

PUBLIC UTILITIES COMMISSION

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February 13, 2013

Advice Letter 4048-E

Brian K. Cherry
Vice President, Regulation and Rates
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

**Subject: Amended and Restated Power Purchase Agreement for
Procurement of Eligible Renewable Energy Resources
Between Bottle Rock Power LLC and PG&E Company**

Dear Mr. Cherry:

Advice Letter 4048-E is effective September 27, 2012 per Resolution E-4521.

Sincerely,

A handwritten signature in cursive script that reads "Edward F. Randolph".

Edward F. Randolph, Director
Energy Division



Brian K. Cherry
Vice President
Regulation and Rates

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May 25, 2012

Advice 4048-E
(Pacific Gas and Electric Company ID U39 E)

Public Utilities Commission of the State of California

Subject: Amended and Restated Power Purchase Agreement for Procurement of Eligible Renewable Energy Resources between Bottle Rock Power LLC and Pacific Gas and Electric Company

I. INTRODUCTION

A. Purpose of the Advice Letter

Pacific Gas and Electric Company (“PG&E”) seeks California Public Utilities Commission (“Commission” or “CPUC”) approval of an amended and restated power purchase agreement (“A&R PPA”) between Bottle Rock Power LLC (“Bottle Rock”) and PG&E for Renewables Portfolio Standard (“RPS”)-eligible power from Bottle Rock’s existing geothermal facility in Lake County, California (“Project”). The A&R PPA amends and replaces all prior agreements between the parties for the purchase of power from the Project. Commission approval of the A&R PPA will enable Bottle Rock to continue to generate and deliver RPS-eligible power to PG&E, will require Bottle Rock to maintain jobs, and will increase the potential for higher output from the Project in exchange for a higher price.

PG&E requests that the Commission issue a resolution approving the A&R PPA and containing the findings set forth in Section VI below as soon as possible.

B. Subject of the Advice Letter

1. History of Contract and Amendments

The California Department of Water Resources (“DWR”) originally began operation of the geothermal facility in February 1985. In November 1990, DWR suspended plant operations due to lower than expected generation. DWR sold the facility to Bottle Rock Power Corporation in 2001, and in October 2005, US Renewables Group (“USRG”) bought the facility with the intention of repowering it. In August 2006, Riverstone Holdings and the Carlyle Group acquired a significant stake in the facility from USRG.

The original power purchase agreement with Bottle Rock (“Original PPA”) resulted from PG&E’s 2005 RPS Solicitation. The parties executed an amendment to the Original PPA in 2007 (“2007 PPA”). The 2007 PPA changed the guaranteed project online date from July 31, 2007 to October 1, 2007, and reduced the initial minimum capacity from 14.45 MW to 10 MW. In addition, the 2007 PPA set a milestone of December 31, 2007 to achieve a capacity of 14.45 MW, and a milestone of December 31, 2008 for the Project to reach 16.15 MW. The project declared commercial operation in October 2007.

In 2008, Bottle Rock approached PG&E to amend the 2007 PPA stating that, due to large cost increases and geothermal well losses, the 2007 PPA terms did not allow for future geothermal well development. The parties negotiated amended terms and conditions and executed an Amended and Restated PPA in 2010 (“2010 PPA”). The 2010 PPA modified the 2007 PPA as follows: (1) increased the contract price for deliveries above the required minimum deliveries; (2) increased the project development security and delivery term security; (3) lowered the minimum contract capacity; and (4) increased the delivery term from 10 years to 15 years. The 2010 PPA also modified the Contract Quantity and scheduling terms, added a new provision to facilitate future development of additional capacity, and included changes necessary to incorporate the Commission’s standard terms and conditions.

Advice letter and approval information for each of the above-described agreements is summarized in Table 1 below.

Table 1

Contract	Filed in Advice Letter	Approved by Resolution
Original PPA	Advice Letter 2827-E May 15, 2006	Resolution E-4021 October 5, 2006
2007 PPA	Advice Letter 3131-E October 9, 2007	Approved by Letter December 18, 2007
2010 PPA	Advice Letter 3668-E May 20, 2010	Resolution E-4384 January 27, 2011

The 2010 PPA is only partially effective due to a condition precedent in the 2010 PPA that has not yet been satisfied or waived. As such, Bottle Rock's current generation is subject mainly to the terms and conditions of the 2007 PPA.

After the CPUC approved the 2010 PPA, Bottle Rock was unable to raise the capital necessary to expand the steam field and increase generation as required in the 2010 PPA. As a result, Bottle Rock did not reach the production level necessary to receive higher payments under the 2010 PPA. Since the 2010 PPA was executed, Bottle Rock has delivered an average of 6.4 GWh of RPS-eligible energy to PG&E per month (or 77 GWh per year).

Bottle Rock approached PG&E in June 2011 to discuss alternate contract terms that would improve Bottle Rock's chances of obtaining financing for steam field expansion, and that would support the facility's continued operation. Bottle Rock indicated that without a price amendment, it would shut the plant down. After extensive negotiations, the parties agreed to the A&R PPA.

2. Summary of A&R PPA

The A&R PPA is based on PG&E's 2011 RPS Form power purchase agreement, which contains PG&E's most up to date preferred terms and conditions. Most of those terms and conditions are maintained in the final A&R PPA.

The key contractual differences between the 2007 PPA and the A&R PPA are:

1. An increase in the contract price.
2. An extension in the contract term from 10 years (with a PG&E option to extend to 15 years) to 20 years.
3. A reduction in the maximum contract capacity from 55 MW to 25 MW, and a requirement to reach 15 MW by early 2018 as discussed further below.
4. An increase in Delivery Term Security.
5. An obligation to retain a certain employment level.
6. An obligation to invest a minimum amount in steam field expansion and improvement of the Project.

The A&R PPA requires Bottle Rock to increase production from 10 MW to 15 MW over a period of six years and reach a sustained 15 MW of energy production by March 28, 2018. The maximum PG&E is obligated to receive and pay for is 25 MW in every hour of the year. The A&R PPA also modifies terms relating to accrued damages. The A&R PPA will become effective upon CPUC Approval and following approval, PG&E will

make a true-up payment under the terms of the A&R PPA. A detailed discussion of the A&R PPA's terms and conditions is included in Confidential Appendix D.

Given the commitments to produce additional RPS-eligible deliveries in later years when PG&E has incremental long-term need, the preservation of jobs, and other factors discussed below and in the Confidential Appendices, the A&R PPA is reasonable and should be approved by the Commission.

C. General Project(s) Description

The following table summarizes the substantive features of the Project:

Project Name	Bottle Rock Power LLC
Owner/Developer	Bottle Rock Power LLC
Technology	Baseload Geothermal
Capacity (MW)	Contract capacity 10-25 MW
Capacity Factor	97-100%
Expected Generation (GWh/Year)	Minimum contract quantity is 85 GWh Maximum contract quantity is 219 GWh
Initial Commercial Operational Date (COD)	The Project is currently operating. The A&R PPA becomes effective upon CPUC approval.
Date Contract Delivery Term Begins	See COD above
Delivery Term (Years)	20 years
Vintage (New / Existing / Repower)	Existing
Location (City and State)	Lake County, California
Control Area (e.g., California Independent System Operator ("CAISO"), Bonneville Power Administration ("BPA"))	CAISO
Nearest Competitive Renewable Energy Zone (CREZ) as identified by the Renewable Energy Transmission Initiative (RETI)	Not Applicable
Type of cooling, if applicable	Not Applicable
Price relative to MPR (i.e., above/below)	Exceeds the applicable 2011 MPR for a project coming online in 2012. Cost

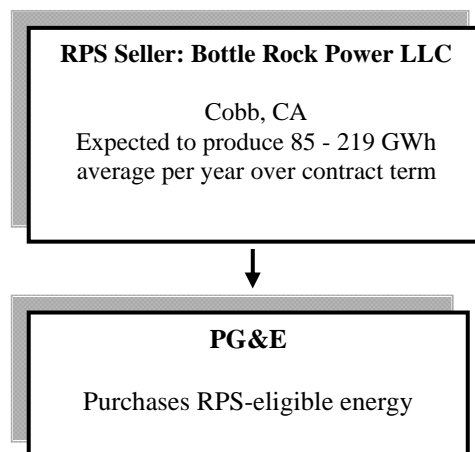
	information is discussed in further detail in Confidential Appendix D.
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D. General Deal Structure

The Project is already interconnected to the California Independent System Operator (“CAISO”). PG&E will be the scheduling coordinator. There is no firming and shaping associated with this deal.

The figure below depicts the delivery structure of the Bottle Rock transaction:

Figure 1: Delivery Structure of the PPA



E. RPS Statutory Goals

Senate Bill (“SB”) 1078 established the California RPS Program, requiring an electrical corporation to increase its use of eligible renewable energy resources to 20 percent of total retail sales no later than December 31, 2017. The legislature subsequently accelerated the RPS goal to reach 20 percent by the end of 2010. In April 2011, Governor Brown signed into law SB 2 1X. As implemented by D.11-12-020, SB 2 1X requires retail sellers of electricity to procure the following quantities of RPS-eligible resources between 2011 and 2020:

- Twenty percent of the combined bundled retail sales during the first compliance period (2011-2013).
- A percent of the combined bundled retail sales during the second compliance period (2014-2016) that is consistent with the following formula: $(.217 * 2014 \text{ retail sales}) + (.233 * 2015 \text{ retail sales}) + (.25 * 2016 \text{ retail sales})$.

- A percent of the combined bundled retail sales during the third compliance period (2017-2020) that is consistent with the following formula: $(.27 * 2017 \text{ retail sales}) + (.29 * 2018 \text{ retail sales}) + (.31 * 2019 \text{ retail sales}) + (.33 * 2020 \text{ retail sales})$.

An assessment of PG&E's current expected RPS need is provided in PG&E's draft 2012 Renewable Energy Procurement Plan, filed on May 23, 2012 in R.11-05-005. The Project is currently operational and producing approximately 77 GWh per year. Under the A&R PPA, the Project is expected to increase production to between approximately 128 GWh and 219 GWh per year by the end of the sixth Contract Year, and continue producing at this level through the remainder of the 20 year contract term. Because the Project is required to produce additional RPS-eligible deliveries (as compared to current production) when PG&E has a need for incremental RPS energy, the deliveries pursuant to the A&R PPA will contribute toward PG&E's long-term RPS procurement requirements.

F. Confidentiality

In support of this Advice Letter, PG&E has provided the confidential information listed below. This information includes the A&R PPA and other information that more specifically describes the rights and obligations of the parties. This information is being submitted in the manner directed by D.08-04-023 and the August 22, 2006, Administrative Law Judge's Ruling Clarifying Interim Procedures for Complying with D.06-06-066 to demonstrate the confidentiality of the material and to invoke the protection of confidential utility information provided under either the terms of the IOU Matrix, Appendix 1 of D.06-06-066 and Appendix C of D.08-04-023, or General Order 66-C. A separate Declaration Seeking Confidential Treatment is being filed concurrently with this Advice Letter.

Confidential Attachments:

Appendix A – Consistency with Commission Decisions and Rules and Project Development Status

Appendix B – 2011 Solicitation Overview

Appendix C – Confidential Independent Evaluator Report

Appendix D – Contract Summary

Appendix E – Comparison of Contract with Utility's Pro Forma Power Purchase Agreement

Appendix F – Amended and Restated Power Purchase Amendment**Appendix G – Project’s Contribution Toward RPS Goals****Public Attachment:****Appendix H - Independent Evaluator Report****II. CONSISTENCY WITH COMMISSION DECISIONS****A. Compliance with Resolution E-4199**

In Resolution E-4199, the Commission set forth eligibility criteria and guidelines for approving requests for above-market costs of renewable energy contracts negotiated through competitive solicitations. As part of this Resolution, the Commission established standard information that the investor-owned utilities, developers, and Independent Evaluators (“IE”) must provide when submitting amendments that affect the contract price of an approved contract.

The A&R PPA affects the price of the Project and thus falls under the requirements set forth in Resolution E-4199. These requirements are addressed to the extent possible in the public portion of this Advice Letter, and are further addressed in the Confidential Appendices and via separate submission as detailed in the table below:

Requirement	Refer To
<i>The IOU should:</i>	
<ul style="list-style-type: none"> Compare the amended contract against the most recently approved set of MPRs and the time of delivery (“TOD”) factors associated with that solicitation year 	Appendix B Appendix D
<ul style="list-style-type: none"> Re-evaluate the competitiveness of the amended project as compared to the projects that the IOU is negotiating and to the IOU’s most recent shortlist, and provide a sufficient showing in the advice letter that the amended contract is competitive based on current market data 	Appendix A Appendix B Appendix D
<ul style="list-style-type: none"> Explain why the contract change is needed Provide all relevant data to justify the change 	Appendix A Appendix D
<i>The Counterparty must:</i>	
<ul style="list-style-type: none"> Provide the Commission and the IE with the original cash flow model, reflecting the price in the original contract Provide the Commission and the IE with the latest cash flow model, reflecting the price in the amended contract 	Under separate cover
<i>The confidential IE report must, at a minimum, include its:</i>	

- | | |
|--|------------|
| <ul style="list-style-type: none">• Evaluation of the new price based on the project's market valuation as compared to the bids in the IOU's most recent solicitation• Review of the cash flow model• Evaluation of the change in model inputs | Appendix C |
|--|------------|

PG&E performed due diligence on Bottle Rock's requested changes when PG&E and Bottle Rock negotiated the A&R PPA. As Contract Price was one of the amended terms, PG&E used the guidance provided in Resolution E-4199 as a framework for evaluating the amended price. Bottle Rock provided, and PG&E reviewed, the original Project cost assumptions developed by Bottle Rock, the changes to the assumptions made by Bottle Rock, the cash flow models associated with Bottle Rock assumptions, and additional supporting documentation for Project costs and timelines. Confidential Appendix A contains a thorough explanation of the changes in assumptions and resulting price implications.

