STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

April 6, 2016

**Advice Letter: 4803-E**

Pacific Gas and Electric Company
Attn: Erik Jacobson, Director, Regulatory Relations
Senior Director, Regulatory Relations
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

**SUBJECT: Power Purchase and Sale Agreement for Renewable Energy Credits Between Exelon Generation Company and Pacific Gas and Electric Company**

Dear Mr. Jacobson:

Advice Letter 4803-E is effective as of April 6, 2016.

Sincerely,

Edward Randolph

Edward Randolph
Director, Energy Division

Pacific Gas and Electric Company®

**Erik Jacobson**
Director
Regulatory Relations

Pacific Gas and Electric Company
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San Francisco, CA 94177

Fax: 415-973-7226

March 7, 2016

**Advice 4803-E**
(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject:** **Power Purchase and Sale Agreement for Renewable Energy Credits Between Exelon Generation Company and Pacific Gas and Electric Company**

# I. Introduction

## A. Identify the Purpose of the advice letter

Pacific Gas and Electric Company ("PG&E") seeks California Public Utilities Commission ("Commission" or "CPUC") approval of a power purchase and sale agreement ("PPSA" or "Transaction") with Exelon Generation Company ("Exelon"). Under the Transaction, PG&E is the seller of 60,000 megawatt hours ("MWh") of bundled renewable energy and green attributes. This short-term Transaction has an energy delivery period[1] commencing on February 12, 2016 and ending no later than December 31, 2016. The bundled renewable product will be provided from a number of operating hydroelectric and geothermal facilities located within the state of California. Generation from all of these facilities is in PG&E's current Renewables Portfolio Standard ("RPS") Program portfolio.

## B. Identify the subject of the advice letter, including:

### 1. Project name

The PPSA allows PG&E to deliver the bundled renewable product from various facilities located throughout California and certified by the California Energy Commission ("CEC") that are currently under contract with PG&E for bundled RPS-eligible energy (collectively "Projects") as follows:[2]

[1] The green attribute delivery period will end on the date PG&E has transferred the total volume of green attributes to Exelon.

[2] Although PG&E has discretion to select the facility, PG&E intends to utilize the following three Projects as the primary facilities from which the Product will be delivered: Placer County Water Agency's ("PCWA") French Meadows Powerhouse 2, Oxbow Powerhouse 1, and Hell Hole Powerhouse 1. As more fully discussed in Section E.8.e of Confidential Appendix D, maximizing the delivery of non-bankable Renewable Energy Credits from these PCWA resources will create the greatest value from this Transaction for PG&E's customers. PG&E expects that a very small volume of deliveries from the Geysers resources listed in the following table to fulfill the PPSA requirements when PCWA real-time generation deviates from its day-ahead schedule or if severe drought conditions preclude use of PCWA output to meet the contracted volume.

| Name of Facility | Resource | Location | CEC RPS ID | Host Balancing Authority |
|---|---|---|---|---|
| PCWA (French Meadows Powerhouse 2) | Small Hydro | Forestville, CA | 60268A | CAISO |
| PCWA (Oxbow Powerhouse 1) | Small Hydro | Forestville, CA | 60269A | CAISO |
| PCWA (Hell Hole Powerhouse 1) | Small Hydro | Forestville, CA | 60234A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 11 | Geothermal | Middletown, CA | 60025A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 12 | Geothermal | Middletown, CA | 60004A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 13 | Geothermal | Middletown, CA | 60005A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 14 | Geothermal | Middletown, CA | 60026A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 16 | Geothermal | Middletown, CA | 60006A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 17 | Geothermal | Middletown, CA | 60007A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 18 | Geothermal | Middletown, CA | 60008A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 20 | Geothermal | Middletown, CA | 60009A | CAISO |
| Geysers Power Plant – Calpine Geothermal Unit 7-8 | Geothermal | Middletown, CA | 60003A | CAISO |
| Geysers Power Plant – Sonoma/Calpine Geyser | Geothermal | Middletown, CA | 60010A | CAISO |
| Geysers Power Plant – Calistoga Power Plant | Geothermal | Middletown, CA | 60117A | CAISO |
| Geysers Power Plant – Aidlin Power Plant | Geothermal | Middletown, CA | 60115A | CAISO |

2. **Technology (including level of maturity)**

The Projects from which the energy and Renewable Energy Credits ("RECs") are being sold consist of small hydro and geothermal renewable technologies, both mature and proven technologies.

3. **General Location and Interconnection Point**

The Projects are all located within California and are interconnected with the California Independent System Operator ("CAISO").

4. **Owner(s) / Developer(s)**

   a. **Name(s)**

The owners of the facilities PG&E anticipates selecting are listed above.

   b. **Type of entity(ies) (e.g. LLC, partnership)**

The Geysers Power Company is a limited liability company and PCWA is a California local governmental entity. Exelon, the buyer of this bundled product, is an energy generation, transmission and distribution company with operations and business activities in 47 states. In California, Exelon owns generating resources and acts as an Energy Services Provider (ESP) through its ownership of Constellation NewEnergy, Inc.

   c. **Business Relationship (if applicable, between seller/owner/developer)**

In the past, PG&E has contracted to purchase bundled renewable energy from the owners of these Projects through power purchase agreements ("PPAs") that have previously received Commission approval.

