



*Pacific Gas and
Electric Company®*

**Smart Grid Compressed Air Energy Storage
Demonstration Project Request for Offers
Solicitation Protocol**

2015 CAES RFO

October 9, 2015

(Updated March 30, 2016)

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I. Introduction and Overview

Pacific Gas and Electric Company (“PG&E”) is issuing this Smart Grid Compressed Air Energy Storage (“CAES”) Demonstration Project Request For Offers (referred to herein as the “RFO,” “Solicitation,” or “2015 CAES RFO”) to (1) potentially procure products and services related to PG&E’s CAES demonstration project, and (2) determine the technical and economic feasibility of energy storage using compressed air (“Project”). This RFO is issued in accordance with the California Public Utilities Commission’s (“CPUC”) January 21, 2010 Decision (“D.”) 10-01-025 authorizing certain funding for the Project.

The Project is supported by various entities and is intended to enable PG&E to demonstrate the viability of advanced compressed air energy storage. The CPUC has authorized PG&E to commit up to \$24.9 million, which matches an award of \$24.9 million from the United States Department of Energy (“DOE”)¹ under the American Recovery and Reinvestment Act, for Phase 1 of a Smart Grid Compressed Air Energy Storage demonstration project (“Phase 1”). In August 2013, the California Energy Commission (“CEC”) awarded \$1.0 million in funds to analyze how an advanced, underground compressed air energy storage plant might provide ancillary services to the California Independent System Operator Corporation’s (“CAISO”) electric grid to help California meet its renewable energy resource goals.²

The Project would use energy to compress air and inject it into a depleted natural gas reservoir in a porous rock formation that is approximately one half to one mile underground (“Proposed Reservoir”). When electricity is needed, the compressed air would be (1) released, (2) heated using natural gas, and (3) expanded in a turbine that powers an electric generator at an energy conversion facility (“Energy Conversion Facility”). The Proposed Reservoir and Energy Conversion Facility sites are in San Joaquin County, California, and would be connected via an air pipeline. There are other components that may be part of the Project design, such as a natural gas pipeline and generator electricity tie-line to the Energy Conversion Facility, a recycled cooling water supply pipeline, and wastewater injection wells. These components are not included in this RFO and therefore would need to be procured by a Participant (defined below) outside the RFO context.

This document (“Solicitation Protocol”) describes the process by which PG&E will request and evaluate offers submitted by qualified entities (“Participants”) interested in developing the Project.

Background

There are three phases of the Project, which are described below:

Phase 1: The first phase consists of evaluating the feasibility of developing a CAES facility. PG&E has identified a site with technical potential and is issuing the RFO to determine its economic and commercial potential. PG&E will submit a Final Technical Report to the DOE, CPUC and CEC that, among other items, includes information on the costs and benefits of the Project. The Final Technical Report will be a public document and will provide specific findings on the geology, preliminary engineering, RFO results, and other information that PG&E has obtained.

¹ Award DE-OE0000198.

² The CEC award reduced the CPUC-authorized matching funds by an equal amount.

Information submitted by Participants in response to this RFO will be consolidated and summarized, but not specifically attributed to any Participant, in the Final Technical Report.

Phase 2: If PG&E decides to proceed with the Project based on RFO results, the second phase would include construction, commissioning, and commercial operation of the Project.

Phase 3: The third phase involves monitoring of the Project to collect two (2) years of operational data and technological information.

Phase 1 seeks to accomplish certain DOE Project Objectives, which are to:

- “1. Verify the technical performance of advanced CAES technology using a porous rock formation as the underground storage reservoir;
2. Integrate intermittent renewable resources by using the CAES plant to provide ramping/regulation to steady the power fluctuations from load and intermittent renewables;
3. Use the CAES plant to provide emergency spinning/non-spinning reserve (synchronous and non-synchronous); and
4. Perform Volt Amperes-Reactive (VAR)/voltage support.”³

It is important to note that this Project is a demonstration project whose viability is being studied under Phase 1, as explained above. At the end of this Solicitation, if PG&E determines that a Participant can design, construct, and operate a viable Project, then PG&E may select that Participant and engage in negotiations relating to the [applicable agreements](#) (“[CAES Agreements](#),”) which [are](#) described in Section III, Agreement Types, below. However, because the technology and other attributes of the Project, including its design, could vary, the RFO requirements and proposed commercial structure may evolve throughout the RFO process. If the Project moves forward, then as between PG&E and the Participant, the Participant would be responsible for designing, building, owning, operating, and maintaining the Project. PG&E would seek to transfer applicable land rights for the Project in the event negotiations with such Participant conclude successfully with executed agreements.

I.A. Solicitation Overview

PG&E seeks offers (each, an “Offer”) for an Energy Conversion Facility using air stored at the Proposed Reservoir in San Joaquin County. PG&E is seeking to purchase, [based on agreement type](#), energy, capacity, ancillary services, and, as applicable, renewable and environmental attributes, and any other benefits (“Products”) from a new Energy Conversion Facility to be designed, constructed, operated, and maintained by Participant that utilizes the San Joaquin site, or another site obtained by the Participant.

PG&E requests that interested parties meeting the criteria established in this Solicitation Protocol submit an Offer in accordance with the directions provided below. By responding to this RFO, such party agrees to be bound by all of the terms, conditions and other provisions of this RFO, and any changes or supplements to it, that may be issued by PG&E.

³ PG&E’s Assistance Agreement with the US Department of Energy, DE-OE0000198, Attachment 2, Section A.

I.B. RFO Websites and Communications

1. PG&E Website

This Solicitation Protocol, announcements, frequently asked questions (“FAQs”) and other information are available for Participants to download from PG&E’s website at www.pge.com/rfo (select “2015 CAES RFO”). Please note that these documents are subject to change as necessary to meet RFO needs.

All correspondence will be monitored by the Independent Evaluator (“IE”). An IE is an independent, third-party evaluator who will monitor and evaluate PG&E’s conduct of the Solicitation for compliance with applicable CPUC standards. To ensure the accuracy and consistency of information provided to all Participants, PG&E requests that Participants communicate by e-mail to both PG&E (CAESRFO@pge.com) and to each representative of the Boston Pacific Company, Inc., the IE that PG&E has retained for this RFO: Frank Mossburg (fmossburg@bostonpacific.com) and Sam Choi (schoi@bostonpacific.com).

With respect to any matter of general interest raised by a Participant, PG&E may, without reference to the inquiring Participant, post the question and PG&E’s response on PG&E’s website. While PG&E will review all inquiries, it may decline to respond to any particular inquiry.

2. Power Advocate Website

All Offers for this RFO must be submitted electronically through Power Advocate, an on-line, third-party bidding platform. Information about how to register for Power Advocate is provided in Section VI, Offer Submittal Process, below.

3. PG&E Data Room

In addition to the public Solicitation material posted by PG&E at www.pge.com/rfo, PG&E will post all Project-related documents associated with this Solicitation to an electronic data room (“Data Room”). The Data Room contains PG&E’s findings on geology, preliminary engineering, environmental analysis, and other information that PG&E has gathered through testing and analyses of the San Joaquin site. An overview of the contents of the Data Room is provided in Appendix 3, Data Room Contents.

Participants will need to refer to these Data Room documents to prepare their Offer. The amount of information available in the Data Room is very sizeable and complex; therefore, Participants are encouraged to take the steps necessary to obtain access to the Data Room as soon as possible. To gain access to the Data Room, Participants must submit to PG&E via Power Advocate (1) an executed Confidentiality Agreement (Appendix 1) or a redline version of it, if modifications are proposed, and (2) sufficient and complete information regarding their respective experience, qualifications and organization (Appendix 2). Participants who lack a mutually acceptable and executed Confidentiality Agreement and/or sufficient experience and qualifications will not be provided access to the Data Room. Participants with fully executed Confidentiality Agreements and sufficient experience and qualifications will be provided access to the Data Room via a link to the Data Room site.