Based on the review of the cash flow models, supporting information provided by Bottle Rock, and due diligence on cost assumptions, PG&E concluded that the price increase is necessary in order to keep the plant operational and to provide the incentive to improve production through additional well drilling.

While the economics of the A&R PPA compare unfavorably to PG&E's 2011 RPS Solicitation shortlist, the Project has other positive qualitative factors:

1. Bottle Rock is an existing and operating in-state facility with local area reliability benefits, interconnected to the CAISO transmission system at NP-15.
2. The Project does not require any additional transmission network upgrades.
3. The Project does not present integration issues that are associated with intermittent resources.
4. The Project is required to preserve jobs in an economically depressed area.
5. The Project is required to spend a minimum amount of capital in order to improve plant production in the long-term.

Additional information on the qualitative factors and comparison of the A&R PPA against current market data is provided in Sections II.D and III below, and in the Confidential Appendices to this Advice Letter.

B. Consistency with PG&E's Adopted RPS Procurement Plan

PG&E's 2011 renewable procurement plan ("2011 RPS Plan") was conditionally approved in D.11-04-030 on April 14, 2011. PG&E submitted a final version of the 2011 RPS Plan on May 4, 2011. The goal of PG&E's 2011 RPS Plan is to procure approximately one to two percent of PG&E's annual retail sales, or 800 to 1,600 GWh per year.

The Project is currently providing energy to PG&E. The extension of the contract term from 10 years (plus a PG&E option to extend to 15 years) to 20 years will add incremental deliveries in the latter half of the contract term when PG&E will have an ongoing need to maintain a 33% RPS requirement. If approved, the Project is expected to deliver between approximately 128 GWh and 219 GWh per year once the Project's production improves, for the remainder of the 20 year term. For this reason, and because the A&R PPA was evaluated consistent with the review protocol in the 2011 RPS Solicitation, including portfolio fit, viability and market valuation, the A&R PPA is consistent with PG&E's 2011 RPS Plan.

C. Consistency with Commission Guidelines for Bilateral Contracting

Because the Original PPA resulted from PG&E's 2005 RPS Solicitation, this section is not applicable.

D. Consistency of Bid Evaluation Process with Least-Cost Best-Fit Decision

The RPS statute requires PG&E to procure the "least-cost best-fit" ("LCBF") eligible renewable resources.¹ The LCBF decision directs the utilities to use certain criteria in their bid ranking² and offers guidance regarding the process by which the utility ranks bids in order to select or "shortlist" the bids with which it will commence negotiations. PG&E's approved process for identifying the LCBF renewable resources focuses on four primary areas:

- 1) Determination of market value of bid;
- 2) Calculation of transmission adders and integration costs;
- 3) Evaluation of portfolio fit; and
- 4) Consideration of non-price factors.

¹ Pub. Util. Code § 399.14(a)(2)(B).

² D.04-07-029.

PG&E examined the reasonableness of the A&R PPA using the same comparison tools used with other RPS transactions received in the 2011 RPS Solicitation. While the economics of the Project compare unfavorably to PG&E's 2011 RPS Solicitation shortlist, the non-price factors referenced above and improved portfolio fit (the timing of additional generation better coinciding with PG&E's incremental RPS energy need) are favorable. A more detailed discussion of PG&E's evaluation of the A&R PPA is provided in Confidential Appendices A and D.

1. Market Valuation

In a "mark-to-market analysis," the present value of the bidder's payment stream is compared with the present value of the product's market value to determine the benefit (positive or negative) from the procurement of the resource, irrespective of PG&E's portfolio. This analysis includes evaluation of the bid price and indirect costs, such as transmission and integration costs. PG&E's analysis of the market value of the A&R PPA is addressed in Confidential Appendix A.

2. Portfolio Fit

Portfolio fit considers how well an offer's features match PG&E's portfolio needs, including when incremental RPS energy is needed. As part of the portfolio fit assessment, PG&E differentiates offers by the firmness of their energy delivery and by their energy delivery patterns. A higher portfolio fit measure is assigned to the energy that PG&E is more certain to receive. As a baseload facility, the Project's output will be easier to manage to meet loads compared to intermittent renewable resources. The Project is also located in a desirable part of Northern California, where it provides long-term local resource adequacy benefits and is already interconnected to the CAISO grid. Thus, the A&R PPA fits PG&E's portfolio in a satisfactory manner.

3. Consistency with the Transmission Ranking Cost Decision

No transmission cost adders were used in the evaluation of the Project as the Project is an existing and interconnected facility.

4. Consistent Application of TODs

PG&E used the TOD factors associated with its 2011 solicitation year.³

³ See Resolution E-4199 at 36 ("Contracts re-filed for approval of a price amendment should be compared against the most recent approved set of MPRs and the TODs associated with that solicitation year.")

5. Qualitative Factors

PG&E considered qualitative factors as required by D.04-07-029 and D.07-02-011 when evaluating the A&R PPA, including developer experience, existing facility status, resource availability, environmental stewardship, and resource diversity. The A&R PPA requires the retention of jobs in an economically depressed area for the term of the contract and provides incentives for new investment in the Project to expand the steam field and increase the Project's capacity to at least 15 MW. The Project is a baseload facility that does not present the same integration issues as intermittent resources. The Project does not require any transmission upgrades. PG&E considered other qualitative factors in order to justify the Project, which are discussed in Confidential Appendix A.

E. Compliance with Standard Terms and Conditions

The Commission set forth standard terms and conditions to be incorporated into contracts for the purchase of electricity from eligible renewable energy resources in D.04-06-014 and D.07-02-011, as modified by D.07-05-057 and D.07-11-025. These terms and conditions were compiled and published in D.08-04-009. Additionally, the non-modifiable term related to Green Attributes was finalized in D.08-08-028 and the non-modifiable terms related to Tradable Renewable Energy Credits ("TRECs") were finalized in D.10-03-021, as modified by D.11-01-025.

The non-modifiable terms in the A&R PPA conform exactly to the "non-modifiable" terms set forth in Attachment A of D.07-11-025 and Appendix A of D.08-04-009, as modified by D.08-08-028 and by Appendix C of D.10-03-021, as modified by D.11-01-025. These terms may be found on the following pages of the A&R PPA:

Non-Modifiable Term	Section No.	Page No.
STC 1: CPUC Approval	1.40	4
STC 2: Renewable Energy Credits ("RECs") and Green Attributes		
• Definition of Green Attributes	1.104	11
• Conveyance of Green Attributes	3.2	28 - 29
STC 6: Eligibility	10.2(b)	51
STC 17: Applicable Law	10.12	60
STC REC-1 Transfer of renewable energy credits	10.2(b)	51 - 52
STC REC-2 Tracking of RECs in WREGIS	3.1(k)(viii)	27

F. Consistency with Unbundled Renewable Energy Credit Transactions

The A&R PPA is for the purchase of bundled RPS-eligible energy and therefore does not include the purchase of unbundled renewable energy credits.

G. Consistency with Minimum Quantity Decision

In D.07-05-028, the Commission determined that in order to count energy deliveries from short-term contracts with existing facilities toward RPS goals, RPS-obligated load-serving entities must contract for deliveries equal to at least 0.25 percent of their prior year's retail sales through long-term contracts or through short-term contracts with new facilities.

The A&R PPA is a long-term contract executed in 2012 and thus counts toward PG&E's contracting obligation under D.07-05-028. PG&E was in compliance with the minimum quantity set forth in D.07-05-028 for 2008, 2009, 2010, and 2011 and expects to be in compliance for 2012 as well.

H. Tier 2 Short-Term Contract "Fast Track" Process

PG&E is not submitting this contract under the "Fast Track" Process.

I. Market Price Referent

The actual price under the A&R PPA is confidential, market-sensitive information. As the A&R PPA involves an increase in the contract price, it is appropriate to compare the amended price with the most recently approved market price referent ("MPR") and the TOD factors associated with that solicitation year,⁴ which are the 2011 MPR established in Resolution E-4442 on December 1, 2011 and PG&E's 2011 TOD factors. The price under the A&R PPA is above the applicable 2011 MPR. Total cost information is discussed in Confidential Appendices A and D.

⁴ Resolution E-4199 at 36.

J. Above-Market Funds

Because the A&R PPA is for an existing facility that originally began operations in 1985, it is not eligible for AMF.⁵ Notwithstanding the fact that the A&R PPA is not AMF-eligible, an AMF analysis of the A&R PPA is included in Confidential Appendix D, in accordance with CPUC requirements.

K. Compliance with Interim Emissions Performance Standard

In D.07-01-039, the Commission adopted an Emissions Performance Standard (“EPS”) that applies to new and renewal contracts for a term of five or more years for baseload generation with an annualized plant capacity factor of at least 60 percent. D.07-01-039 determined that certain renewable resources and technologies are pre-approved as EPS-compliant. This includes facilities like Bottle Rock, which fall within the following categories:

Based on the record in this proceeding, it is reasonable to make an upfront determination that the following renewable resources and technologies are EPS-compliant:

- (a) Solar Thermal Electric (with up to 25% gas heat input)
- (b) Wind
- (c) Geothermal, with or without reinjection
- (d) Generating facilities (e.g., agricultural and wood waste, landfill gas) using biomass that would otherwise be disposed of utilizing open burning, forest accumulation, landfill (uncontrolled, gas collection with flare, gas collection with engine), spreading or composting.⁶

Since Bottle Rock is a geothermal generating facility, it is a pre-approved technology and complies with D.07-01-039. Notification of compliance with D.07-01-039 is provided through this Advice Letter, which has been served on the service list in the RPS rulemaking, Rulemaking (“R.”) 11-05-005.

⁵ Although the facility was shut down in 1990 and restarted in 2007, it does not meet the California Energy Commission’s definition of a repowered facility, and is therefore considered an existing facility for purposes of AMF eligibility.

⁶ D.07-01-039 at 18 and Conclusions of Law 35(c).

L. Procurement Review Group Participation

The Procurement Review Group (“PRG”) for PG&E includes the Commission’s Energy Division and Division of Ratepayer Advocates, Department of Water Resources, Union of Concerned Scientists, The Utility Reform Network, the California Utility Employees, and Jan Reid, as a PG&E ratepayer. The A&R PPA was discussed at a PRG meeting on December 13, 2011. Additional information is provided in Confidential Appendix A.

M. Independent Evaluator

The IE for this A&R PPA, Merrimack Energy Group, Inc., evaluated the A&R PPA. The findings of the IE are contained in Confidential Appendix C and Public Appendix H.

N. Consistency With Decision Implementing Portfolio Content Categories

SB 2 1X set out three portfolio content categories that apply to RPS-eligible generation associated with RPS procurement contracts signed after June 1, 2010. The Commission described these three categories in detail in D.11-12-052. In that decision, the Commission also required the investor-owned utilities to include in their advice letters an upfront showing related to the categorization of their RPS procurement transactions signed after June 1, 2010.⁷ The Project is located in California and has its first point of interconnection with the CAISO, a California balancing authority. Therefore, it satisfies the criteria for the portfolio content category set forth in Section 399.16(b)(1).

III. PROJECT DEVELOPMENT STATUS

A. Company / Development Team

Bottle Rock is owned by USRG and Riverstone Holdings. Beginning in 2006, Bottle Rock underwent a comprehensive refurbishment, contracting, and permitting process. Bottle Rock satisfied all protection testing with PG&E and was synchronized to the grid in April 2007. Bottle Rock achieved commercial operations in October 2007. The same team has been operating the Project since it was restarted in 2007.

⁷ D.11-12-052 at p. 10.

B. Technology**1. Technology Type and Level of Technology Maturity**

Bottle Rock uses a well known and proven geothermal generation technology that has been in operation since 1985, and the Project was restarted in 2007. This is a mature technology.

2. Quality of Renewable Resource

Bottle Rock is in a known geothermal area, located at the Geysers Geothermal Field, and has been in production for several decades. Further, the Project is expected to increase deliveries of RPS-eligible energy through development of additional steam wells. Additional detail is provided in Section II.B of Confidential Appendix A.

3. Other Resources Required

No other resources are required.

C. Development Milestones**1. Site Control**

Bottle Rock holds a geothermal lease with the Bureau of Land Management.

2. Equipment Procurement

The Project will begin procuring equipment to support its steam field expansion after raising the necessary capital.

3. Permitting / Certification Status

The Project is fully permitted for continued operations and the expansion required under the A&R PPA.

4. Production Tax Credit / Investment Tax Credit

Given Bottle Rock's commercial operating date of October 2007, all production from the Project is eligible to earn federal production tax credits ("PTCs") through September 2017. However, negative operating cash flow since the start of operations has hampered Bottle Rock's ability to monetize the PTCs. The A&R PPA will enable Bottle Rock to

operate at cash flow positive, qualifying the Project for tax equity financing and allowing the plant to monetize both its PTCs and depreciation to finance expansion activities.

5. Transmission

The Project is operational and interconnected to the CAISO.

D. Financing Plan

Upon CPUC approval of the A&R PPA, Bottle Rock will seek to raise financing for the expansion of the facility. The most likely source of financing will be from equity sources. Aside from straight equity financing, Bottle Rock expects to be able to raise financing via the tax equity market. In addition, after initial equity-financed drilling activities result in the generation of solid positive cash flow, Bottle Rock expects to approach lenders in an attempt to raise a modest amount of debt financing to finance the Project's expansion to at least 25MW.

IV. CONTINGENCIES AND/OR PROJECT MILESTONES

The A&R PPA includes certain performance criteria and milestones that PG&E includes in its form RPS contract. These and other contingencies and milestones are addressed in Confidential Appendices A and D.

V. REGULATORY PROCESS

A. Requested Effective Date

PG&E requests that the Commission issue a resolution approving this advice filing as soon as possible. Justification for this date is provided in Confidential Appendix D.

B. Earmarking

PG&E reserves the right to earmark deliveries from the A&R PPA.

