacity Deliverability are selected, be sure to fill in the Deliverability Date based on your interconnection documentation.

An estimate of average pre-TOD price will be automatically populated after the revenue calculator is run.

Interconnection details are required in the Electrical Interconnection Information section.

Electrical Interconnection Information			
Interconnection App. Status	Phase II study or equivalent complete		
Interconnecting Utility	PG&E	Point of Interconnection	Interconnection Point
Interconnection Queue	PG&E WDT	Closest Substation	
Queue Number	WD-xxxxxx	Status of Interconnection Point	Existing
Interconnection Net Capacity	20 MW		
Full Capacity Deliverability/Energy Only?	Partial Deliverability		
Interconnection part of Cluster 5 or Later Studies?	No	Direct Assigned Cost (\$)	
Interconnection Deliverability Option		Area Delivery Network Upgrade Costs (\$)	\$0.00
		Local Delivery Network Upgrade Costs (\$)	\$50,000.00
Interconnection Voltage	220 kV	Reliability Network Upgrade Costs (\$)	\$0.00
Interconnection Level	Transmission	Total Network Upgrade Costs (\$)	\$50,000.00
Delivery Market	NP15	Network Upgrade Construction Time (months)	18
		Deliverability % (for partial deliverability, list % of full deliverability)	50.00%
Other Characteristics			

Offer Form – Energy Pricing

TOD Factors for each Fully Deliverable TOD Period			
Baseload and Peaking TOD Performance Requirements			
Time of Delivery (TOD) Periods & Factors			
Monthly Period	1. Peak	2. Mid-Day	3. Night
July - September	1.479	0.604	1.087
October - February	1.399	0.718	1.122
March - June	1.270	0.280	1.040

Full Legal Project Name:
PG&E Project ID: __PV_1a_of_L_PV2016_5

Select either fixed or escalating Pricing Type. Fixed pricing requires inputting only first year price whereas Escalated pricing requires first year price and annual escalation rate.

Pricing Type Escalating ← Step 1
Escalation Rate 1.00% ← Step 1a

Contract Year Number	Contract Year Start Date (mm/dd/yyyy)
1	01/01/00
2	01/01/01
3	01/01/02
4	01/01/03
5	01/01/04
6	01/01/05
7	01/01/06
8	01/01/07
9	01/01/08
10	01/01/09
11	01/01/10
12	01/01/11
13	01/01/12
14	01/01/13
15	01/01/14
16	01/01/15
17	01/01/16
18	01/01/17
19	01/01/18
20	01/01/19

Contract Year Stop Date (mm/dd/yyyy)
12/31/00
12/31/01
12/31/02
12/31/03
12/31/04
12/31/05
12/31/06
12/31/07
12/31/08
12/31/09
12/31/10
12/31/11
12/31/12
12/31/13
12/31/14
12/31/15
12/31/16
12/31/17
12/31/18
12/31/19

Contract Price (\$/MWh)
\$60.00
\$60.60
\$61.21
\$61.82
\$62.44
\$63.06
\$63.69
\$64.33
\$64.97
\$65.62
\$66.28
\$66.94
\$67.61
\$68.29
\$68.97
\$69.66
\$70.35
\$71.06
\$71.77
\$72.49

← Step 2

Offer Form – Generation Profile

IMPORTANT:

1) Please provide a generation profile forecast of the project's average-day net output energy production, stated in MW by hour, by month and by year. Generation entered here should exclude onsite use and should be entered in calendar year format.

2) The template is designed and defaulted such that the generation profile should reflect the project's average-day net output at full capacity before degradation. The template defaults that the only changes to the generation profile through the term of the contract will be caused by annual degradation.

Annual Degradation (%)							Import Gen Profile																		
Month	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	
Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	4.7	6.7	7.1	7.4	7.6	8.1	8.0	7.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	6.7	9.4	11.2	11.0	10.2	10.4	10.3	11.6	7.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	10.1	13.8	14.7	15.7	14.6	14.8	14.8	14.2	13.2	10.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	0.8	6.7	13.7	16.1	16.0	16.5	16.8	16.3	17.1	15.3	15.7	13.2	6.8	0.0	0.0	0.0	0.0	0.0	0.0
May	0.0	0.0	0.0	0.0	0.0	0.0	2.0	11.3	15.9	17.6	18.2	18.3	18.7	18.9	18.0	17.5	17.1	15.3	10.5	0.4	0.0	0.0	0.0	0.0	0.0
Jun	0.0	0.0	0.0	0.0	0.0	0.0	3.0	12.8	16.0	18.2	18.8	18.2	18.6	18.4	18.7	18.0	18.1	16.0	12.5	1.5	0.0	0.0	0.0	0.0	0.0
Jul	0.0	0.0	0.0	0.0	0.0	0.0	1.7	10.8	15.4	17.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.8	14.9	17.5	17.9	18.2	17.7	17.6	17.7	17.5	16.5	14.6	8.4	0.4	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	13.4	16.3	16.7	16.3	16.0	15.8	16.1	16.0	15.0	11.3	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	9.2	13.3	14.1	14.6	14.6	13.8	14.3	13.8	12.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	10.2	10.8	10.1	10.1	11.0	9.9	10.2	7.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	6.9	8.2	9.2	7.4	7.6	7.8	8.6	6.2	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Interconnection Information

Interconnection Overview

- Tariffs
 - PG&E Rule 21
 - PG&E Wholesale Distribution
 - CAISO Generator Interconnection and Deliverability Allocation Procedures
- Study Processes
 - Fast Track (FT)
 - Initial Review (IR)
 - Supplemental Review (SR, required if IR failed)
 - Independent Study (ISP)
 - System Impact Study (SIS)
 - Facilities Study (FAS, optional for additional detail and cost certainty)
 - Cluster
 - Phase I and II

Typical Study Timelines

Application to completion of Phase II Study

Add ~4 months for Interconnection Agreement negotiation and execution

Grid Controller	Fast Track	Independent Study	Cluster
CAISO*	~1 month	6 months (SIS + FAS combined)	1.5 years (Phase I and II)
PG&E	1 month (IR only) 2 months (IR + SR, if required)	3 months (SIS only) 6 months (SIS + optional FAS)	1.25 years (Phase I and II)

*Subject to CAISO Tariff.

Intermission

Q & A