[All requests for access to the Data Room must be received no later than 1:00 P.M. PPT on April 13, 2016.](#)

PG&E DISCLAIMERS REGARDING DATA ROOM MATERIALS. PG&E MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, WITH RESPECT TO ANY OF THE DOCUMENTS, INFORMATION, AND MATERIALS

PROVIDED IN THE DATA ROOM (COLLECTIVELY, “DATA ROOM MATERIALS”) OR TO THE ACCURACY AND COMPLETENESS OF ANY OF THE DATA ROOM MATERIALS.

WITHOUT LIMITING THE FOREGOING, PG&E MAKES NO REPRESENTATION OR WARRANTY OF MERCHANTABILITY, USAGE OR SUITABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO ANY OF THE DATA ROOM MATERIALS, OR THE ABSENCE OF ANY INACCURACIES THEREIN, ANY SUCH REPRESENTATIONS AND WARRANTIES BEING HEREBY EXPRESSLY DISCLAIMED. FURTHER, NO MATERIAL OR INFORMATION PROVIDED BY OR COMMUNICATIONS BY PG&E OR ITS REPRESENTATIVES TO ANY PARTICIPANT WILL CAUSE OR CREATE ANY WARRANTY, EXPRESS OR IMPLIED, AS TO THE CONDITION OR QUALITY OF ANY OF THE DATA ROOM MATERIALS.

I.C. Schedule Overview

The schedule for this RFO is provided below. All deadlines close at 5:00 P.M. Pacific Prevailing Time (“PPT”), unless otherwise noted. Section I.D, Events in the RFO Schedule, contains additional details for some of the steps in the schedule.

Ongoing	Participants are invited to register on-line for the RFO at www.pge.com/rfo and clicking on “2015 CAES RFO.”
October 9, 2015	PG&E issues the RFO.
October 9, 2015 and ongoing through April 13, 2016	Participants may submit to PG&E executed or redlined (if proposing modifications) Confidentiality Agreement (Appendix 1) and completed responses to the Experience, Qualifications and Organization inquiries (Appendix 2) to request access to the Data Room. <u>All requests for access to the Data Room must be received no later than 1:00 P.M. PPT on April 13, 2016.</u>
October 12, 2015	Data Room will be available to Participants PG&E has approved for access.
October 26, 2015	Deadline for Participants to submit registration for CAES General Participants’ Webinar.
October 29, 2015	General Participants’ Webinar.
November 15, 2015 and ongoing thru March 31, 2016	Optional individual CAES Project site visits and visits to the California State University Bakersfield Core Repository for viewing of reservoir cores may begin for Participants who have been approved for access to the Data Room.
March—April 2016 (date and time TBD)	Participants’ Offer Form Webinar <u>for approved Data Room Participants.</u>
No later than March 1, 2016	PG&E posts the CAES Agreement.
May—June 19, 2016	All Offers must be received by PG&E via the Power Advocate website no later than 1:00 P.M. PPT.

July 20 <u>August 3</u> , 2016	PG&E notifies shortlisted Participants and requests Shortlist Offer Deposits.
August <u>17</u> 3 , 2016	Participant notifies PG&E whether or not it accepts PG&E's Shortlist position and posts any Shortlist Offer Deposit.
February 28, 2017 (approximate)	If applicable, PG&E and shortlisted Participants complete negotiation of an an CAES Agreement, which shall be subject to "CPUC Approval," as provided in the <u>applicable CAES</u> Agreement.
TBD	PG&E issues Final Technical Report to DOE.

The RFO schedule is subject to change at PG&E's sole discretion at any time and for any reason. PG&E will endeavor to notify Participants of any schedule change, but shall not be responsible or liable in any way or manner, or for any costs, expenses or liability incurred by any Participant or any third party to participate in this RFO, including any expense or liability due to a change in the schedule or for failing to provide notice of any change. PG&E reserves the right to execute agreements with individual Participants at any time after shortlisting. PG&E plans to seek CPUC Approval of all executed agreements resulting from this RFO (as discussed in Section XV of this Protocol). The CPUC's approval process may take up to eighteen (18) months, or longer, from the date PG&E submits an agreement for CPUC Approval. Therefore, Participants should factor the CPUC's approval process into their Project development timelines and proposals.

PG&E is committed to minimizing the amount of time required to negotiate agreements, while ensuring that Participants have sufficient time to prepare Offers and PG&E has sufficient time to evaluate and review Offers. Negotiations of shortlisted Offers may conclude sooner or be extended beyond the dates specified above.

I.D. Events in the RFO Schedule

1. On-line Registration

Participants may register at the RFO website <http://www.pge.com/rfo> to receive timely announcements and updates about PG&E's RFO and other related information. On-line registration is not required, but is strongly recommended. Participants who register will receive informational notices for this RFO.

2. PG&E Issues the Solicitation; Access to Data Room Materials

Documents associated with the Solicitation are posted to PG&E's CAES RFO website. In addition, PG&E will post in the Data Room PG&E's findings on geology, preliminary engineering, environmental analysis, and other information that PG&E has gathered through testing and analyses of the San Joaquin site. A Participant will need to review the Data Room Materials to prepare its Offer(s). See Section 1.B.3, PG&E Data Room, for the requirements to gain access to the Data Room. [PG&E requests that Participants submit required materials to gain access to the Data Room no later than 1:00 p.m. PPT on April 13, 2016.](#)

3. Participants' Webinar

PG&E will hold a Participants' Webinar on October 29, 2015. The Webinar will provide an overview of the RFO and requirements. Call-in information and an attendance registration form will be provided on the Solicitation website. In order to facilitate the number of RFO Webinar Participants, PG&E requests that Participants submit the Participants' Webinar Registration Form by no later than 5:00 p.m. PPT on October 26, 2015.

4. Participants' Offer Form Webinar

Upon request, PG&E will hold a Participant's Offer Form Webinar in March 2016 with approved Data Room Participants. During this Webinar, PG&E will provide an overview of the CAES RFO Offer Form. Call-in information will be provided on CAES RFO website to approved Participants.

5. Offers Due

A Participant must submit its Offer to PG&E by 1 p.m. PPT on May-June 19, 2016 in compliance with the directions found in Section VI, Offer Submittal Process. Offer package(s) must include the documents described in Section VI.D, Required Information.

Upon receiving Offers, and as necessary, PG&E may request a meeting or conference call to discuss a Participant's Offer. The purpose of these discussions is to provide PG&E with clarity and a full understanding of the details of an Offer for its evaluation. The IE may monitor these discussions.

6. PG&E Selects Shortlist

PG&E expects to select a list of Participants for continued evaluation and negotiation ("Shortlist"). PG&E expects to notify those Participants selected for the Shortlist by a notice emailed to such Participants ("Shortlist Notice"). Please refer to Section XIII, Shortlist Notification to Participants, for further information about the Shortlist process.

To continue, a selected Participant shall post a Shortlist Offer Deposit as described in Section V.C, Shortlist Offer Deposit. PG&E reserves the right to request additional information from any selected Participant on the Shortlist.

I.E. PG&E's Reservation of Rights

This RFO is an invitation to submit Offers to PG&E; it does not constitute an offer to buy and creates no obligation to execute any agreement or to enter into any transaction under an agreement. PG&E reserves the right to request information from a Participant at any time during the Solicitation process. PG&E reserves the right, in its sole discretion, to reject any Offer at any time for any reason, including but not limited to, grounds that the Offer does not conform to the terms and conditions of this RFO or contains terms that are not acceptable to PG&E. PG&E also retains the right, in its sole discretion, at any time, (1) to formulate and implement new or additional criteria for the evaluation and selection of Offers; (2) to negotiate with any Participant; or (3) to modify this RFO as it deems appropriate to implement the RFO and to comply with applicable law or other direction provided by the CPUC. In addition, PG&E reserves the right to either suspend or terminate this RFO at any time for any reason. PG&E will not be liable, in any way, by reason of such withdrawal, rejection, suspension, termination or any other action described in this paragraph, to Participant or to any third party. PG&E will not reimburse the Participant for its expense of participating in this RFO under any circumstances, regardless of whether such Participant's Offer is selected, not selected, rejected or disqualified.

II. Eligibility Requirements

PG&E will consider an Offer that meets the applicable specifications described below.