VI. REQUEST FOR COMMISSION APPROVAL

PG&E requests that the Commission issue a resolution as soon as possible that:

1. Approves the A&R PPA in its entirety, including payments to be made by PG&E pursuant to the A&R PPA, subject to the Commission's review of PG&E's administration of the A&R PPA.

2. Finds that any procurement pursuant to the A&R PPA is procurement from an eligible renewable energy resource for purposes of determining PG&E's compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California Renewables Portfolio Standard (Public Utilities Code Section 399.11 et seq.), D.03-06-071 and D.06-10-050, or other applicable law.
3. Finds that all procurement and administrative costs, as provided by Public Utilities Code section 399.13(g), associated with the A&R PPA shall be recovered in rates.
4. Adopts the following finding of fact and conclusion of law in support of CPUC Approval:
 - a. The A&R PPA is consistent with PG&E's 2011 RPS procurement plan.
 - b. The terms of the A&R PPA, including the price of delivered energy, are reasonable.
5. Adopts the following finding of fact and conclusion of law in support of cost recovery for the A&R PPA:
 - a. The utility's costs under the A&R PPA shall be recovered through PG&E's Energy Resource Recovery Account.
 - b. Any stranded costs that may arise from the A&R PPA are subject to the provisions of D.04-12-048 that authorize recovery of stranded renewables procurement costs over the life of the contract. The implementation of the D.04-12-048 stranded cost recovery mechanism is addressed in D.08-09-012.
6. Adopts a finding of fact and conclusion of law that deliveries from the A&R PPA fall within the RPS portfolio content category set forth in Public Utilities Code Section 399.16(b)(1).
7. Adopts the following findings with respect to resource compliance with the EPS adopted in R.06-04-009:
 - a. The A&R PPA is pre-approved as meeting the EPS because it is for an existing geothermal facility covered by Conclusion of Law 35(c) of D.07-01-039.

Protests:

Anyone wishing to protest this filing may do so by sending a letter by **June 14, 2012**, which is **20** days from the date of this filing. The protest must state the grounds upon which it is based, including such items as financial and service impact, and should be submitted expeditiously. Protests should be mailed to:

CPUC Energy Division
Attention: Tariff Unit, 4th Floor
505 Van Ness Avenue
San Francisco, California 94102
Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest also should be sent via U.S. mail (and by facsimile and electronically, if possible) to PG&E at the address shown below on the same date it is mailed or delivered to the Commission.

Pacific Gas and Electric Company
Attention: Brian K. Cherry
Vice President, Regulation and Rates
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 415-973-6520
E-Mail: PGETariffs@pge.com

Effective Date:

PG&E requests that the Commission issue a resolution approving this advice filing as soon as possible. PG&E submits this advice letter as a Tier 3 filing.

Notice:

In accordance with General Order 96-B, Section IV, a copy of this Advice Letter excluding the confidential appendices is being sent electronically and via U.S. mail to parties shown on the attached list and the service list for R.11-05-005, and R.12-03-014. Non-market participants who are members of PG&E's Procurement Review Group and have signed appropriate Non-Disclosure Certificates will also received the Advice Letter and accompanying confidential attachments by overnight mail. Address changes to the General Order 96-B service list should be directed to PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Advice letter filings can also be accessed electronically at: <http://www.pge.com/tariffs>.



Vice President – Regulation and Rates

cc: Service List for R.11-05-005
Service List for R.12-03-014
Paul Douglas – Energy Division
Jason Simon – Energy Division
Adam Schultz - Energy Division
Joseph Abhulimen – DRA
Cynthia Walker - DRA

Attachments

Limited Access to Confidential Material:

The portions of this Advice Letter marked Confidential Protected Material are submitted under the confidentiality protection of Section 583 of the Public Utilities Code and General Order 66-C. This material is protected from public disclosure because it consists of, among other items, the contract itself, price information, and analysis of the proposed RPS contract, which are protected pursuant to D.06-06-066 and D.08-04-023. A separate Declaration Seeking Confidential Treatment regarding the confidential information is filed concurrently herewith.

Confidential Attachments:

Appendix A – Consistency with Commission Decisions and Rules and Project Development Status

Appendix B – 2011 Solicitation Overview

Appendix C – Confidential Independent Evaluator Report

Appendix D – Contract Summary

Appendix E – Comparison of Contract with Utility’s Pro Forma Power Purchase Agreement

Appendix F – Amended and Restated Power Purchase Amendment

Appendix G – Project’s Contribution Toward RPS Goals

Public Attachment:

Appendix H – Independent Evaluator Report (Public)

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 E)**

Utility type:

ELC GAS
 PLC HEAT WATER

Contact Person: Meredith Allen and Kimberly Chang

Phone #: (415) 973-2368 and (415) 972-5472

E-mail: meae@pge.com and kwcc@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas
PLC = Pipeline HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: **4048-E**

Tier: **3**

Subject of AL: **Amended and Restated Power Purchase Agreement for Procurement of Eligible Renewable Energy Resources between Bottle Rock Power LLC and Pacific Gas and Electric Company**

Keywords (choose from CPUC listing): Contracts, Portfolio

AL filing type: Monthly Quarterly Annual One-Time Other _____

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL: _____

Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: Yes. See the attached matrix that identifies all of the confidential information.

Confidential information will be made available to those who have executed a nondisclosure agreement: Yes No All members of PG&E's Procurement Review Group who have signed nondisclosure agreements will receive the confidential information.

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: Gillian Clegg (415) 223-1332

Resolution Required? Yes No

Requested effective date: **Upon Commission Approval**

No. of tariff sheets: N/A

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed: N/A

Pending advice letters that revise the same tariff sheets: N/A

Protests, dispositions, and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

**CPUC, Energy Division
Tariff Files, Room 4005
DMS Branch
505 Van Ness Ave.,
San Francisco, CA 94102
E-mail: EDTariffUnit@cpuc.ca.gov**

**Pacific Gas and Electric Company
Attn: Brian Cherry
Vice President, Regulation and Rates
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177
E-mail: PGETariffs@pge.com**

**DECLARATION OF GILLIAN CLEGG
SEEKING CONFIDENTIAL TREATMENT
FOR CERTAIN DATA AND INFORMATION CONTAINED IN
ADVICE LETTER 4048-E
(PACIFIC GAS AND ELECTRIC COMPANY - U 39 E)**

I, Gillian Clegg, declare:

1. I am presently employed by Pacific Gas and Electric Company ("PG&E"), and have been an employee at PG&E since 2007. My current title is Principal within PG&E's Energy Procurement organization. In this position, my responsibilities include negotiating PG&E's Renewables Portfolio Standard Program ("RPS") Power Purchase Agreements. In carrying out these responsibilities, I have acquired knowledge of PG&E's contracts with numerous counterparties and have also gained knowledge of the operations of electricity sellers in general. Through this experience, I have become familiar with the type of information that would affect the negotiating positions of electricity sellers with respect to price and other terms, as well as with the type of information that such sellers consider confidential and proprietary.

2. Based on my knowledge and experience, and in accordance with Decision ("D") 08-04-023 and the August 22, 2006 "Administrative Law Judge's Ruling Clarifying Interim Procedures for Complying with Decision 06-06-066," I make this declaration seeking confidential treatment of Appendices A - G to PG&E's Advice Letter 4048-E, submitted on May 25, 2012.

3. Attached to this declaration is a matrix identifying the data and information for which PG&E is seeking confidential treatment. The matrix specifies that the material PG&E is seeking to protect constitutes the particular type of data and information listed in Appendix 1 of D.06-06-066 and Appendix C of D.08-04-023 (the "IOU Matrix"), or constitutes information that should be protected under General Order 66-C. The matrix also specifies the category or

categories in the IOU Matrix to which the data and information corresponds, if applicable, and why confidential protection is justified. Finally, the matrix specifies that: (1) PG&E is complying with the limitations specified in the IOU Matrix for that type of data or information, if applicable; (2) the information is not already public; and (3) the data cannot be aggregated, redacted, summarized or otherwise protected in a way that allows partial disclosure. By this reference, I am incorporating into this declaration all of the explanatory text in the attached matrix.

I declare under penalty of perjury, under the laws of the State of California, that to the best of my knowledge, the foregoing is true and correct. Executed on May 25, 2012, at San Francisco, California.

A handwritten signature in cursive script, appearing to read "G. Clegg".

GILLIAN CLEGG

PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)
Advice Letter 4048-E
May 25, 2012

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	1) The material submitted constitutes a particular type of data listed in the Matrix, appended as Appendix 1 to D.06-06-066 (Y/N)	2) Which category or categories in the Matrix the data correspond to:	3) That it is complying with the limitations on confidentiality specified in the Matrix for that type of data (Y/N)	4) That the information is not already public (Y/N)	5) The data cannot be aggregated, redacted, summarized, masked or otherwise protected in a way that allows partial disclosure (Y/N)	PG&E's Justification for Confidential Treatment	Length of Time
Document: Advice Letter 4048-E							
Appendix A	Y	<p>Item VII G) Renewable Resource Contracts under RPS program - Contracts without SEPs.</p> <p>Item VII (un-numbered category following VII G)) Score sheets, analyses, evaluations of proposed RPS projects.</p> <p>Item VIII A) Bid information and B) Specific quantitative analysis involved in scoring and evaluation of participating bids.</p> <p>General Order 66-C.</p>	Y	Y	Y	<p>This Appendix contains bid information and evaluations from the 2011 Solicitation; discusses, analyzes and evaluates the Project and the terms of the Amended and Restated PPA ("A&R PPA"); contains information concerning and analyses and evaluations of project viability; and contains confidential information of the counterparty (including financial information). Disclosure of this information would provide valuable market sensitive information to competitors. Release of this information would be damaging to negotiations. In addition, if information about and evaluations of project viability is made public, it could harm the counterparties and adversely affect project viability. Finally, certain information has been obtained in confidence from the counterparty under an expectation of confidentiality. It is in the public interest to treat such information as confidential because if such information were made public, it would put the counterparty at a business disadvantage, could create a disincentive to do business with PG&E and other regulated utilities, and could have a damaging effect on current and future negotiations with other counterparties.</p>	<p>For information covered under Item VII G) remain confidential for three years after the commercial operation date, or one year after expiration (whichever is sooner).</p> <p>For information covered under Item VII (un-numbered category following VII G), remain confidential for three years.</p> <p>For information covered under Item VIII A), remain confidential until after final contracts submitted to CPUC for approval.</p> <p>For information covered under Item VIII B), remain confidential for three years after winning bidders selected.</p> <p>For information covered under General Order 66-C, remain confidential.</p>

PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)
Advice Letter 4048-E
May 25, 2012

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	1) The material submitted constitutes a particular type of data listed in the Matrix, appended as Appendix 1 to D.06-06-066 (Y/N)	2) Which category or categories in the Matrix the data correspond to:	3) That it is complying with the limitations on confidentiality specified in the Matrix for that type of data (Y/N)	4) That the information is not already public (Y/N)	5) The data cannot be aggregated, redacted, summarized, masked or otherwise protected in a way that allows partial disclosure (Y/N)	PG&E's Justification for Confidential Treatment	Length of Time
Appendix B	Y	Item VIII A) Bid information and B) Specific quantitative analysis involved in scoring and evaluation of participating bids.	Y	Y	Y	This Appendix contains bid information and bid evaluations from the 2011 Solicitation. This information would provide market sensitive information to competitors and is therefore considered confidential. Furthermore, offers received outside of the solicitations are still under negotiation, further substantiating why releasing this information would be damaging to the negotiation process.	For information covered under Item VIII A), remain confidential until after final contracts submitted to CPUC for approval For information covered under Item VIII B), remain confidential for three years after winning bidders selected.

PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)
Advice Letter 4048-E
May 25, 2012

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	1) The material submitted constitutes a particular type of data listed in the Matrix, appended as Appendix 1 to D.06-06-066 (Y/N)	2) Which category or categories in the Matrix the data correspond to:	3) That it is complying with the limitations on confidentiality specified in the Matrix for that type of data (Y/N)	4) That the information is not already public (Y/N)	5) The data cannot be aggregated, redacted, summarized, masked or otherwise protected in a way that allows partial disclosure (Y/N)	PG&E's Justification for Confidential Treatment	Length of Time
Appendix C	Y	<p>Item VII G) Renewable Resource Contracts under RPS program - Contracts without SEPs.</p> <p>Item VII (un-numbered category following VII G)) Score sheets, analyses, evaluations of proposed RPS projects.</p> <p>Item VIII A) Bid information and B) Specific quantitative analysis involved in scoring and evaluation of participating bids.</p> <p>General Order 66-C.</p>	Y	Y	Y	<p>This Appendix contains bid information and evaluations from the 2011 Solicitation; discusses, analyzes and evaluates the Project and the terms of the A&R PPA; contains information, analyses, and evaluations of project viability; discusses in detail PG&E's portfolio adjusted value methodology; and it contains confidential information of the counterparty (including financial information). Disclosure of this information would provide valuable market sensitive information to competitors, and could place PG&E at an unfair business disadvantage. Release of this information would be damaging to negotiations with other counterparties and should remain confidential. In addition, if information about and evaluations of project viability is made public, it could harm the counterparty and adversely affect project viability. Finally, certain information has been obtained in confidence from the counterparty under an expectation of confidentiality. It is in the public interest to treat such information as confidential because if such information were made public, it would put the counterparty at a business disadvantage, could create a disincentive to do business with PG&E and other regulated utilities, and could have a damaging effect on current and future negotiations with other counterparty.</p>	<p>For information covered under Item VII G) remain confidential for three years after the commercial operation date, or one year after expiration (whichever is sooner).</p> <p>For information covered under Item VII (un-numbered category following VII G), remain confidential for three years.</p> <p>For information covered under Item VIII A), remain confidential until after final contracts submitted to CPUC for approval.</p> <p>For information covered under Item VIII B), remain confidential for three years after winning bidders selected.</p> <p>For information covered under General Order 66-C, remain confidential.</p>

PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)
Advice Letter 4048-E
May 25, 2012