II.A. Project Location

The Project must be based at the reservoir identified in this Solicitation (Proposed Reservoir) and use the reservoir as the compressed air storage medium. The Energy Conversion Facility may be at the site studied by PG&E, or the Participant may propose an alternate site. However, the Delivery Point for the electricity products must be within the CAISO-controlled transmission grid.

The Project must, at a minimum, supply the maximum value of the output of at least one generation unit. A generation unit generally includes: a recuperator, high pressure expander, high pressure combustor, low pressure combustor, low pressure expander, and an associated portion of plant auxiliaries to support operation.

II.B. Commercial Online Date

The Project must bid an Initial Delivery Date (as defined in the [CAES Agreements](#)) of no later than December 31, 2024, which must include any and all extensions for permitted delays.

II.C. Certain Performance and Operational Requirements and Preferences

Requirements. PG&E requires the following:

1. The capability of the offer must be between 100 MW and 350 MW.
2. The Project must have at least a four (4) hour continuous minimum discharge (i.e., generation) duration, the ability to transition from charging (i.e., air compressing) level to discharging in forty-five (45) minutes or less, and the ability to be dispatched seven (7) days/week, twenty-four (24) hours per day. All operational limitations must be based on clear physical/equipment restrictions or external limitations established by statute, regulation or ordinance (e.g., air permit constraints), and be detailed in the Offer.
2. The Project must directly interconnect into the CAISO transmission grid and have at least one dedicated CAISO meter on the high side of a step-up transformer. In addition, the Project will be required to meter each compressor or generation unit and may be required to meter auxiliary load with revenue quality meters, depending on system design. The Project must be able to respond to the electronic signals of PG&E, a third-party Scheduling Coordinator, or CAISO systems (e.g., SCADA, Automatic Generation Control (“AGC”), and Automated Dispatch Signal (“ADS”)).
3. Participants must offer a Project that will be capable of delivering Resource Adequacy (“RA”) value (fully deliverable under the CAISO Tariff requirements) and Flexible RA. The Project must meet the applicable CPUC requirements for duration and CAISO requirements for deliverability as well as any other requirements that will enable PG&E to receive all of the RA and Flexible RA benefits associated with the Project. Offers for Projects that are either Energy Only or Partial Capacity Deliverability Status (as that term is defined under the CAISO Tariff) are not eligible to participate in this RFO.

4. [For Offers seeking to execute a CAES Agreement \(see Appendix E1\)](#) PG&E requires Offers in which PG&E is the sole off-taker of the Products from the Project. Participants will not be allowed to sell, deed, grant, convey, transmit, or otherwise provide any energy, capacity (such as RA), ancillary services (“Ancillary Services” as defined in the CAISO Tariff) or any other output or product, including capacity attributes or other benefits associated with the output of the Project, to any entity other than PG&E. PG&E holds the full rights to require the Project to compress and generate.
5. Participants must provide specific operating flexibility or constraints as part of their Offer package. Details must be defined by the Participant in the Offer Form (Appendix A), and Project Description (Appendix B1), and be substantiated in terms of technical limitations, permit requirements, and/or environmental regulations.
6. [For Offers seeking to execute a CAES Agreement \(see Appendix E1\)](#), the Project must be able to provide Ancillary Services.
7. Participants must design, develop, construct, commission, operate, and maintain the Project in conformance with Prudent Electrical Practices, as defined in Appendix F, Safety.

Preferences for Offers seeking to execute a CAES Agreement (see Appendix E1). In general, PG&E has a strong preference for operationally flexible and dispatchable resources. A Project that has the following characteristics is preferred:

1. minimize startup time to full operation, both on charging and generation sides;
2. broad range between (a) the minimum compression level and maximum compression level and (b) the minimum generation level and maximum generation level, with minimal losses in efficiency and maximum dispatch granularity across such ranges;
3. maximize ramp-up and ramp-down rates for charge and generation;
4. high rate and efficiency of compression (i.e., lbs/MWh air injected into the reservoir) and efficiency (low heat rate, MWh/lbs withdrawn from the reservoir) of generation;
5. provision for an air bubble size that increases the operational flexibility of the Project (i.e., a larger air bubble may allow the Project to compress more air to enable longer generation times);
6. a zero or low heat rate (if a technical solution exists to reduce and/or eliminate the natural gas use required, please address in detail in the Offer); and
7. minimizes transition times between charging (i.e., injecting air into the reservoir) and discharging (i.e., generating electricity).

III. Agreement Types

The following section describes the expected [Agreements](#) for the Project and Products being solicited under the RFO (~~collectively, the “Agreements”~~).

~~As will be further provided in the CAES Agreement, each Participant must agree and be able to: (1) schedule and dedicate the contracted amount of Product; and (2) not sell, deed, grant, convey, transmit, or otherwise provide any energy, capacity, Ancillary Services or any other output or Product, as provided above, to any entity other than PG&E.~~

III.A. Compressed Air Energy Storage Agreements

~~Due to the complex nature of the Project's technology, the CAES Agreement will not be finalized until early 2016.~~ The CAES Agreement will be for the storage, purchase and sale of Product to PG&E from a Project to be designed, developed, constructed, commissioned, operated and maintained by the Participant. PG&E will develop a final form of CAES Agreement with shortlisted Participants. PG&E reserves the right to change the form and content of the CAES Agreement during the Solicitation and negotiation process.

PG&E's Tolling Agreement and Energy Storage Agreement are examples of the types of form agreements that PG&E has used previously for tolling and energy storage services, respectively. These documents are available for reference on the CAES RFO website. PG&E expects that many terms in the CAES Agreement will be the same or similar to those in the Energy Storage Agreement. PG&E also expects that the CAES Agreement will incorporate natural gas, heat rate, GHG, and other relevant terms from the Tolling Agreement, with additional and replacement terms to account for the unique attributes of CAES.

Key principles of the Tolling and Energy Storage Agreements are:

- PG&E provides charging energy and natural gas as defined in the contract.
- The majority of compensation is paid via a monthly fixed payment. While the exact formula will vary for CAES as compared to the Tolling and Energy Storage Agreements, the monthly fixed payment would decrease if availability and other key performance parameters are not met.
- PG&E will be the Scheduling Coordinator.
- PG&E will be able to schedule the project according to the Operating Characteristics provided in the Offer Form.
- Participants will bear all deviations to the extent the Project does not perform to schedule.

A timeline for release of the CAES Agreement and associated documents is as follows:

- No later than November 30, 2015: PG&E issues the CAES Agreement Term Sheet, which will describe the major terms of the CAES Agreement.
- No later than December 31, 2015: PG&E will reach out to Participants approved for access to the Data and schedule meetings to provide Participants with the opportunity to present their preliminary Project designs to PG&E.
- No later than March 30~~1~~, 2016: PG&E will issue the CAES Agreement [Term Sheet](#), which is expected to be based in part on information collected from Participants during their presentations to PG&E.
- If applicable, PG&E will develop the CAES Agreement during negotiations with any shortlisted Participants.

[In addition to the CAES Agreement, PG&E will consider offers for RA only products through an RA Only Agreement \(Appendix E2\) and for RA products through a Capacity Storage Agreement \(CSA\) which includes an energy equivalent settlement component \(Appendix E3\).](#)

III.B. Assignment Agreement

The natural gas reservoir at the San Joaquin site selected for the Project (Proposed Reservoir) is the underground portion of land owned by outside parties. Under California law, the right for injection, storage and withdrawal of compressed air in an underground reservoir or formation is owned by the owner of the non-mineral estate, subject to an obligation to not unreasonably interfere with the rights of the owners of the mineral estate to explore for, develop and produce natural gas or oil. PG&E holds the right to acquire: (1) an underground storage lease and agreement from the owner of the non-mineral estate overlying the storage reservoir site, together with (2) the right to acquire mineral owner consent agreements from the separate owners of mineral rights at the Proposed Reservoir, which consent to the Project and preclude the mineral owners or their lessees from drilling into or through the storage reservoir. The rights referenced in (1) and (2) above are referred to as the “Storage Rights”. Additionally, PG&E holds options and/or is negotiating to acquire options: (3) a ground lease on nearby lands (“Energy Conversion Facility Site”) for installation and operation of a compressor station and an Energy Conversion Facility (a generating plant) and related ancillary equipment, and (4) easements for installation of pipelines for conveyance of compressed air to and from injection wells which would be located over the Proposed Reservoir and Energy Conversion Facility Site and for a water pipeline (“Pipeline Easement”). PG&E would exercise its rights to acquire the Storage Rights and assign those rights to the successful Participant, and expects also to assign PG&E’s rights to acquire the Energy Conversion Facility Site and the Pipeline Easement to such Participant using the proforma assignment agreement included in this Solicitation at Appendix E42 (“Assignment Agreement”), the terms and conditions of which shall not be modified unless Participant has obtained an alternative site for the Energy Conversion Facility and/or alternative rights to the necessary pipelines.

IV. Credit

Participants that execute an ~~an CAES~~ Agreement with PG&E must post collateral to PG&E to mitigate PG&E’s risk in the event that the Project is not constructed or placed into commercial operation, or the Participant is otherwise unable to meet the conditions of the ~~applicable CAES~~ Agreement prior to the start of the delivery term. PG&E will retain the collateral as liquidated damages due to PG&E in the event the Participant defaults under the terms of the ~~applicable CAES~~ Agreement prior to the start of the delivery term (“Project Development Security” or “PDS”).

If providing a Letter of Credit, please review carefully the Letter of Credit requirements set forth in the ~~CAES Energy Storage~~ Agreement.

IV.A. Project Development Security

All Project Development Security must be in the form of a cash deposit or a Letter of Credit. Participants that execute an ~~an CAES~~ Agreement must post Project Development Security in the amount of \$15/kW at execution of the ~~CAES~~ Agreement and an additional \$45/kW as [outlined in the applicable Agreement CPUC Approval](#).

IV.B. Delivery Term Security

In order to commence the delivery term, the Participant must post Delivery Term Security (“DTS”) in an amount equal to the greater of (a) \$125/kW, or (b) 10% of the maximum 36 month fixed capability payments. The purpose of the DTS, which may be in the form of cash, Letter of Credit, or guaranty acceptable to PG&E in its sole discretion, is to manage the credit risk associated with the Products being procured as part of this RFO.

V. Terms for RFO Participation

V.A. Agreement by Participant

Each Participant submitting an Offer shall provide the electronic signature of a duly authorized officer of Participant on the Offer Form. By providing such signature, the Participant (1) agrees to be bound by all terms, conditions and other provisions of this RFO and any changes or supplements to it that may be issued by PG&E; and (2) makes the following representations and warranties:

1. Participant has read, understands, and agrees to be bound by all terms, conditions and other provisions of the RFO.
2. Participant has had the opportunity to seek independent legal and financial advice of its own choosing with respect to the RFO.
3. Participant is not an affiliate of PG&E, PG&E Corporation, or any of their affiliates.
4. Participant has obtained all necessary authorizations, approvals and waivers, if any, required of Participant as a condition of: (a) submitting its Offer and, (b) if Participant's Offer is selected, executing Agreement(s) with PG&E in the form submitted with its Offer, or at the conclusion of negotiations.
5. Participant is submitting its Offer subject to all applicable laws including, but not limited to, the Federal Power Act and all amendments thereto, and Public Utilities Code §454.5.
6. Participant represents that it has carefully considered the terms and conditions of its Offer and that it is submitting its Offer in good faith, such that PG&E may reasonably expect Participant to enter into Agreements, and to negotiate, if requested by PG&E, as provided in Section XIV, Execution of Agreements, below.
7. Participant has not engaged in and will not engage in, communications with any other Participant in the RFO concerning any terms contained in Participant's Offer, unless explicitly authorized by PG&E, and has not engaged in activities in violation of State or Federal antitrust laws or other unlawful or unfair business practices in connection with the RFO (“Prohibited Communication Activities”).

Notwithstanding the foregoing, Participant may engage in communications with its advisors, counsel, experts or employees who have a need to know the content of the communications and have agreed to keep such information confidential (collectively, “Advisors”). In addition, Participant may engage in communications with other Participants submitting an Offer in the RFO and their Advisors (“Other Participants”), so long as: (a) such Other Participants are under common ownership and control with that Participant; (b) Participant and Other Participants do not engage in Prohibited

Communication Activities; and (c) in the event Participant and Other Participant share a common Advisor, Participant has, prior to sharing communications with such Other Participant and the common Advisor, provided PG&E with (i) notice of such Other Participant and common Advisor and (ii) an attestation that Participant has not and will not engage in Prohibited Communication Activities with either the Other Participant or the common Advisor.

8. If Participant's Offer is selected for the Shortlist and Participant accepts the position on the Shortlist, then Participant agrees to negotiate in good faith with PG&E.
9. Participant will promptly notify PG&E of any change in circumstance that may affect its ability to fulfill the terms of its Offer at any time during (a) the Solicitation process and (b) any negotiations with PG&E with respect to its Offer, including up to any execution of any Agreements or Participant's withdrawal of its Offer.

If Participant is submitting an Offer jointly with other entities, and the Offer is selected for the Shortlist, PG&E may require, as part of the shortlisting process, additional representations and warranties, along with additional documentation, from all entities involved in the joint Offer (see Section VI.D, Required Information).

A BREACH BY ANY PARTICIPANT OF THE REPRESENTATIONS AND WARRANTIES IN SECTION V.A OF THIS SOLICITATION PROTOCOL, IN ADDITION TO ANY OTHER REMEDIES THAT MAY BE AVAILABLE TO PG&E UNDER APPLICABLE LAW, IS GROUNDS FOR IMMEDIATE DISQUALIFICATION OF SUCH PARTICIPANT FROM PARTICIPATION IN THE 2015 CAES RFO AND, DEPENDING ON THE NATURE OR SEVERITY OF THE BREACH, MAY ALSO BE GROUNDS FOR TERMINATING THE 2015 CAES RFO IN ITS ENTIRETY.

V.B. Safety

PG&E is committed to providing safe utility (electric and gas) service to its customers. As part of this commitment, PG&E requests that each Participant provide in its Offer: (1) safety information and protocols related to the technology for the Project; and (2) a complete and accurate description of the safety record, history and practices of the entities that will design, develop, construct, commission, operate, and/or maintain the Project, including any actions taken to manage or mitigate any safety incidents. This information shall include the Occupational Safety and Health Administration (OSHA) Recordable Incident Rates and Experience Modifications Rates of such entities for the previous three (3) years. In addition, each Participant shall complete Appendix F, Safety, as part of its Offer. Please note that Participants may need to provide an independent third party engineer's report detailing the safety of the technology and verifying the safety history and practices of the entities identified by Participant to design, develop, construct, commission, operate, and/or maintain the Project. The [CAES Agreement](#) will contain specific requirements intended to ensure that the entities designing, developing, constructing, commissioning, operating, and/or maintaining the Project do so in compliance with all applicable laws and PG&E's standards and requirements, and in a safe, reliable and efficient manner that protects the public health and safety of California residents, business, employees and the community.

V.C. Shortlist Offer Deposit

If the Participant receives a Shortlist Notice and accepts the Shortlist position, then the Participant shall post a deposit (“Shortlist Offer Deposit”) in the amount of \$3 per kilowatt (kW) of Design Dmax⁴ [or Payment Quantity](#) before 5:00 P.M. PPT on the tenth (10th) business day after receiving such Shortlist Notice. Participant shall maintain the Shortlist Offer Deposit until the termination of negotiations with PG&E or as otherwise provided pursuant to the terms of the ~~CAES~~-Agreement negotiated by PG&E and Participant.

1. Purpose of Shortlist Offer Deposit

The Shortlist Offer Deposit is intended to secure the obligation of each Participant to enter into definitive Agreements, or negotiate and execute definitive Agreements, as expressly provided in Section XIV, Execution of Agreements, below. If the Participant fails to submit the Shortlist Offer Deposit within the required time period, the Participant's Offer may be rejected and removed from the Shortlist.

2. Form of Shortlist Offer Deposit

The form of the Shortlist Offer Deposit may be either: (a) a cash deposit through a wire transfer, or (b) a Letter of Credit. These two options are detailed below.