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	1) The material submitted constitutes a particular type of data listed in the Matrix, appended as Appendix 1 to D.06-06-066 (Y/N)	2) Which category or categories in the Matrix the data correspond to:	3) That it is complying with the limitations on confidentiality specified in the Matrix for that type of data (Y/N)	4) That the information is not already public (Y/N)	5) The data cannot be aggregated, redacted, summarized, masked or otherwise protected in a way that allows partial disclosure (Y/N)	PG&E's Justification for Confidential Treatment	Length of Time
Appendix D	Y	<p>Item VII G) Renewable Resource Contracts under RPS program - Contracts without SEPs.</p> <p>Item VII (un-numbered category following VII G)) Score sheets, analyses, evaluations of proposed RPS projects.</p> <p>Item VIII A) Bid information and B) Specific quantitative analysis involved in scoring and evaluation of participating bids.</p> <p>General Order 66-C.</p>	Y	Y	Y	<p>This Appendix contains bid information and evaluations from the 2011 Solicitation; discusses, analyzes and evaluates the Project and the terms of the A&R PPA; and contains confidential information of the counterparty. Disclosure of this information would provide valuable market sensitive information to competitors. Release of this information would be damaging to negotiations with other counterparties and should remain confidential. Furthermore, the counterparty to the A&R PPA has an expectation that the terms of the A&R PPA will remain confidential. It is in the public interest to treat such information as confidential because if such information were made public, it would put the counterparty at a business disadvantage, could create a disincentive to do business with PG&E and other regulated utilities, and could have a damaging effect on current and future negotiations with other counterparty.</p>	<p>For information covered under Item VII G) remain confidential for three years after the commercial operation date, or one year after expiration (whichever is sooner).</p> <p>For information covered under Item VII (un-numbered category following VII G), remain confidential for three years.</p> <p>For information covered under Item VIII A), remain confidential until after final contracts submitted to CPUC for approval.</p> <p>For information covered under Item VIII B), remain confidential for three years after winning bidders selected.</p> <p>For information covered under General Order 66-C, remain confidential.</p>

PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)
Advice Letter 4048-E
May 25, 2012

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	1) The material submitted constitutes a particular type of data listed in the Matrix, appended as Appendix 1 to D.06-06-066 (Y/N)	2) Which category or categories in the Matrix the data correspond to:	3) That it is complying with the limitations on confidentiality specified in the Matrix for that type of data (Y/N)	4) That the information is not already public (Y/N)	5) The data cannot be aggregated, redacted, summarized, masked or otherwise protected in a way that allows partial disclosure (Y/N)	PG&E's Justification for Confidential Treatment	Length of Time
Appendix E	Y	Item VII G) Renewable Resource Contracts under RPS program - Contracts without SEPs.	Y	Y	Y	This Appendix contains the A&R PPA for which PG&E seeks approval in the Advice Letter filing. Disclosure of certain terms of the A&R PPA would provide valuable market sensitive information to competitors. Release of this information would be damaging to negotiations with other counterparties and should remain confidential. Furthermore, the counterparty to the A&R PPA has an expectation that the terms of the A&R PPA will remain confidential.	For information covered under Item VII G), remain confidential for three years after the commercial operation date, or one year after expiration (whichever is sooner).
Appendix F	Y	Item VII G) Renewable Resource Contracts under RPS program - Contracts without SEPs.	Y	Y	Y	This Appendix contains the A&R PPA for which PG&E seeks approval in the Advice Letter filing. Disclosure of certain terms of the A&R PPA would provide valuable market sensitive information to competitors. Release of this information would be damaging to negotiations with other counterparties and should remain confidential. Furthermore, the counterparty to the A&R PPA has an expectation that the terms of the A&R PPA will remain confidential.	For information covered under Item VII G), remain confidential for three years after the commercial operation date, or one year after expiration (whichever is sooner).
Appendix G	Y	Item VII (un-numbered category following VII G)) Score sheets, analyses, evaluations of proposed RPS projects. Item VI B) Utility Bundled Net Open Position for Energy (MWh).	Y	Y	Y	This Appendix contains information that, if disclosed, would provide valuable market sensitive information to competitors and allow them to see PG&E's remaining RPS net open energy position. Since negotiations are still in progress with other counterparties, this information should remain confidential for three years.	Remain confidential for three years.

Public Appendix H
Independent Evaluator Report

Report of the Independent Evaluator
Amendment and Restatement of the Power Purchase and
Sale Agreement Between
Pacific Gas & Electric Company
And
Bottle Rock Power, LLC.
Public Redacted Version

May 2012

Merrimack Energy Group, Inc.
26 Shipway Place
Charlestown, Mass. 02129
(781)856-0007



A. Introduction

On March 28, 2012 Pacific Gas and Electric Company (“PG&E”) and Bottle Rock Power, LLC (“Bottle Rock”) reached an agreement on an Amended and Restated Power Purchase Agreement (“PPA”). The Amended and Restated PPA is the fourth such revision or amendment to the original contract executed between PG&E and Bottle Rock on May 3, 2006.¹ While the contract capacity of the project under the original contract was for up to 55 MW, the project has been able to only produce consistently at 10 MW.

Under the Amended and Restated Agreement, which is the subject of this Advice Letter report, the following contract revisions have been agreed to by the Parties:

1. The delivery term of the contract is for 20 years;
2. Increase in the estimated levelized contract price from [REDACTED] to approximately [REDACTED];
3. [REDACTED]
4. Reduce the project capacity from its current maximum of 55 MW to 25 MW.
[REDACTED]
5. Added specific performance requirements that the project has to meet, including:
 - a. Achieve 15 MW of sustained annual energy production by the end of Contract year 6;
 - b. Invest in the facility to expand the steam field to increase the Project’s energy production from 10 MW to at least 15 MW;
 - c. [REDACTED]
 - d. [REDACTED]
6. Added a requirement that Bottle Rock retain the equivalent of [REDACTED] full-time jobs for the term of the amended PPA.

¹ The 2006 original agreement was amended on September 21, 2007 and April 6, 2009. The Amended and Restated Amendment in 2010 allowed for the contract price to increase as the Project output increased from 14 MW to 55 MW.

² [REDACTED]

In its Proforma financial statements reviewed by the IE, Bottle Rock identified that up to [REDACTED]

Contract negotiations between Bottle Rock and PG&E were initiated by Bottle Rock in June 2011 and extended through execution of the Amended and Restated Power Purchase Agreement on March 28, 2012.

The requirements of the Report of the Independent Evaluator (IE) regarding a contract amendment are described in Public Utilities Commission of the State of California Resolution E-4199, March 12, 2009. The Resolution requires that if a developer requests an amendment to an approved contract that affects the contract price, the IOU should re-evaluate the competitiveness of the amended project as compared to the projects that the IOU is negotiating with and to its most recent shortlist. The IOU must provide a sufficient showing in the Advice Letter that the amended contract is competitive based on current market data. Additionally, contracts that are re-filed with the Commission for approval of an amendment that affects an approved contract's price have to explain why the contract change is needed, and provide all relevant data to justify the change.

The Resolution also requires the developer to provide the Commission and IE with cash flow models, both the original reflecting the price in the original contract and the latest version, for projects that are re-filed with the Commission for approval of a price amendment if the new contract price is above the Market Price Referent ("MPR") and the contract is eligible for AMFs. The confidential project-specific IE report must, at a minimum, include its evaluation of the new price based on the project's market valuation as compared to the bids in the IOU's most recent solicitation, a review of the cash flow model and an evaluation of the change in model inputs. An IE's conclusions must not be based on whether the developer's rate of return is reasonable, but rather whether the change in model inputs are reasonable and justify the price change.⁶

Merrimack Energy Group, Inc. ("Merrimack Energy") was retained to serve as Independent Evaluator for the Bottle Rock amended and restated contract. Merrimack Energy has monitored negotiations with Bottle Rock and reviewed the amended and restated agreement and detailed financial pro formas provided by Bottle Rock, and has prepared this report with our observations and assessment. This report addresses the following issues:

1. A brief description of the provisions of the Amended and Restated PPA and the negotiation process associated with the Amended and Restated PPA;
2. An evaluation of the amended price contained in the contract relative to the price of similar short listed projects and contracts from PG&E's Renewable Portfolio Standard 2011 Solicitation ("2011 RPS RFO");
3. A review of the cash flow models including a description of the model, information regarding changes in model inputs, changes in capital and operating costs, and a discussion of any other revisions to costs or operating parameters that could influence project economics;

⁶ Public Utilities Commission of the State of California, Resolution E-4199, March 12, 2009 (pages 26-28).

4. A reasonableness assessment of the capital and operating costs based on the cost information associated with this project and/or other projects or studies for comparable technologies, if applicable.

B. Project Background/Description

Bottle Rock Power Plant is a 55 MW dry steam geothermal power plant. Bottle Rock sits on a 350-acre site in Lake County, in northern California in an area known as the Geysers, the largest producing geothermal region in the world.

Bottle Rock Power, LLC (“Bottle Rock”) currently owns and operates the plant. The Bottle Rock lease holdings consist of approximately 800 acres within the larger Geysers geothermal resource area which covers approximately 45 square miles. Calpine Corporation and the Northern California Power Agency (“NCPA”) are the primary operators for the remainder of the Geysers geothermal resource.

According to Bottle Rock’s website “Bottle Rock first began operations in 1985 under the California Department of Water Resources (“DWR”).⁷ DWR suspended its operation in 1991 and later sold the power project to the Bottle Rock Power Corporation. US Renewables Group (“USRG”) took ownership of the facility in 2005 and in June 2006, Riverstone Holdings and the Carlyle Group acquired a 50% stake in Bottle Rock from USRG. Under the new owners the plant was refurbished and repowered and the steam field has undergone additional development. Bottle Rock Power came back online in March 2007.

Bottle Rock has been under an RPS contract with PG&E since May 3, 2006. The contract has been amended previously for price and performance adjustments. The initial PPA would allow for up to 55 MW of contract capacity with an increasing price stream based on term increments. The initial PPA price for the first 15 MW of delivered energy is \$68.50/MWh through 2012; \$71.50 from 2013-2017; and \$75.50/MWh from 2018-2022 if PG&E exercises the option to increase the term.

Bottle Rock initiated contract negotiations with PG&E concerning a contract amendment in June, 2011. Bottle Rock indicated it had problems with additional capital and continued operating losses from the facility and as a result required an increase in the price under the contract to continue operations.

Bottle Rock indicated the project has been operating at a loss. Bottle Rock informed PG&E that the project is currently operating with negative cash flow of approximately

⁷According to the California Energy Commission’s website, once the plant was constructed “steam supply became a critical problem for Bottle Rock. While the South Geysers area had insufficient steam to make completion of construction worthwhile, the area near Bottle Rock and DWR’s South Geyser’s Power Plant had too little steam for the facilities to continue generation. The steam field for Bottle Rock could only produce about 15 MW instead of the 55 MW capacity. In November 1990, DWR suspended operation of the Bottle Rock project and the plant was eventually placed into cold stand-by state.”

[REDACTED]

As a result, Bottle Rock has indicated that without a significant price increase, the existing project will shut down and future development at the resource will cease. In addition, [REDACTED] full-time jobs would be lost in an economically depressed area.

C. Role of the IE

Merrimack Energy was selected by PG&E to serve as IE in July, 2011. Merrimack Energy participated in several calls with the PG&E project team to discuss the project and began to participate in calls with Bottle Rock and PG&E in the August/September, 2011 timeframe during which Bottle Rock provided an overview of project status, its financial condition, and the proposed price increase it requested to achieve economic feasibility.

In the November/December 2011 timeframe, Bottle Rock provided its financial pro formas for the initial PPA (i.e. referred to as the 2006 pro forma) as well as recent pro forma cost information including its latest pro forma to justify the cost increase underlying this Amended and Restated PPA. The IE initially reviewed the pro formas and prepared a series of follow-up questions to Bottle Rock. The IE also participated in contract negotiation calls with Bottle Rock over an eight month period, calls to discuss the pro formas and contractual provisions, and participated in a PRG call on the project.

The IE also reviewed the pro forma financial statements provided by Bottle Rock, prepared and submitted a number of questions with regard to the pro formas, and held follow-up calls with Bottle Rock to review and discuss Bottle Rocks response. In addition, the IE conducted its own independent modeling of Bottle Rock's pro formas to ensure the results were consistent.

D. Description of the Contract Amendments

As noted, the contract executed between Bottle Rock and PG&E has included several amendments and restated agreements. A brief summary of the original contract and contract amendments are provided in this section of the Report.

Initial Power Purchase Agreement

The initial Power Purchase Agreement between Bottle Rock and PG&E was executed on May 3, 2006. A few of the major provisions of the initial contract include:

- The contract is a 10 year contract with PG&E's option to extend the contract to 15 years;

⁸ At the December 13, 2011 Procurement Review Group meeting, PG&E stated that the project [REDACTED]

- The quantity of delivered energy during any contract year equals 80% times Net Rated Output Capacity;
- Contract capacity is the lower of 17 MW or the Net Rated Output capacity of the project which is currently 14.45 MW;
- Seller has the right to increase contract capacity to 55 MW;
- The contract default provisions are based on the capacity factor actually achieved;
- The contract price varies by period;
 - Years 1-5: Contract price is \$68.50/MWh
 - Years 6-10: Contract price is \$71.50/MWh
 - Years 11-15: Contract price is \$75.50/MWh (if buyer exercises option to increase term)

First Amendment to Power Purchase and Sale Agreement

The First Amendment to the Contract (4 page document) was executed on September 21, 2007. The First Amendment was negotiated because Bottle Rock was not able to achieve Commercial Operation by the Guaranteed Commercial Operation date as set forth in Section 3.9(c)(iv) of the PPA. The major provisions of the First Amendment included:

- The Guaranteed Commercial Operation Date was reset at October 1, 2007
- The Net Rated Output Capacity was reduced to 10 MW from 14.45 MW.
- The Amendment established fixed levels of daily delay damages (\$38,537.19/day for 60 days) and security levels; Daily delay damages would kick-in if the project did not demonstrate Net Rated Output Capacity of at least 10 MW by October 1, 2007; 14.45 MW by December 31, 2007; and 16.15 MW by December 31, 2008;
- Reduced delivery term security if output exceeds 17 MW; The Delivery Term Security would be reduced from \$2,841,627 to \$2,129,556 if the project reaches a Declared Contract Capacity of 17 MW or a Net Rated Output Capacity of 14.45 MW;
- The contract price for each MWh of Scheduled Energy for the period prior to the date that the Project achieves a Net Rated Output Capacity of 14.45 MW shall be \$61.65/MWh;

Second Amendment to Master Power Purchase and Sale Agreement

The Second Amendment to the PPA (2 page document) was executed on April 6, 2009. The second amendment largely focused on changes to the contract driven by restructuring of the CAISO market, including the results of MRTU. The primary revisions included a change in contract language associated with delivery point and scheduling and scheduling coordinator. No pricing changes were included.