(a) Cash Deposit

Cash may be deposited with PG&E to be held as collateral through a wire transfer, as instructed in the Shortlist Notice. PG&E will pay interest on each cash deposit, calculated on a monthly basis and compounded at the end of each calendar month, from the date on which the cash is fully deposited to the date of returning the cash deposit to the Participant. The applicable interest rate will be the rate per annum equal to the Monthly Federal Funds Rate (as reset on a monthly basis, as of the first day of the month, based on the latest month for which such rate is available) as reported in Federal Reserve Bank Publication H.15-519 or its successor publication (“Interest Rate”). The Interest Rate shall be calculated based on a three hundred sixty (360) day year and shall be payable upon the return of the cash deposit.

(b) Letter of Credit

A Letter of Credit posted by a Participant as collateral must satisfy all of the requirements below.

“Letter of Credit” means an irrevocable, non-transferable, stand-by letter of credit in the form attached hereto as Appendix D2, (i) issued either by (A) a U.S. commercial bank or (B) a U.S. branch of a foreign commercial bank that meets all of the following conditions: (I) it has sufficient assets in the U.S. as determined by PG&E, and (II) it is acceptable to PG&E in its sole discretion; and (ii) for which the issuing U.S. bank or foreign bank, must have a Credit Rating of at least “A-” from S&P or “A3” from Moody’s, with a stable outlook designation. In the event the issuer is rated by both rating agencies and the ratings are not equivalent then the lower rating will apply. If the Letter of Credit is issued by a branch of a foreign bank, PG&E may require changes to the form Letter of Credit included as Appendix D2. All costs of the Letter of Credit shall be borne by Participant. The Letter of Credit should be sent by overnight delivery to:

⁴ Design Dmax as indicated in the Offer Form.

Pacific Gas and Electric Company
Attn: Manager, Credit Risk Management
77 Beale Street, Mail Code B28L
San Francisco, CA 94105

3. Return of Shortlist Offer Deposit

The Shortlist Offer Deposit will be returned to Participant by PG&E under one or more of the following conditions:

- (a) Upon execution of the Agreements and Participant's submission of the collateral required under the Agreements;
- (b) PG&E's rejection of the Offer subsequent to Shortlist selection; or
- (c) In the course of negotiations, if PG&E and Participant cannot agree on the terms of the Offer and the Agreements; provided that Participant has not unilaterally withdrawn the Offer as submitted through the Solicitation, or breached this Solicitation Protocol.

4. Forfeiture of Shortlist Offer Deposit

The Participant will forfeit the Shortlist Offer Deposit in its entirety due to: (a) any material misrepresentation in information submitted in Participant's Offer; (b) Participant unilaterally withdrawing its Offer from the Solicitation; or (c) a breach of this Solicitation Protocol by Participant. In the event that Participant forfeits the Shortlist Offer Deposit, PG&E will be entitled to draw upon the Shortlist Offer Deposit in its entirety as payment for direct and indirect damages incurred in connection with the Participant's misrepresentation or breach of this Solicitation Protocol.

5. Shortlist Offer Deposit as Security

PG&E shall be able to retain any cash deposit or draw on any Letter of Credit provided as a Shortlist Offer Deposit as security under an executed ~~CAES~~ Agreement, in the event that Participant fails to provide additional security and/or agrees to PG&E's retention of the Shortlist Offer Deposit as Project Development Security in accordance with the terms of the executed ~~CAES~~ Agreement, if applicable.

VI. Offer Submittal Process

VI.A. Overview

All Offers must be received via Power Advocate by ~~May 9~~June 1, 2016 at 1:00 p.m. PPT, as specified in Section I.C, Schedule Overview.

Submitting Documents: All Offers *must* be submitted electronically through Power Advocate. Prior to submitting an Offer, Participants must register with Power Advocate at the Public Registration Link: <https://www.poweradvocate.com/pR.do?okey=50932&pubEvent=true> (or search for Event #50932). PG&E strongly encourages Participants to register with Power Advocate well before the deadline for PG&E's receipt of all Offers. PG&E will post on PG&E's website detailed instructions for submitting Offers and using the online platform.

Power Advocate functions in most browsers; however, it may not work as well in browsers older than Internet Explorer version 8.

Each Offer must be uploaded onto Power Advocate as a “Commercial and Administrative” document type. Upload times can be lengthy for large files and Participants should plan accordingly. Each Offer should be in a separate zip file. Please make sure that file names for submittals do not contain any special characters such as *&#, and keep file names short. However, please include short references to the Participant’s name (such as an acronym) and the Appendix (e.g., App. B).

Electronic Document Formats: The electronic documents must be submitted as Microsoft Word, Microsoft Excel, or .pdf files, as identified in Section VI.D, Required Information. However, maps or drawings may be in alternate formats (e.g. .jpg, kmz), as appropriate. Each Appendix must be a separate folder or document; please do not combine multiple appendices into one long .pdf file. To the extent possible, .pdf files should be provided in a searchable format. The Participant should not provide documents in any other electronic format unless specifically requested.

VI.B. Need for Complete Offer Packages

Each Participant’s Offer must be complete at the time of submission. Participant’s failure to provide all required information may prevent PG&E from being able to evaluate and rank the Offer, which means that the Offer may not be considered for the Shortlist.

VI.C. Number of Offers and Variations Allowed Per Participant

Participants may submit up to three (3) ~~one~~ Offers and up to five (5) variations of that Offer (i.e., the original, single Offer and five additional variations of that Offer). An Offer may vary by contract type and a variation may alter such attributes as term, price, commercial operation date, duration of discharge, operational characteristics or other Agreement-related terms and conditions.

VI.D. Required Information

Note on Joint Offers: If a Participant is submitting a joint Offer with another Participant, PG&E may require additional documentation or conditions, such as retaining separate legal counsel, restricting the sharing of certain information, and/or requiring all parties to the joint Offer to execute a modified Confidentiality Agreement and agree to, and execute, modified terms for RFO participation, similar to those set forth in Section V.A, Agreement by Participant.

For the RFO, each Participant must complete the following documents, which are located in the Appendices, with Offer-specific information, in the order given below.

1. Data Room Admission Requirements

Table VI.1: Data Room Admission Requirements			
Appendix	Title	Description	Format
1	Confidentiality Agreement	Participant must execute the Confidentiality Agreement, or submit a redline of the Confidentiality Agreement if modifications are requested. This Confidentiality Agreement must be approved by PG&E and executed by both Participant and PG&E before the Participant may access the Data Room.	MS Word

2	Experience, Qualifications and Organization	Participant must describe its experience and staff qualifications, along with its organizational structure, as requested in Appendix 2. PG&E must be satisfied that Participant’s information and documentation meets the requirements of Appendix 2 before the Participant may access the Data Room.	MS Word
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2. Offer Package

Each Participant shall provide an **Introductory Letter** that describes the Project with pertinent information and a description of the Offer (e.g., price, term, size, etc.) information, including identification of each variation proposed. In addition, each Participant shall complete all of the Appendices listed in Table VI.2, below.

Please address any potential changes to the Project due to an Offer variation in the appropriate Appendices. A separate Offer Form is required for each Offer variation, but an entirely new Offer package is not required; there is no need to submit unchanged, duplicative Appendices if the information is the same. However, please provide a short note at the beginning of the applicable Appendix indicating which sections are duplicative among multiple Offer variations.

Any operational limitations on the Project due to technology constraints or other factors must be specifically identified in Appendix A, Offer Form, and Appendix B1, Project Description, and must be substantiated in terms of technical limitations, permit requirements, and/or environmental regulations.