Amended and Restated Power Purchase and Sales Agreement⁹

⁹ It is our understanding that this agreement is only partially effective because of the failure of Bottle Rock to meet one remaining contractual provision. Furthermore, the part of the agreement that is effective does not include the proposed pricing provisions included in the summary below.

The Amended and Restated PPA, which was executed on April 6, 2010, amends, restates, replaces and supersedes the original contract and amendments. A few of the notable revisions to the contract contained in the Amended PPA include:

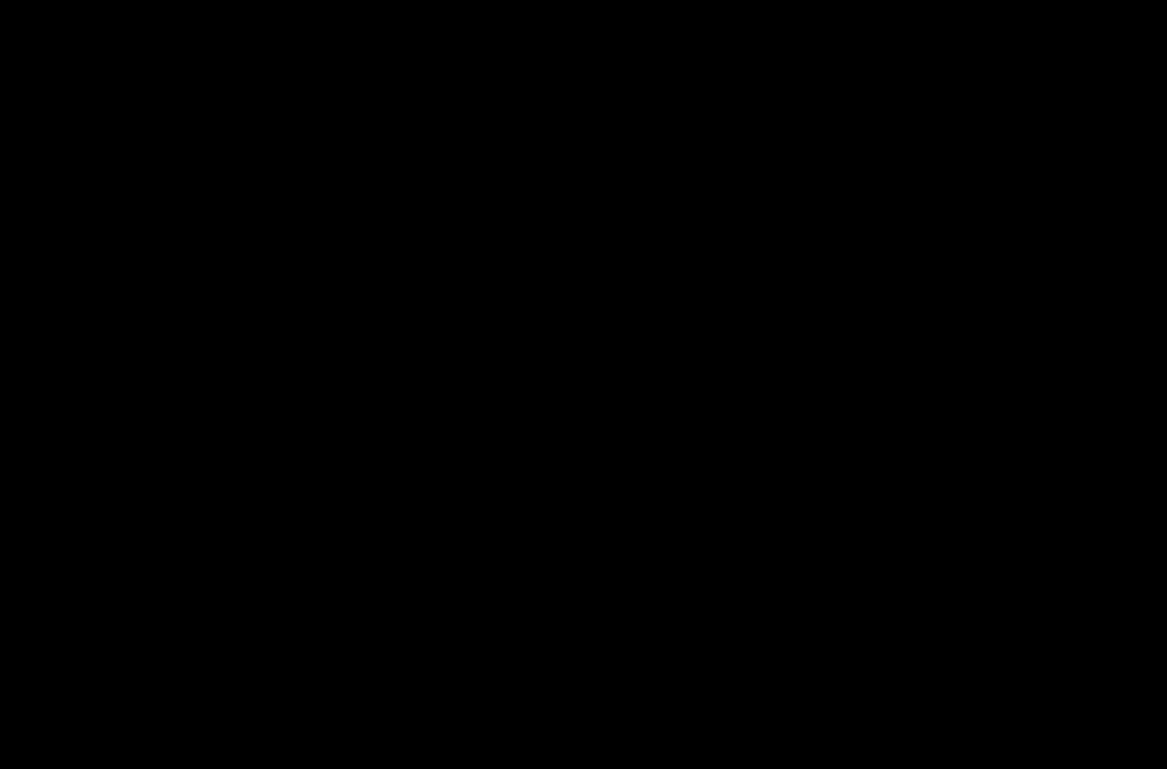
- Established the price in the contract [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- Requires operating period security of [REDACTED]





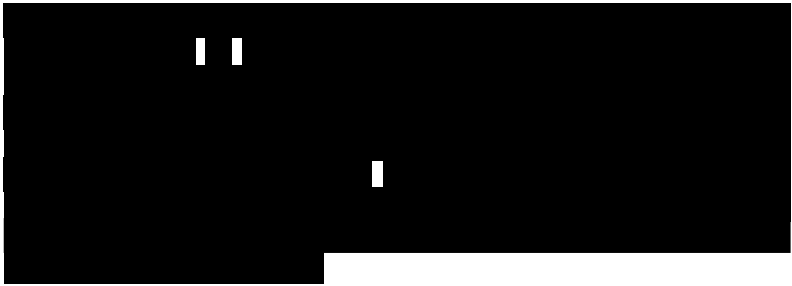
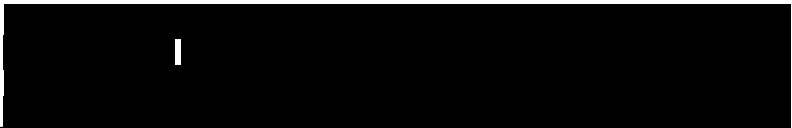
Amended and Restated Power Purchase Agreement

As noted, an Amended and Restated PPA was executed by the parties on March 28, 2012. Exhibit 1 provides a summary of the key provisions of the Amended and Restated PPA executed on March 28, 2012, which is the subject of this Advice Letter filing.

Exhibit 1: Summary of Contract Amendments

Contract Provision	2012 PPA
Pricing	The contract price is [REDACTED]
Contract Capacity	The capacity of the project at the Execution date shall be 10 MW of Declared Contract Capacity. The capacity of the project by the Guaranteed Full Commercial Operation date by the end of the 6 th Contract Year shall be 15 MW. [REDACTED]
Energy Deliveries	Contract Quantities start at 85,200 MWh in Contract Year 1 and increase to approximately 128,000 MWh by Year 6.



<p>Milestone Events – Commercial Operations</p> 	<p>Seller shall demonstrate Full Commercial Operation by the end of the sixth (6th) Contract Year (“Guaranteed Full Commercial Operation Date”). The Parties acknowledge and agree that Seller intends to undertake activities to expand the Initial Contract Capacity of the Project from 10 MW as of the Execution Date to the Full Contract Capacity as of the Guaranteed Full Commercial Operation Date.</p> 
<p>Project Investment Obligation</p>	<p>Seller shall achieve Full Commercial Operation prior to the Guaranteed Full Commercial Operation Date or make cash expenditures of at least  of Qualified Capital for the Project </p>  <p></p>

Seller Employment Obligation	[REDACTED] During each Contract Year during the Term of this Agreement, Seller shall employ no less than [REDACTED] full time equivalent workers, [REDACTED] [REDACTED]
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In conclusion, the Amended and Restated Power Purchase Agreement between PG&E and Bottle Rock contains several unique provisions in an effort to attempt to balance the interests of customers while allowing Bottle Rock the opportunity to meet its output goals provided they meet a portion of their investment requirements as highlighted in the financial pro formas supporting a price increase. [REDACTED]

Another consideration to structure the contract in lieu of ensuring that Bottle Rocks implements the capital investment obligations necessary to meet the full commercial operations would have been to include a [REDACTED] in the contract if the level of capital expenditures was lower than estimated. This would protect against the possibility that the Seller could secure a price increase [REDACTED]

Although this option would be more complex than the contract provision included in the Amended and Restated PPA both options provide similar signals to the Seller to ensure the price increase required by the Seller is justified by the capital expenditures necessary to support project operations.

E. Description of the Contract Negotiation Process

Bottle Rock approached PG&E in June 2011 about the status of the project and to initiate discussions regarding an amendment to the Bottle Rock PPA. Bottle Rock initially communicated that it lacked additional sponsor capital and had continued operating losses.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1. [REDACTED]
2. [REDACTED]
3. [REDACTED]

[REDACTED]

[REDACTED]

1. [REDACTED]
2. [REDACTED]
3. [REDACTED]
4. [REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]

[REDACTED]

- [REDACTED]
 - [REDACTED]

- [Redacted]
- [Redacted]
- [Redacted]
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[REDACTED]

[REDACTED]

[REDACTED] As

noted, the contract was executed on March 28, 2012.

F. Description of PG&E’s LCBF Evaluation Methodology

This section of the report provides an overall description of PG&E’s Least Cost Best Fit (“LCBF”) evaluation methodology and criteria applicable to the 2011 Renewable Portfolio Standard Solicitation Protocol (“2011 RPS Solicitation”), the most recent solicitation in which a detailed LCBF assessment was undertaken.

PG&E evaluates and ranks proposals based on LCBF principles that comply with criteria set forth by the CPUC in D.03-06-071 and D.04-07-029 (“LCBF Decisions”). The LCBF methodology includes evaluation of both quantitative and qualitative aspects of each proposal to estimate its value to PG&E’s customers and relative value in comparison to other proposals.

Solicited bids are evaluated using the following step-by-step process:

1. PG&E first classifies whether Offers were considered Bucket 1 (in-state bundled or dynamically scheduled, Bucket 2 (firmed and shaped) or Bucket 3 (REC-only) based on PG&E’s understanding of the buckets identified in Senate Bill 2 (“SB 2 1X”);
2. PG&E created separate rankings according to Net Market Value for Bucket 1, Bucket 2 and Bucket 3;

3. Initially, Offers are ranked according to Market Valuation;
4. The appropriate Transmission Adder, if any, is subtracted from the Market Valuation, resulting in a Net Market Value;
5. After the Net Market Value is determined, PG&E's viability, portfolio fit and RPS goals evaluation criteria are considered and applied to the Offer to arrive at its final place in the ranking;
6. In consultation with the IE and PRG, PG&E then decides which Offers to include and which ones not to include on the Shortlist.

1. Market Valuation

Market valuation considers how an Offer's costs compare to its benefits, from a market perspective. Costs include fixed and variable components representing all anticipated significant relevant costs, including Transmission and Integration cost adders. Benefits include energy, capacity, and ancillary services. Costs and Benefits are each quantified and expressed in terms of present value (2011 dollars) per MWh. Market Value is Benefits minus Costs, and is expressed in terms of levelized price, that is, present value per MWh (2011 dollars and 2011 MWh). All energy benefit calculations use a Locational Marginal Price ("LMP") multiplier to determine the locational value of the energy delivered. Differences in LMP prices reflect both congestion and losses between areas. The specific multiplier is based on recorded Market Redesign and Technology Upgrade ("MRTU") data for the period July to February 2011.

Offers are classified into two types based upon how they are financially modeled: (1) forward contracts; and (2) dispatchables. How benefits and costs are calculated varies with each of the two types of Offers. Since the valuation method for each Offer determines how the Offer is valued, the calculation of Benefits, Costs, and Market value is described below. Whether an offer is for a power purchase agreement (PPA) or purchase and sales agreement (PSA) does not affect valuation, except for the buyout offer associated with a PSA. Offers of "sites for development" are not discussed here.

Forward Contracts

The term "forward contract" is used to describe an Offer that provides energy with no dispatch flexibility. This type of Offer includes baseload product, as-available product, and Renewable Energy Credit ("REC") plus energy products.

Quantification of Benefits

The benefits of forward contract offers include energy, capacity, and ancillary services. Benefits are measured in units of present value per MWh (2011 dollars and 2011 MWh).

Energy Benefits

The energy benefit for each hour of delivery is the quantity of energy delivery for an hour times the forward energy price for that hour. The quantity of energy delivery for each hour is determined by the hourly generation profile of the offer. Discounted hourly energy benefit is summed across hours of delivery, and summed across years. The total discounted benefit is then divided by total discounted MWh of energy, expressed in terms of present value per MWh.

Capacity Benefit

The capacity benefit for Resource Adequacy (RA), for year of availability, is the monthly quantity of qualifying capacity multiplied by the monthly capacity value, discounted to 2011 dollars and summed across years. The total discounted capacity benefit is then divided by total discounted MWh of energy, expressed in terms of present value per MWh. Pursuant to D.09-06-028, for intermittent energy (e.g. wind and solar) products, the qualifying capacity for each month is determined by the capacity that has an exceedance factor of 70% for the five on-peak hours. That is, for 70% of the time, per hour energy generation for the five peak hours (HE14 – HE18) for April through October, and HE17-HE21 for the rest of the year) is greater than or equal to the qualifying capacity. For other types of non-dispatchable products excluding biomass and geothermal, the qualifying capacity is determined by the monthly average of the five RA counting generation profile of the offer. The qualifying capacity for biomass and geothermal offers are the maximum monthly generation capacity.

For Offers whose location would contribute to PG&E's satisfaction of its Local Capacity Requirement as specified by the CAISO and adopted by the CPUC, the capacity attributable to the Offer may be valued at a premium relative to the value of capacity that satisfies only system needs.

Ancillary Service Benefits

Ancillary service benefits are assumed to be zero for forward contracts.

Quantification of Costs

Cost is determined by the expected payments under each Offer, plus Transmission and Integration cost adders. Transmission adders are described in Section II.B.2 below. Integration costs are defined as the costs and values of integrating a generation project into a system-wide electrical supply. The primary categories of integration costs are regulation, load following, and shadow capacity. Pursuant to D.04-07-029, and unless provided further guidance from the Commission and/or the California Energy Commission ("CEC"), PG&E will assume that integration costs are zero.

PG&E's payments for each Offer are determined by the Offer's price multiplied by the appropriate Time of Delivery (TOD) factors if applicable, as specified in the RPS

Solicitation Protocol. Cost is measured in units of present value per MWh (2011 dollars and 2011 MWh).

In the case of PSA Offers, PG&E's payments for each Offer are replaced by the revenue requirements, fixed and variable operations and maintenance costs, and ownership costs

REC-Only Offers

The term REC-only is used to describe an Offer that provides RECs, without any associated energy.

Since there is no associated energy or capacity, there is no energy or capacity benefit. Cost is determined by the expected payments under each Offer. Since there is no associated energy or capacity, there are no Transmission and Integration cost adders.

REC plus Energy Offers

The term REC plus Energy is used to describe an Offer that provides RECs as well as renewable energy.

Since benefits of RECs are not explicitly evaluated, a REC plus Energy contract will be valued exactly the same as a Forward contract. Cost is determined by the expected payments under each offer, and is measured in units of present value per MWh (2011 dollars and 2011 MWh). Since the REC + Energy contract does not include TOD factors, TOD factors are not applied in the evaluation process.

Dispatchable Products

The term dispatchable is used to describe Offers which provide some flexibility in their dispatch.

Quantification of Benefits

Benefits include energy, capacity, and ancillary services. Benefits are measured in units of present value per MWh (2011 dollars and 2011 MWh)

Energy Benefits

Energy benefits of a dispatchable type of Offer are calculated as a daily exercise of European call options. Additional details depend on the nature of the particular characteristics of a specific Offer.

Capacity Benefits

Capacity benefit for a dispatchable type of Offer is calculated the same way as described above for the forward contract type of Offer. The quantity of qualifying capacity is

determined by the performance requirements of the Offer and the characteristics of a specific Offer.

Ancillary Service Benefit

Ancillary service benefit for a dispatchable type of offer depends on the characteristic of a specific offer.

Quantification of Costs

The cost represented by a dispatchable type of Offer is calculated the same way as described above for the forward contract type, except that PG&E's capacity payments for each Offer are determined by the Offer's pricing multiplied by the appropriate Time of Availability (TOA) factors. Cost is measured in units of present value per MWh (2011 dollars and 2011 MWh).

Integration Costs

Integration costs are defined as the costs and values of integrating a generation project into a system-wide electrical supply. The primary categories of integration costs are regulation, load following, and shadow capacity. Pursuant to D.04-07-029, and unless provided further guidance from the California Public Utilities Commission and/or the California Energy Commission, PG&E will assume that integration costs are zero.

2. Transmission Adder

PG&E requests transmission information from developers from each Offer. This information includes the proposed project's current interconnection queue position, application status, and transmission provider. Details of the current or proposed interconnection are requested for the projects, including voltage level, transmission or distribution service level, transmission line, interconnecting substation, form of interconnection applied for, and a copy of the study, or interconnection agreement, if applicable.

The transmission adder adjusts Offer prices to include the cost, if any, to customers of bringing the power from the generating facility to PG&E's network. Once Offers have been ranked on all evaluation criteria except transmission, the means by which the generation will be delivered to PG&E's customers is examined. Each bid is associated with a transmission cluster based upon the location of the facility. If a CAISO interconnection study has been completed for the project, the costs in that report are used for bid evaluation. If no study has been completed, the project's transmission costs are assigned using the transmission ranking cost report methodology. The Transmission Ranking Cost Report ("TRCR") proxy costs include reliability network upgrades, plus deliverability upgrades.

Some sellers in the 2011 RPS Solicitation had received studies that were based on their application as an energy-only resource, but did not have a deliverability assessment to qualify for resource adequacy. Each Offer that does not have a CAISO interconnection study is assigned the transmission cost adder indicated by the TRCR as necessary to accept its project capacity on the transmission network. The cluster-based cost adders are used for bid evaluation only. Projects do not have to physically connect to a cluster, and connecting projects do not necessarily pay the interconnection prices listed in the TRCR.

PG&E assigns each Offer an estimated amount of transmission network upgrade costs using project specific interconnection studies, if available, or using a proxy cost estimate based on the TRCR. For projects located in PG&E, Southern California Edison (“SCE”) or San Diego & Electric (“SDG&E”) service territories, PG&E applies the PG&E, SCE, or SDG&E TRCR. The MW and dollars in the TRCR table are divided between “Peak & Shoulder” and “Night” periods (note that the dollars for “Baseload and As-Available columns are simply the sum of the other two sets of columns minus any common transmission facilities).

Within each of the transmission clusters, and within each period (Peak and Shoulder and Night), each Offer is assigned a pro-rata share of the cost. This share is based on the Offer’s maximum MW as a percentage of the maximum MW of potential generation assigned to each transmission cluster. For purposes of determining the level to which a project’s MWs are assigned, only the highest ranking Offer variation from each Project above it in the cluster ranking is considered. This rule is intended to prevent the allocation of transmission capacity to multiple Offers of a single project.

PG&E may accept the electricity at a CAISO delivery point in the PG&E service area or another delivery point outside of PG&E’s service territory and avoid the cost of congestion through the use of typical commercial arrangements.

If the proposed project is located outside the CAISO-controlled grid and is offering delivery outside the CAISO grid, the Seller is to deliver the energy onto or to an intertie with the CAISO grid. PG&E may accept offers for power at a CAISO interface point, from projects that interconnect within a non-CAISO control area. Since these projects do not go through the CAISO interconnection process and are not assigned network upgrades, PG&E assumes the transmission adder is zero. For example, firmed and shaped (Bucket 2 offers) will deliver to the CAISO at COB. These offers will go through an interconnection process where the generation facility is located (e.g. Bonneville Power Administration – “BPA”). The Seller is responsible for paying any upgrade costs with its interconnecting utility and all transmission costs to get to the CAISO. Since these costs are built into the offer price, PG&E does not assign additional out-of-state transmission costs.

A Present Value Revenue Requirement (PVRR) is calculated from the Transmission Ranking Cost Report or interconnection study for each evaluated bid. This PVRR captures from a ratepayer perspective the risk and cost to construct and maintain transmission upgrades to accommodate the generation from the renewable resource.

This PVRR of the costs of the Network Upgrades are converted into a present value per MWh (2011 \$ and 2011 MWh) by dividing the PVRR by the Discounted MWh. These present value per MWh (2011 \$ and 2011 MWh) values, one for each Offer, are returned to the database for a recalculation of the Market Valuation.

3. Portfolio Fit

The portfolio fit measure differentiates Offers by the firmness of their energy delivery and by how well the energy delivery profile meets PG&E's needs. A higher portfolio fit measure is assigned to the energy that PG&E is sure to receive and fits the needs of the existing portfolio. It is extremely important that PG&E be able to count on energy when planned as part of managing its long term portfolio. It is obtained by averaging, with equal weighting, the two scores obtained from (1) the delivery firmness, and (2) the time of delivery, including the timing of and flexibility of commercial online date.

4. Credit and Collateral Requirements

Following Shortlisting, 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, including any of Participant's affiliates. Participants were requested to indicate what level of project development and delivery term security they would meet. PG&E did not score Participant's credit and collateral requirements during the 2011 RPS Solicitation.

5. Project Viability Assessment

a. Project Viability Calculator

The Commission developed a Project Viability Calculator ("PVC") which was used by PG&E in its 2011 RPS Solicitation. PG&E evaluated the project viability of each Offer using the PVC issued by the Commission on June 2, 2011. Participants are requested to self-score each of their Offers using the PVC and provide supporting documentation for each score. PG&E reviews all submissions and adjusts self-scores as appropriate. The Participant's claims in all three categories are verified to the extent possible using publicly available data and/or PG&E data.

6. RPS Goals

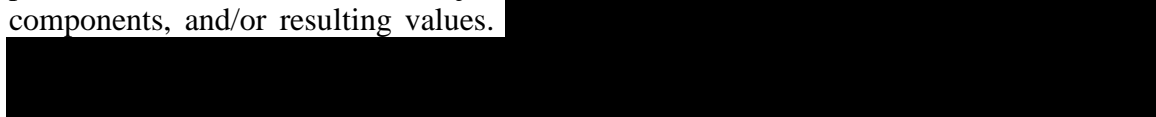
PG&E assesses the Offer's consistency with and contribution to California's goals for the RPS program and the Offer's support of PG&E's supplier diversity goals (collectively "RPS Goals"). The RPS Goals assessment considers the factors described below.

Determination of the extent to which the proposed development supports RPS Goals is based on the information provided in the Offer as well as PG&E's assessment of the project.

- Non-quantifiable factors identified in CPUC Decision 04-07-029, including benefits to low income or minority communities, Environmental Stewardship, Local Reliability, and Resource Diversity benefits.
- Legislative findings and declaration that increasing California’s reliance on renewable energy may do each of the following:
 - i. Increase the diversity, reliability, public health and environmental benefits of the energy mix;
 - ii. Promote stable electricity prices;
 - iii. Protect public health;
 - iv. Improve environmental quality;
 - v. Stimulate sustainable economic development;
 - vi. Create new employment opportunities;
 - vii. Reduce reliance on imported fuels;
 - viii. Ameliorate air quality problems;
 - ix. Improve public health by reducing the burning of fossil fuels;
 - x. Provide tangible demonstrable benefits to communities with a plurality of minority or low-income populations.
- Consistency with the CPUC’s Water Action Plan adopted on December 15, 2005 and updated October 2010. To the extent a project uses water on site, its impact on California’s water quality and consistency with the CPUC’s recommended water conservation practices and goals is reviewed.
- Executive Order S-06-06 signed on April 25, 2006. In this executive order, Governor Schwarzenegger described the benefits of biomass resources in electricity production and established a goal that the state would meet 20% of its renewable energy needs with electricity produced from biomass.
- Supplier Diversity. In support of PG&E’s supplier diversity goals, PG&E considers whether a Participant is a Women, Minority, and Disabled Veteran-Owned Business Enterprises (WMDVBEs) or whether a Participant intends to contract with a WMDVBE.

Portfolio Adjusted Value (PAV)

PG&E now uses a bid evaluation methodology referred to as Portfolio-Adjusted Value (“PAV”). Portfolio-adjusted Value is intended to represent the value of a resource or offer in the context of PG&E’s portfolio. This approach contrasts with Market Value, which is intended to represent the value of a resource or offer regardless of PG&E’s portfolio. To calculate PAV, adjustments are made to Market Value calculations, components, and/or resulting values.



[REDACTED] In addition, the PAV adjustments may be modified for future solicitations.

Market Valuation

[REDACTED]

1. Location

a. [REDACTED]

[REDACTED]

[REDACTED]

b. [REDACTED]

[REDACTED]

[REDACTED]

c. [REDACTED]

[REDACTED]

[REDACTED]

2. Portfolio Position

a. [REDACTED]

3. Uncertainty and Integration Costs - [REDACTED]

a. [REDACTED]

b. [REDACTED]

- c. [Redacted]
- d. [Redacted]
- e. [Redacted]
- f. [Redacted]

4. Curtailment – [Redacted]

5. Adjusted Value – [Redacted]

- 6. Tenor (duration of delivery period)**
- a. [Redacted]
 - b. [Redacted]
 - c. [Redacted]

- 7. Adjusted Transmission Cost Adder**
- a. [Redacted]
 - i. [Redacted]

ii.

b.

8. Final Portfolio-adjusted Value

a.

G. Comparison of the Amended Contract Price Relative to Short List Projects

As required by Resolution E-4199, the confidential project-specific IE report must, at a minimum, include its evaluation of the new price based on the project's market valuation as compared to the bids in the IOU's most recent solicitation. In conjunction with that requirement, Merrimack Energy has compared the Portfolio Adjusted Value ("PAV") for the project as computed by PG&E to the PAV for the projects included on PG&E's short list for the 2011 RPS RFO. The relevant PAV values and other cost and benefit metrics associated with the shortlisted projects from the 2011 RPS RFO are presented in Exhibit 3.¹¹

¹⁰

The information included in Exhibit 3 was provided to the IE at the IE's request by PG&E in early April 2012. As we understand, the economic analysis results are based on the use of PG&E's February 2012 forward curves.

[REDACTED]

[REDACTED]

The results of the analysis illustrate that Bottle Rock had a PAV value of [REDACTED] which places the project [REDACTED] below the lowest ranked project on PG&E's short list which had a PAV of [REDACTED]. The PAV values for short listed projects from

¹² The Market Value and PAV calculations also reflects the fact that [REDACTED]

[REDACTED] Inclusion of [REDACTED] used in the PAV evaluation identified above would further erode the value of the Bottle Rock project and make the economics look even worse.

the 2011 RPS RFO ranged from [REDACTED], with a median value of [REDACTED]. Based on these results, Bottle Rock would not have been selected for the short list in the 2011 solicitation.

Bottle Rock's levelized pre-TOD price of [REDACTED] is also [REDACTED] above the 2011 MPR of between \$85.30 to \$89.56 for a 15 to 20 year contract respectively beginning in 2012.

H. Assessment of Financial Proforma

As required by Resolution E-4199, a project developer must provide the Commission and the IE with cash flow models, both the original reflecting the price in the original contract and the latest version, for projects that are re-filed with the Commission for approval of a price amendment. In this case, the project developer is required to justify the cost basis explaining the Post-TOD levelized price increase from approximately [REDACTED] to [REDACTED].

Bottle Rock initially approached PG&E in June 2011 to discuss the Bottle Rock PPA and provide information on the financial condition of the project. Bottle Rock stated that the project had continued operating losses at the current contract price and expressed concern over lack of additional sponsor capital. In July and August 2011, Bottle Rock provided additional financial information to PG&E including audited financials and resource reports on the facility.