Table VI.2: CAES RFO Offer Package			
Appendix	Title	Description	Format
A	Offer Form	Project pricing and operational information.	MS Excel
B1	Project Description	Description of the Project (include the requested information).	MS Word
B2	Project Milestone Schedule	Description of the key milestones and associated dates (which should align with proposed commercial operation date).	MS Word
B3	Project Interconnection and Transmission	Description of interconnection information and any interconnection studies for the Project.	MS Word (interconnection studies may be submitted in PDF format)
C	FERC 717 Waiver	Authorization of the disclosure of Participant’s transmission-related information to PG&E’s marketing and/or merchant business unit (“PG&E Merchant”).	MS Word
D1	Finance Information	Description of the Project’s financing plans, prior	MS Word

Table VI.2: CAES RFO Offer Package			
Appendix	Title	Description	Format
		project financing by Participant, and Participant financial statements.	
E1 - 3	Redline of E1 CAES Agreement Term Sheets (once available)	Once the CAES Agreement is available, Participant should carefully review and provide PG&E with proposed alternate language in the form of a red-lined CAES Agreement that, if agreed to and incorporated, the Participant would execute Term Sheets. Please ensure that any revisions are consistent with data provided in all applicable Appendices of this Solicitation Protocol.	MS Word
E42	Redline of E42 – Assignment Agreement	Participant should carefully review the Assignment Agreement. If Participant proposes an alternative site for the Energy Conversion Facility and/or alternative rights to the necessary pipelines, then Participant shall provide PG&E with proposed alternate language in the form of a redline Assignment Agreement that, if agreed to and incorporated, the Participant would execute. Please ensure that any revisions are consistent with data provided in all applicable Appendices of this Solicitation Protocol.	MS Word
F	Safety	Description of the Participant’s safety record and policies and site safety plan for the Project.	MS Word

3. Post-Shortlist Documents (if applicable)

If the Participant is offered and accepts the Shortlist position, then the Participant must complete the Appendices listed in Table VI.3, below. In addition, the Participant will need to provide a **Shortlist Offer Deposit** as described in Section V.C., Shortlist Offer Deposit, by August 17~~3~~, 2016. Any delay in providing the Appendices below will impact the Participant’s Shortlist position.

Table VI.3: CAES RFO – Post-Shortlist Appendices			
Appendix	Title	Description	Format
D2	Letter of Credit (if applicable)	Delivery instructions will be provided in the Shortlist Notice.	MS Word
G	Request for Taxpayer ID (W-9) Form (if applicable)	Please provide the requested information if posting a cash deposit.	PDF

Any proposed changes to the Agreements by a Participant will be considered part of that Participant’s Offer; that is, PG&E will assume that the Participant is willing to execute such Agreements based on those terms. However, PG&E may decide not to accept Participant’s changes or may propose its own modifications.

VII. Pricing

Participants must include in their Offer Form proposed pricing for the following items, as applicable ([please refer to the CAES Agreement for the definitions of these terms](#)). Offers may include a fixed escalation. Please note that indexed escalation proposals will not be accepted. Also, please note that PG&E would provide the natural gas for the Project, at contractual heat rates.

CAES Agreement Offer

1. Capability Payment Price (\$/kW-yr) (fixed price): a \$/MW payment on which the monthly fixed payment is based. The Capability Payment Price is measured based on the monthly generation MW capacity at maximum contractual reservoir pressure conditions.
2. Variable O&M Price (\$/MWh) for Discharge: a \$/MWh payment for each MWh of scheduled generation pursuant to Buyer's Schedule.
3. OperatingFired Hour Charge (\$/operatingfired hour/unit) for Discharge: a \$/operatingfired hour/unit, where the "operatingfired hour" is an hour or partial hour in which a given Unit is generating at Minimum Load or higher from the time Start-Up is initiated until Shut-Down as required pursuant to Scheduled Operations.
4. OperatingFired Hour Charge (\$/operatingfired hour/unit) for Charge: a \$/operatingfired hour/unit, where the "operatingfired hour" is an hour or partial hour in which a given Unit was generating or compressing at Minimum Load or higher from the time Start-Up is initiated until Shut-Down as required pursuant to Scheduled Operations.
5. Discharge Start-up Costs (\$/start/unit): a payment made for each Successful Scheduled Start-up of the generating unit. For a successful start, the Project must generate at steady state mode for a minimum of the lesser of one hour or Minimum Run Time.
6. Charge Start-up Costs (\$/start/unit): a payment made for each Successful Scheduled Start-up of the compression unit. For a successful start, the Project must compress at steady state mode for a minimum of the lesser of one hour or Minimum Run Time.

RA Only and CSA Offer

7. Capacity Payment Price (\$/kW-yr) (fixed price): a \$/MW payment on which the monthly fixed payment is based, applicable to RA Only and Capacity Storage Agreement Offers.
8. Variable O&M Price (\$/MWh): a monthly variable settlement which may need to be adjusted depending on a resource's operational characteristics, applicable to Capacity Storage Agreement Offers.

VIII. Evaluation of Offers

PG&E's evaluation will apply the principles of "least-cost, best-fit" using quantitative and qualitative criteria based on information contained in the submitted Offers.⁵

VIII.A. Quantitative Attributes

As part of the quantitative evaluation, PG&E looks at each Project's Net Market Value (NMV) and Portfolio Adjusted Value (PAV).

1. Net Market Value (NMV)

NMV compares an Offer's costs to its market value. The risks and uncertainties associated with an Offer's costs and benefits will be considered as part of Net Market Value. NMV is calculated for each Offer as follows:

Net Market Value: $NMV = \text{Benefits} - \text{Costs}$

Where:

$$\text{Benefits} = (E + A + C)$$

E = Energy Value

A = Ancillary Services Value

C = Capacity Value

$$\text{Costs} = (V + F)$$

V = Variable Cost

F = Fixed Cost

And where the individual components of the equation are detailed below:

(a) Energy Value ("E")

Energy Value captures the net revenue of the electric energy in the CAISO markets delivered to the grid and used from the grid for each Offer based on a charging and discharging time series obtained for the Offer over its delivery term.

The market value of the energy will be computed using the appropriate price curves for Trading Hub (NP15) adjusted for congestion and losses specific for the project location to account for the Location Marginal Price ("LMP") at the Location.

(b) Ancillary Services Value ("A")

For Offers that provide PG&E the ability to schedule and receive CAISO market revenues for Ancillary Services in accordance with CAISO Tariff requirements, the incremental benefit of having Ancillary Services capability will be captured.

⁵ Participants shall submit accurate figures, descriptions and calculations with their Offers.

(c) Capacity Value (“C”)

The value of Resource Adequacy (“RA”) capacity associated with each Offer will be determined based on the projected monthly quantity of Net Qualifying Capacity (“NQC,” for System RA) and Effective Flexible Capacity (“EFC,” for Flexible RA). Resources that are expected to be found fully deliverable by the CAISO will be attributed the full System RA capacity value for its projected NQC.⁶ To the extent that an Offer provides Flexible RA, the EFC that is expected to count and meet the must-offer obligation for Flexible RA will be evaluated at the projected monthly price for Flexible RA and added to the Capacity Benefit.⁷

(d) Variable Cost (“V”)

Variable Cost includes the cost of fuel (other than grid energy) and associated GHG cost, Variable O&M (“VOM”) for discharge, Fired Hour Charges for discharge and charge, and/or Start-up Costs for discharge and charge, if applicable, but does not include the market costs for Charging Energy. The contract VOM price will affect the discharge time series: all other things being equal, a lower VOM will result in more energy charging and discharging both in PG&E’s evaluation and in actual operation. Variable cost for an Offer will be calculated as the sum of hourly variable payments.

(e) Fixed Cost (“F”)

Fixed Cost for an Offer will be calculated as the sum of projected monthly fixed payments and associated debt equivalence cost. Monthly fixed payments will be based on the Capability Payment Price (\$/kW-yr) and the monthly Contract Capability specified in the Offer.

Each Offer will be assigned an annual fixed overhead cost (independent of the size of the Project, but possibly dependent on the use case of the Project) representing administrative costs plus the cost of scheduling into CAISO markets.

2. Portfolio Adjusted Value (PAV)

PG&E will calculate PAV to derive the value of each Offer from the perspective of PG&E’s portfolio, not just from the market perspective. PAV may include the adjustments to the NMV based on factors that are relevant to PG&E’s total energy portfolio, including but not limited to: (1) transmission network upgrade costs; (2) increased efficiency for fossil generation; and (3) renewable generation curtailment support.

(a) Transmission Network Upgrade Cost

Transmission availability and transmission-related costs will be part of an Offer’s PAV. PG&E will use the latest CAISO tariff rules⁸ and results from the independent study conducted as part of the feasibility

⁶ See the Commission’s Resource Adequacy program (http://www.cpuc.ca.gov/PUC/energy/Procurement/RA/ra_history.htm) and the CAISO Reliability Requirements (<http://www.caiso.com/planning/Pages/ReliabilityRequirements/Default.aspx>).

⁷ See the Commission’s current RA proceeding (Rulemaking 11-10-023) and the CAISO’s FRAC-MOO initiative (<http://www.caiso.com/informed/Pages/StakeholderProcesses/FlexibleResourceAdequacyCriteria-MustOfferObligations.aspx>).

⁸ Refer to the CAISO website (<http://www.caiso.com/rules/Pages/Regulatory/Default.aspx>) for the most recent tariff information.

study to determine the Transmission Network Upgrade Cost adder for all Offers. Network upgrades include all facilities necessary to: (i) reinforce the transmission system after the point where a Project's electricity first interconnects with and enters the utility's transmission grid; and (ii) transmit or deliver the full amount of generation to or from the Project.⁹ Transmission cost adders reflect the reimbursed portion of the cost of potential network upgrades borne by customers. Any transmission cost adders attributed to the Project will also be considered in ranking Offers.

(b) Increased System Efficiency

Compressed air energy storage has the potential for allowing fossil generation in PG&E's portfolio to run with fewer startups and to operate more efficiently. Similarly, compressed air energy storage could reduce the amount of demand response dispatches that are triggered when the market energy prices are very high. Such increased efficiency could reduce the portfolio's overall generation cost in such cost components as start-up, fuel, GHG and VOM costs. PG&E will estimate such avoided generation costs to PG&E's portfolio brought about by compressed air energy storage, with regard to changes in fuel use, GHG compliance instruments, and start-ups at fossil generators. Such avoided cost would differ among Offers due to the variation in characteristics of those Offers.

(c) Renewable Generation Curtailment Support

Higher penetration of renewable energy increases the likelihood of curtailment. Storage can help reduce the curtailment of intermittent generation in PG&E's portfolio, which would benefit PG&E's customers by reducing instances of over-generation as well as avoiding curtailments of renewable generation, such as wind and solar, that contribute to meeting PG&E's renewable portfolio standard requirements. PG&E will estimate the potential economic effect of an offer's ability to avoid the curtailment of renewable resources in PG&E's portfolio.

VIII.B. Qualitative Factors

Any or all qualitative factors may impact a Project's status for Shortlisting or Agreement execution.

1. Project Viability

"Project Viability" means the likelihood that the Project can be successfully developed and provide the Product and services required for the period stated in the Offer. This assessment is based on a review of the status and plans for key Project activities (e.g. financing, permitting, engineering, procurement, construction, interconnection, start-up and testing, operations, fuel supply, water supply, wastewater discharge, labor agreements, site control, etc.).

2. Contract Modifications

PG&E may assess the materiality and cost impact of any of Participant's proposed modifications to Solicitation requirements and the [applicable CAES Agreement or Term Sheets](#). The Assignment

⁹Network upgrades include transmission lines, transformer banks, special protection systems, substation breakers, capacitors, and other equipment needed to transfer power to the consumer. Network upgrades typically are funded upfront by Participants, and partially refunded after commercial operation. The reimbursed portion of the costs of network upgrades are included in transmission rates and paid by customers. For Projects that are fully deliverable, PG&E will consider both reliability and deliverability network upgrades.

Agreement (Appendix E42) may not be modified unless Participant proposes an alternative site for the Energy Conversion Facility and/or alternative rights to the necessary pipelines. PG&E strongly encourages Participants to only make those changes to the [applicable CAES-Agreement](#) or [Term Sheets](#) associated with their Offer that address particular Project development or operational issues. PG&E will give additional consideration to Participants that agree to take on additional risk beyond what is specified in the [applicable CAES-Agreement](#) or [Term Sheets](#).

3. Credit

PG&E may consider the Participant's capability to perform all of its financial and financing obligations under the Agreements and PG&E's overall credit concentration with the Participant or its banks, including any of Participant's affiliates.

4. Supplier Diversity

It is the policy of PG&E that Diverse Business Enterprises ("DBE") such as Women-, Minority-, Service Disabled Veteran- and Lesbian, Gay, Bisexual, and Transgender-owned Business Enterprises¹⁰ shall have the maximum practicable opportunity to participate in the performance of Agreements resulting from this Solicitation. PG&E encourages Participants to carry out PG&E's policy and contribute to PG&E's supplier diversity goal by reaching greater than 30 percent of all procurement with DBEs.

Supplier Diversity is a consideration in the selection process. If Participant is selected and an Agreement is negotiated, the Agreement will include a requirement to make good faith efforts toward meeting the contracted supplier diversity target, and a successful Participant will be expected to report payments made to DBEs to support the Project upon request but no less than annually.

5. Safety

PG&E will seek information from Participants regarding the safety history and practices of the entities that will design, develop, construct, commission, operate, and/or maintain the Project and safety information related to the technology for the Project.

IX. Site Control

The site control issues that the Participant must take into consideration in making its Offer are described in further detail in Section C of Appendix 3.

X. Electric Interconnection

Each Participant should refer to Appendix B3, Project Interconnection and Transmission, with regards to the documentation to provide in its Offer on interconnection. A third party, independent report on interconnection (for informational use only) is available in the Data Room, as described in Section I.B.3 of this Protocol.

¹⁰ CPUC General Order 156 defines this group collectively as "WMDVLGBTBES." See <http://www.cpuc.ca.gov/puc/supplierdiversity/> and <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M152/K827/152827372.pdf>.

The San Joaquin site is not associated with an active CAISO interconnection queue position. PG&E does not require Offers to have entered the CAISO process at the time of Offer submission; however, the Project must have an Interconnection Agreement in place with the CAISO prior to commercial operation. The Participant will be responsible for all activities and costs associated with obtaining interconnection, including interconnection study costs¹¹, network upgrades, and interconnection facilities as determined via the relevant interconnection process. Participant also is responsible for achieving a deliverability status consistent with its Offer.

The interconnection study process can be lengthy (over two years), followed by potentially several years to engineer, design, and build any required interconnection facilities or upgrades. If PG&E selects a Participant for Phase 2, the Participant would be required to submit a CAISO interconnection request for Full Capacity Deliverability Status at the first available time in conjunction with the CAISO's process.

The actual interconnection costs and schedule to support this Project can be obtained by participating in the interconnection process managed by the CAISO's Generator Interconnection and Deliverability Allocation Process (GIDAP)¹². The Interconnection Request to participate in the CAISO's interconnection study process requires the generator to provide Project-specific information (such as the point of interconnection, planned commercial operation date, size of unit(s), generator and transformer design characteristics, etc.) to be studied as part of the electrical interconnection process. The Participant will be responsible for submitting an interconnection request and acting as the company submitting the request. Copies of the completed Interconnection Studies must be provided to PG&E when they are available.

To facilitate the development of a successful Project, PG&E will reimburse the successful Participant with funds, up to a maximum of \$250,000.00, that such Participant shall apply solely and exclusively towards its Interconnection Study Deposit, as described in the CAISO tariff. If a portion of the Interconnection Study Deposit is returned by the CAISO to the Participant, then the Participant promptly shall return that portion of funds to PG&E.¹³ The successful Participant will be responsible for any and all additional funding associated with the CAISO process. For example, the Participant may have to make a deposit in lieu of site control to begin the interconnection process, and should plan accordingly.

After a resource has made it through the CAISO study phase of the interconnection process, the Participant is expected to enter into an Interconnection Agreement, ensure that the resource is correctly modeled in the CAISO's market systems, and install any needed metering and telemetry equipment before participation in the wholesale power market is allowed. Participants may refer to a set of requirements listed in the CAISO's New Resource Implementation Checklist¹⁴ for further information.

¹¹ Except for the portion of the interconnection study deposit that PG&E will reimburse to the Participant, as noted below.

¹² See CAISO's website for information on the current interconnection process at: <https://www.caiso.com/planning/Pages/GeneratorInterconnection/Default.aspx>.

¹³ Refer to the CAISO website (<http://www.caiso.com/rules/Pages/Regulatory/Default.aspx>) for the most recent tariff information.