On September 1, 2011 Bottle Rock met with PG&E and presented its assessment of project cost and projections going forward. The IE participated in this call. [REDACTED]

[REDACTED]

1. [REDACTED]
2. [REDACTED]
3. [REDACTED]
4. [REDACTED]
5. [REDACTED]
6. [REDACTED]
7. [REDACTED]

8. [REDACTED]

[REDACTED]

[REDACTED]

In November 2011, the IE requested that Bottle Rock provide its detailed pro formas justifying the proposed cost increase including the pro formas utilized to support the original pricing and the proposed amended price. Since Bottle Rock had not provided a pro forma that allowed for a reasonable evaluation of its costs, the IE initially sent Bottle Rock a model pro forma to use as a starting point. The memo from the IE also included a description of the CPUC's requirements when a contract amendment is initiated. The information initially requested by the IE is identified below.

1. Please provide a copy of the financial pro forma model and assumptions that served as the basis for pricing under the original contract. If Bottle Rock cannot provide the original pro forma financials, please provide an explanation why the pro forma is not available.
2. Provide a financial pro forma for the project based on the proposed pricing, project capacity and generation levels included in the most recent proposed PPA. Please complete the sample pro forma attached or a similar pro forma model that includes all revenue and costs, including operation and maintenance costs, administration, interest payments, depreciation, taxes, etc. Complete all line items that conform to Bottle Rock's relevant cost categories. Include all input assumptions and explain the basis for any major cost categories.
3. In the financial model provided by Bottle Rock (file name BTTLRKE-4199cashflowmodel11Nov2011), 2 files (2011 Current Contract and 2011 Proposed Terms) propose a [REDACTED]

13 [REDACTED]

[REDACTED]

If Bottle Rock cannot provide pro forma financials for the original contract terms, please provide detailed information supporting the increase in capital investment requirements as well as any other cost increases which support the pricing increase requested.

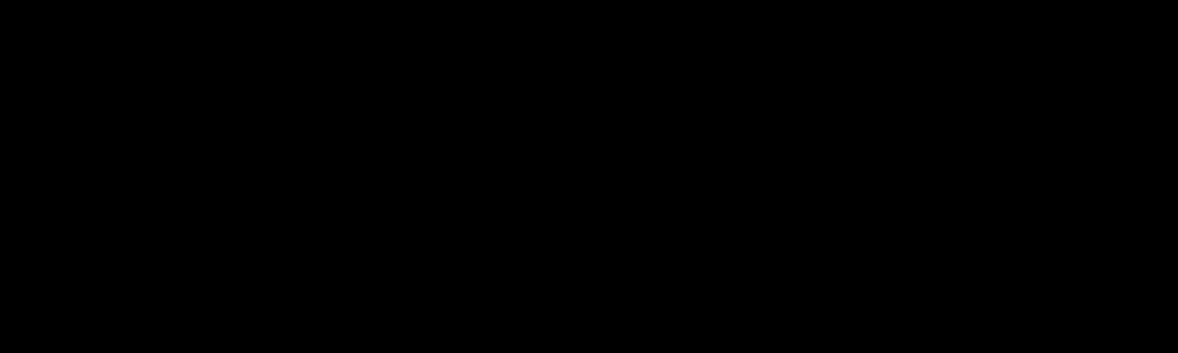
Bottle Rock provided financial pro forma spreadsheets to support the amended project pricing based on detailed capital and operating cost information in November 2011. At that time, Bottle Rock provided four pro formas that reflected different dates associated with project amendments and pricing. These included the following pro formas along with the estimated project capacity underlying each pro forma.

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

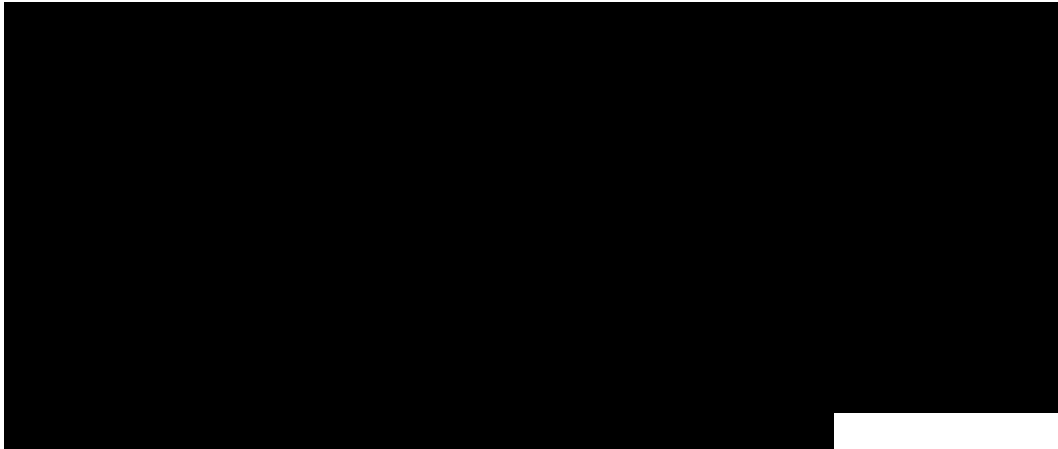
The most recent pro forma information provided by Bottle Rock to justify the proposed contract pricing which is the subject of this Advice Letter is presented as Exhibit 4 below. The other three pro formas are included in Appendix A for comparison purposes.

Exhibit 4: Financial Proforma to Support Contract Amendment

[REDACTED]



In addition to providing the pro forma financials as requested, Bottle Rock included a response to the IEs third question from above. According to Bottle Rock:



The IE prepared a list of questions based on the information provided by Bottle Rock in November/December 2011. The IE also requested a conference call with Bottle Rock to discuss the IE's questions. The initial questions submitted by the IE to Bottle Rock and the response of Bottle Rock are provided below:

- How are the capital expenditures going to be financed? Are the expenditures going to be financed from equity or cash flow? Does Bottle Rock have an equity commitment from its owners to make these investments?
- [REDACTED]
- How is Bottle Rock currently using the Production Tax Credits (“PTC”)? Can Bottle Rock offset taxes or do you have an off-taker for the tax credits?
- [REDACTED]
- What is the basis for the current pricing proposal? What is Bottle Rock’s target IRR?
- Explain the generation profile. [REDACTED]
- In your response to Merrimack Energy’s original set of questions Bottle Rock mentioned they would welcome the opportunity to discuss assumptions on capital costs. The IE would like to explore the basis for the increase in capital costs in more detail.

The IE and PG&E team members held a conference call with Bottle Rock to discuss the questions and listen to Bottle Rock’s responses.

[REDACTED]

The first question of the IE focused on the sources of capital for the project. [REDACTED]

[REDACTED]

After the call and review of the responses, the IE followed-up with another set of questions that were designed to address specific remaining issues. The questions and responses of Bottle Rock are provided below.

The IE asked Bottle Rock to elaborate on the explanation for [REDACTED] from the 2010 estimate of [REDACTED] to the current level of [REDACTED]. Bottle Rock responded:

[REDACTED]

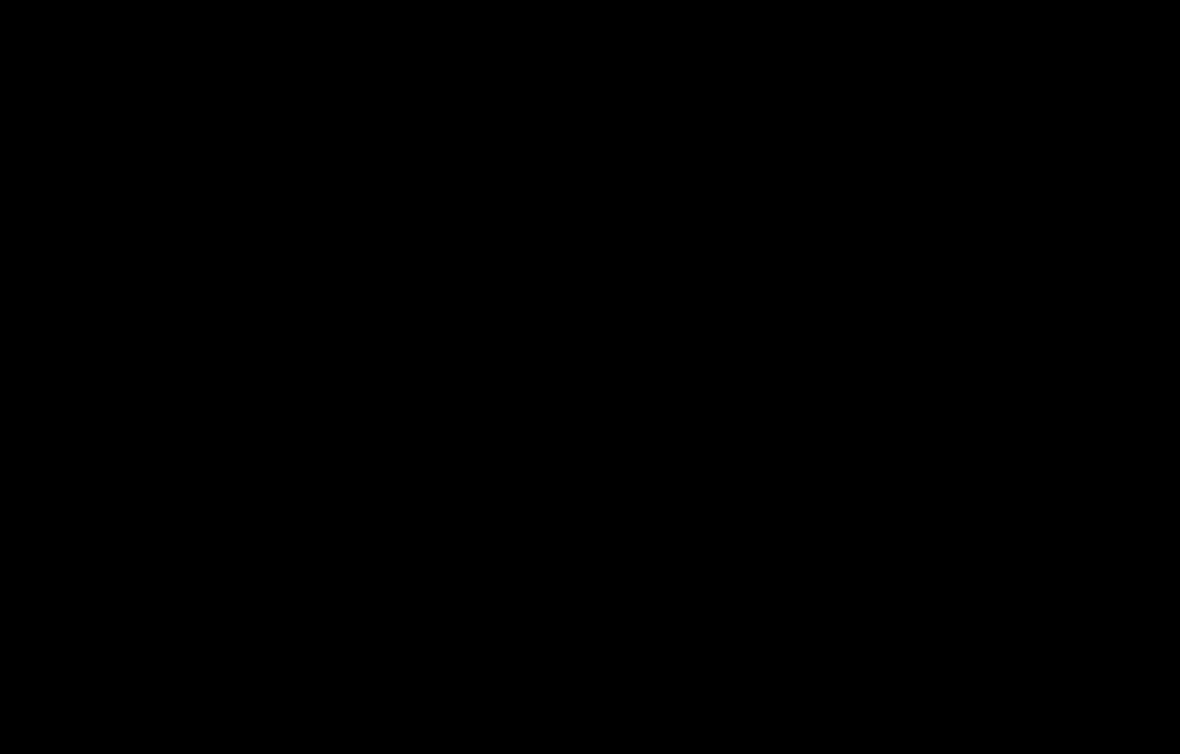
The IE also asked Bottle Rock to provide further detail on the capital cost estimates. Bottle Rock responded with the following explanation:

[REDACTED]

Bottle Rock also provided details on the capital expenditures cost and reasons for the incurrence of these costs. Exhibit 5 provides a table which details such capital expenditures and related costs.

Exhibit 5: Capital Expenditures for Bottle Rock

[REDACTED]



The IE also conducted a separate assessment to determine the internal rate of return assuming all revenues and expenditures in the pro forma occur as projected. The results of the assessment indicate that Bottle Rock's internal rate of return over the contract term is [REDACTED] based on the pro forma costs and revenues, [REDACTED]



I. Project Viability Assessment

From a project viability perspective the project has some positive characteristics but several negatives as well. These are identified and described below.

Positive Factors

- The contract with PG&E is designed to retain the equivalent of [REDACTED] full-time jobs for the term of the amended PPA;
- The project is an operating facility with strong community support;
- The project will provide renewable energy that meets RPS requirements;

- The project has secured all required permits and appears to be in a position to get beyond the recent potential litigation;
- [REDACTED]
- [REDACTED]
- No transmission upgrades are associated with the Bottle Rock project;
- The resource is not an intermittent resource which means there are no major integration issues associated with the project.

Negative Factors

- The project has had a long history of operational issues and failure to meet output expectations, which raises questions about the long term viability of the project even with the price increase;
- [REDACTED];
- The PAV of the project is outside the range of the short listed projects from PG&E's 2011 RPS RFO and therefore it is classified as a high cost contract based on recent short listed offers from the most recent RPS solicitation;
- As a geothermal resource the portfolio fit of the project is moderate to poor during the 2012-2018 period based on PG&E's existing portfolio.

J. Conclusions

The IE has reached the following conclusions regarding the Bottle Rock PPA.

1. Bottle Rock has reasonably demonstrated that the increases in cost it requires, particularly for capital expenditures, justify the price increase requested. It appears that without the capital expenditures included in the pro forma the project would not be able to meet its proposed contract quantities. For that reason, based on Merrimack Energy's own financial analysis, a price increase is generally justified to provide even a relatively low internal rate of return. Without such an increase in the contract price, [REDACTED] the financial pro formas supplied by Bottle Rock demonstrate that the project would likely fail;
2. PG&E's negotiation approach to require Bottle Rock to make the needed capital expenditures in order to achieve the 15 MW capacity level in the contract is a reasonable approach to ensure Bottle Rock is receiving revenues in the contract without completing the necessary expenditures upon which the increased contract

price is based. This approach is designed to protect customer interests and limits customer exposure to high prices which are ultimately not supported by the pro formas. As noted, [REDACTED]

[REDACTED] Although this option would be more complex than the contract provision included in the Amended and Restated PPA, both options provide signals to the Seller to ensure the price increase required by the Seller is justified by the capital expenditure needed to support project operations;

3.

[REDACTED]

4. As a result, we feel that although PG&E has included a number of contract terms to protect customer interest there is still a risk that customers will not receive the value of the renewable generation from this project;

5. The economics of the Bottle Rock project clearly demonstrates that the project has a [REDACTED] lower Portfolio Adjusted Value than any other project on PG&E's short list from the 2011 RPS solicitation, [REDACTED].