¹⁴ CAISO's new resource implementation process is described at: <http://www.caiso.com/participate/Pages/NewResourceImplementation/Default.aspx>.

XI. Confidentiality Agreement

Except as provided below, all information and documents provided to PG&E by a Participant in connection with this RFO shall be considered confidential information, and PG&E and the Participant shall be prohibited from disclosing such information and documents to any and all third parties except as provided below.

It is expressly contemplated that materials submitted by a Participant in connection with this RFO will be provided to the CPUC and its staff, the Independent Evaluator, and PG&E's Procurement Review Group ("PRG"). PG&E will seek confidential treatment pursuant to D.06-06-066 and Public Utilities Code section 583 with respect to any Participant-supplied non-public RFO information and documents ("Participant's Confidential Information") that are submitted by PG&E to the CPUC for the purpose of obtaining CPUC approval of the Agreements. PG&E will also seek, with the PRG, confidentiality and/or non-disclosure agreements applicable to the Participant's confidential information. PG&E cannot, however, ensure that the CPUC will afford confidential treatment to a Participant's confidential information, or that those confidentiality agreements or orders will be obtained from and/or honored by the PRG or the CPUC.

With respect to any information or documents provided by the Participant, PG&E shall have the right to disclose such Participant information to the CPUC and its staff, the Independent Evaluator, the PRG, CAISO, any other control area operator or balancing authority, and any other entity in order to comply with any applicable law, regulation, or rule or order issued by a court or entity with competent jurisdiction over PG&E, at any time, even in the absence of a protective order, confidentiality agreement or nondisclosure agreement, as the case may be, without notification to the Participant and without liability or any responsibility of PG&E to the Participant or any other third party.

In addition, PG&E shall have the right to summarize the information submitted by the Participant with information from other Participants in response to this RFO. Such information shall be consolidated, but not specifically attributed to any Participant, to provide an overview of the results of the RFO in the Final Technical Report and/or other summarized reports for regulatory purposes.

The Participant also acknowledges and agrees that by executing the Confidentiality Agreement found at Appendix 1, that any and all information included in the Data Room must remain confidential until the conclusion or termination of the RFO. Thereafter, the Data Room Materials shall be released by PG&E as part of the Final Technical Report and/or other summarized reports.

XII. Procurement Review Group (PRG) Review

Following completion of the evaluation and PAV ranking of Offers, PG&E will submit the results of the evaluation and its recommendations to the PRG. Such information will include at least the all-in cost ranking of Offers, the consideration of non-price evaluation criteria, and PG&E's recommendations based on such information. PG&E has no obligation to obtain the concurrence of the PRG with respect to any Offer.

PG&E assumes no responsibility for the actions of the PRG, including actions that may delay or otherwise affect the schedule for this Solicitation, including the timing of the selection of Offers and/or obtaining of CPUC Approval.

XIII. Shortlist Notification to Participants

The Solicitation schedule set forth in Section I.C, Schedule Overview, may be modified at PG&E's sole discretion. PG&E expects to be able to provide an e-mail notification to Participants whose Offers have been selected for the Shortlist, and invite each Participant on the Shortlist to conduct discussions and negotiations with PG&E regarding the Offer selected for the Shortlist. PG&E anticipates notifying those Participants whose Offers were not Shortlisted shortly thereafter. As previously stated, PG&E may contact Participants prior to Shortlisting during the evaluation process to seek or notify Participants of deficiencies in their Offers or Offer Packages.

XIV. Execution of Agreements

By submitting an Offer, Participant agrees, if its Offer is selected for PG&E's Shortlist, that it is prepared to (1) enter into definitive Agreements, and (2) negotiate, if so requested by PG&E, and execute definitive Agreements mutually acceptable to PG&E and the Participant. PG&E's evaluation of a Participant's Offer, and PG&E's Shortlisting of a Participant, will not constitute any acceptance of any modification made by the Participant to the Agreements. In all cases, PG&E reserves the right to decline to execute any Agreements with a Participant regardless of whether or not the Participant proposed any modifications.

XV. CPUC Approval

Whether an executed Agreement goes into effect or not is expressly conditioned on PG&E's receipt of CPUC Approval, which will be more specifically defined in the Agreements. At a minimum, PG&E will require a finding from the CPUC that PG&E's entry into the Agreements satisfies PG&E's energy storage compliance requirement, that the terms are reasonable, and that PG&E will recover the costs incurred pursuant to the Agreements under PG&E's preferred rate mechanisms. Additionally, the Agreements will be subject to a no-fault termination if CPUC Approval does not occur by a specified deadline (as set forth in the Agreements). CPUC Approval also typically requires that such approval be final and non-appealable, without any modifications that are unacceptable to PG&E or the Participant.

XVI. Waiver of Claims and Limitations of Remedies

Except as expressly set forth in this Protocol, by submitting an Offer, the Participant knowingly and voluntarily waives all remedies or damages at law or equity concerning or related in any way to the Solicitation, the Solicitation Protocol and/or any attachments to the Solicitation Protocol ("Waived Claims"). The assertion of any Waived Claims by Participant may, to the extent that Participant's Offer has not already been disqualified, automatically disqualify such Offer from further consideration in the Solicitation or otherwise.

By submitting an Offer, the Participant further agrees that the only forums in which Participant may assert any challenge with respect to the conduct or results of the Solicitation is through the Alternative Dispute Resolution ("ADR") services provided by the CPUC pursuant to Resolution ALJ 185, August 25, 2005. The ADR process is voluntary in nature, and does not include processes, such as binding arbitration, that impose a solution on the disputing parties. However, PG&E will consider the use of ADR under the appropriate circumstances. Additional information about this program is available on the CPUC's website at the following link:

http://docs.cpuc.ca.gov/published//Agenda_resolution/47777.htm

The Participant further agrees that other than through the ADR process, the only means of challenging the conduct or results of the Solicitation is a protest to PG&E's filing seeking CPUC approval of any Agreements entered into as a result of the Solicitation, that the sole basis for any such protest shall be that PG&E allegedly failed in a material respect to conduct the Solicitation in accordance with this Protocol, and the exclusive remedy available to Participant in the case of such a protest shall be an order of the CPUC that PG&E again conduct any portion of the Solicitation that the CPUC determines was not previously conducted in accordance with the Solicitation Protocol. The Participant expressly waives any and all other remedies, including, without limitation, compensatory and/or exemplary damages, restitution, injunctive relief, interest, costs, and/or attorneys' fees. Unless PG&E elects to do otherwise in its sole discretion, during the pendency of such a protest or ADR process, the Solicitation and any related regulatory proceedings related to the Solicitation, will continue as if the protest had not been filed, unless the CPUC has issued an order suspending the Solicitation or PG&E has elected to terminate the Solicitation.

The Participant agrees to indemnify and hold PG&E harmless from any and all claims by any other Participant asserted in response to the assertion of a Waived Claim by the Participant or as a result of a Participant's protest to PG&E's filing with the CPUC of any Agreement resulting from the Solicitation.

Except as expressly provided in this Protocol, nothing herein, including Participant's waiver of the Waived Claims as set forth above, shall in any way limit or otherwise affect the rights and remedies of PG&E.

XVII. Termination of the RFO-Related Matters

PG&E reserves the right at any time, in its sole discretion, to terminate the RFO for any reason whatsoever without prior notification to any Participant and without liability of any kind to or responsibility of PG&E or anyone acting on PG&E's behalf. Without limitation, grounds for termination of the RFO may include the assertion of any Waived Claims by a Participant or a determination by PG&E that, following evaluation of the Offers, there are no Offers that provide a viable Project acceptable to PG&E.

PG&E reserves the right to change the Offer evaluation criteria for any reason, to terminate further participation in this Solicitation process by any Participant, to accept any Offer or to enter into any definitive Agreement, to evaluate the qualifications of any Participant, and to reject any or all Offers, all without notice and without assigning any reasons and without liability to PG&E or anyone acting on PG&E's behalf. PG&E shall have no obligation to consider any Offer.

In the event of termination of the RFO for any reason, PG&E will not reimburse any Participant for any expenses incurred in connection with the RFO regardless of whether such Participant's Offer is selected, not selected, rejected or disqualified.