K. Recommendation

The IE has reservations about the long term viability of the Bottle Rock project and the ability of the revised pricing in this Amended and Restated PPA to support the long term viability of the project. [REDACTED]

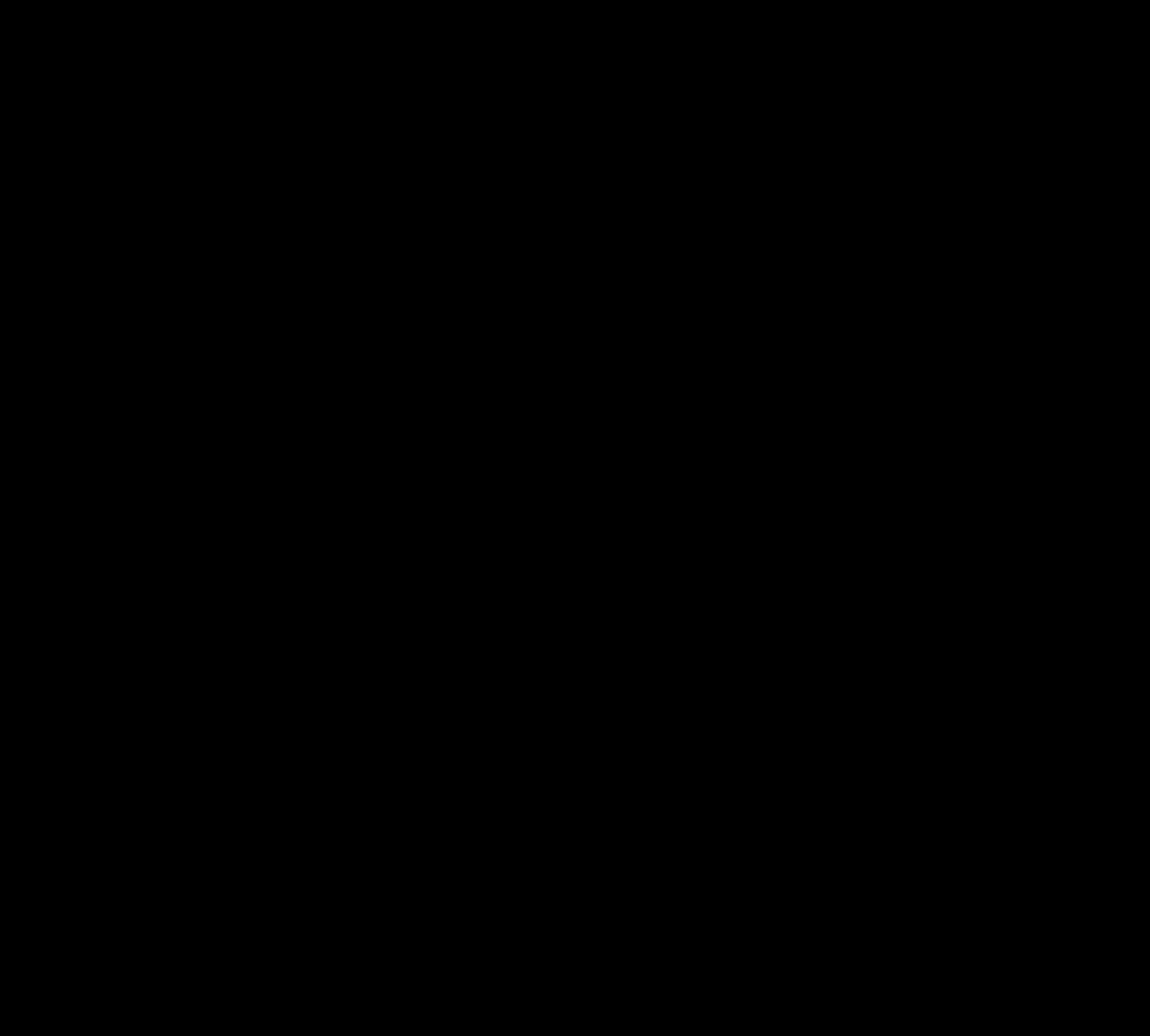
[REDACTED] As a result, the IE feels it is possible that Bottle Rock could be back again looking for another amendment to the contract and a further price increase. Furthermore, the pricing in the contract is not competitive when compared to recent market information. Based on the contract pricing the project would not have been selected for the short list from the 2011 RPS solicitation. All these factors would lead to a recommendation not to approve the PPA.

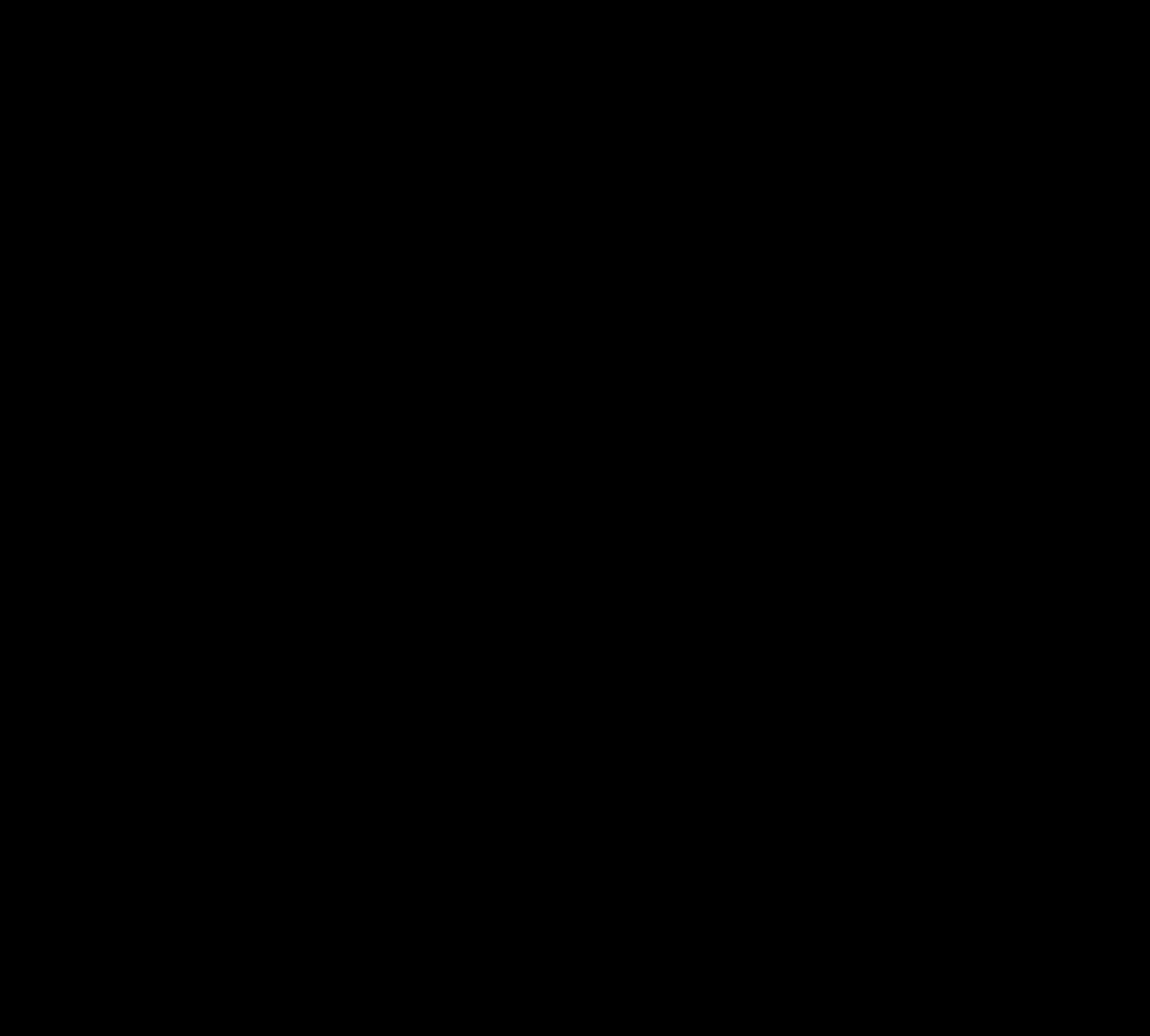
On the other hand, it would appear that the primary reason for contract approval (and the primary reason why PG&E went forward with execution of the contract) would be associated with the economic development benefits of the project in a depressed area of the state. The provision in the PPA commits Bottle Rock to maintain the equivalent of [REDACTED] employees. Also, it would be expected that capital expenditures of [REDACTED] would have some economic benefits in the area of the plant. The economic development and employment benefits of the project would therefore be the compelling reasons to approve the PPA.

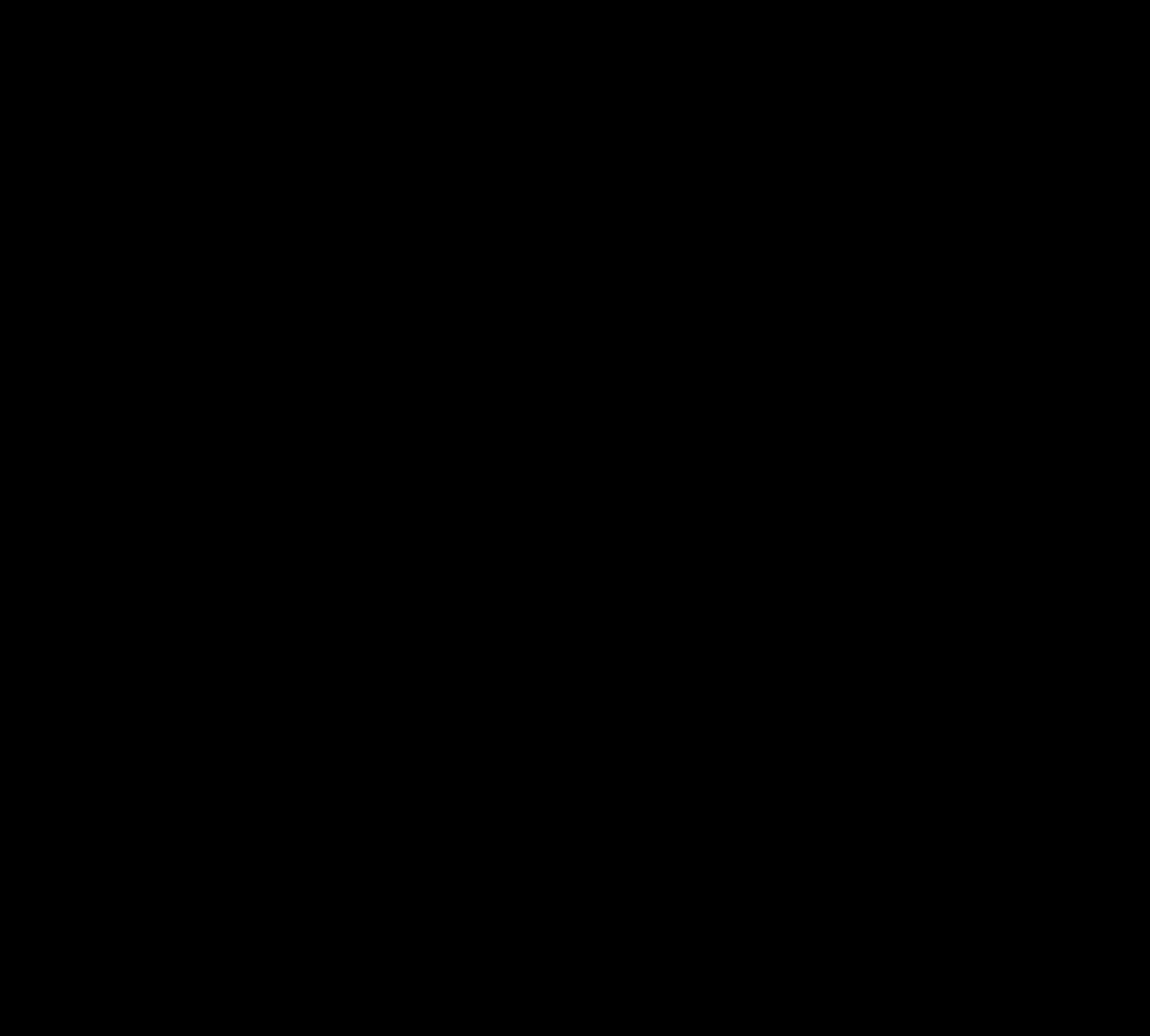
[REDACTED]

[REDACTED]

[REDACTED]







**PG&E Gas and Electric
Advice Filing List
General Order 96-B, Section IV**

AT&T	Department of Water Resources	North America Power Partners
Alcantar & Kahl LLP	Dept of General Services	North Coast SolarResources
Ameresco	Douglass & Liddell	Northern California Power Association
Anderson & Poole	Downey & Brand	Occidental Energy Marketing, Inc.
BART	Duke Energy	OnGrid Solar
Barkovich & Yap, Inc.	Economic Sciences Corporation	Praxair
Bartle Wells Associates	Ellison Schneider & Harris LLP	R. W. Beck & Associates
Bloomberg	Foster Farms	RCS, Inc.
Bloomberg New Energy Finance	G. A. Krause & Assoc.	Recurrent Energy
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Braun Blaising McLaughlin, P.C.	GenOn Energy, Inc.	SCE
Brookfield Renewable Power	Goodin, MacBride, Squeri, Schlotz & Ritchie	SMUD
CA Bldg Industry Association	Green Power Institute	SPURR
CLECA Law Office	Hanna & Morton	San Francisco Public Utilities Commission
CSC Energy Services	Hitachi	Seattle City Light
California Cotton Ginners & Growers Assn	In House Energy	Sempra Utilities
California Energy Commission	International Power Technology	Sierra Pacific Power Company
California League of Food Processors	Intestate Gas Services, Inc.	Silicon Valley Power
California Public Utilities Commission	Lawrence Berkeley National Lab	Silo Energy LLC
Calpine	Los Angeles Dept of Water & Power	Southern California Edison Company
Cardinal Cogen	Luce, Forward, Hamilton & Scripps LLP	Spark Energy, L.P.
Casner, Steve	MAC Lighting Consulting	Sun Light & Power
Center for Biological Diversity	MBMC, Inc.	Sunrun Inc.
Chris, King	MRW & Associates	Sunshine Design
City of Palo Alto	Manatt Phelps Phillips	Sutherland, Asbill & Brennan
City of Palo Alto Utilities	Marin Energy Authority	Tecogen, Inc.
City of San Jose	McKenzie & Associates	Tiger Natural Gas, Inc.
City of Santa Rosa	Merced Irrigation District	TransCanada
Clean Energy Fuels	Modesto Irrigation District	Turlock Irrigation District
Coast Economic Consulting	Morgan Stanley	United Cogen
Commercial Energy	Morrison & Foerster	Utility Cost Management
Consumer Federation of California	Morrison & Foerster LLP	Utility Specialists
Crossborder Energy	NLine Energy, Inc.	Verizon
Davis Wright Tremaine LLP	NRG West	Wellhead Electric Company
Day Carter Murphy	NaturEner	Western Manufactured Housing Communities Association (WMA)
Defense Energy Support Center	Norris & Wong Associates	eMeter Corporation