5. **Project background, e.g., expiring QF contract, phased project, previous power purchase agreement, contract amendment**

All the Projects included in the proposed PPSA are existing and operating facilities.

6. **Source of agreement, i.e., RPS solicitation year or bilateral negotiation**

The PPSA resulted from an electronic solicitation ("e-solicitation"). PG&E identified RPS-obligated entities likely to have an interest in the products and then consulted with the Independent Evaluator assigned to this solicitation to develop a final list of entities. PG&E released the e-solicitation to 15 parties on November 23, 2015, identifying price and credit as the key bid elements. Bids were received on December 2, 2015. Further information regarding the solicitation results is included in Confidential Appendix B. The e-solicitation documents sent to entities are provided in public Appendices G and H.

7. **If an amendment, describe contract terms being amended and reason for amendment**

Not Applicable as contract is not an amendment.

### C. General Project(s) Description

The Projects are described in Section B.1. above. The Transaction terms are:

| | |
|---|---|
| Project Name | Exelon Generation Company |
| Technology | Small Hydro and Geothermal |
| Capacity (MW) | N/A |
| Capacity Factor | N/A |
| Expected Generation (GWh/Year) | 60,000 MWh |
| Initial Commercial Operational Date | Various – Each facility achieved COD in the past prior to the delivery term |
| Date contract Delivery Term begins | February 12, 2016 |
| Delivery Term (Years) | From February 12, 2016 to no later than December 31, 2016[3] (approximately 8.5 months) |
| Vintage (New / Existing / Repower) | Existing |
| Location (city and state) | Various throughout California |
| Control Area (e.g., CAISO, BPA) | CAISO |
| Nearest Competitive Renewable Energy Zone (CREZ) as identified by the Renewable Energy Transmission Initiative (RETI)[4] | N/A |
| Type of cooling, if applicable | N/A |

### D. Project Location

#### 1. Provide a general map of the generation facility's location.

Given the nature of the Transaction and the number of locations, it is not practicable to include a locational map in this filing.

#### 2. For new projects describe facility's current land use type (private, agricultural, county, state lands (agency), federal lands (agency), etc.).

All generation is from existing projects.

### E. General Deal Structure

[3] The green attribute delivery period will end on the date PG&E has transferred the total volume of green attributes to Exelon.

[4] Information about RETI is available at: http://www.energy.ca.gov/reti/.

**Describe general characteristics of contract, for example:**

**1. Required or expected Portfolio Content Category of the proposed contract**

PG&E will sell bundled renewable energy and green attributes that qualify as Portfolio Content Category ("PCC") 1 to the buyer.[5] PG&E presently purchases the bundled renewable energy and green attributes under contracts that qualify as PPC 1. PG&E will not transfer RECs to Exelon until the transaction receives final, non-appealable CPUC approval. Until the time of REC transfer, PG&E will have sold "brown" energy.

**2. Partial/full generation output of facility**

Not applicable as PG&E has the right but not the obligation to deliver from the resources identified in the Project List. PG&E is obligated under the terms of this sale to deliver 60,000 MWh of bundled renewable energy and green attributes within the Delivery Term.

**3. Any additional products, e.g. capacity**

No.

**4. Generation delivery point (e.g. busbar, hub, etc.)**

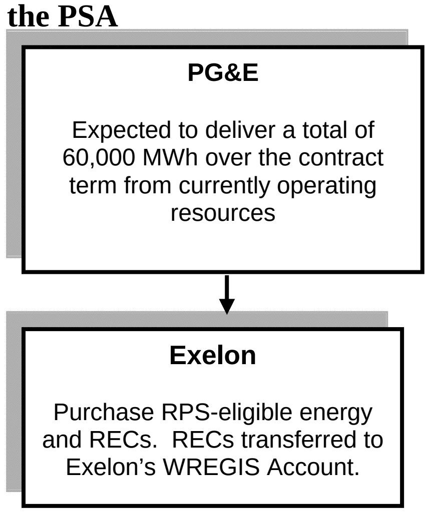
NP-15.

**5. Energy management (e.g. firm/shape, scheduling, selling, etc.)**

Not applicable as the energy is sold at index using a CAISO tool known as an Inter-SC Trade ("IST").

**6. Diagram and explanation of delivery structure**

**Figure 1: Delivery Structure of the PSA**




**F. RPS Statutory Goals & Requirements**

**1. Briefly describe the Project's consistency with and contribution towards the RPS program's statutory goals set forth in Public Utilities**

[5] PCC 1 products are defined in California Public Utilities Code Section 399.16(b)(1).

**Code §399.11. These goals include displacing fossil fuel consumption within the state; adding new electrical generating facilities within WECC; reducing air pollution in the state; meeting the state's climate change goals by reducing emissions of greenhouse gases associated with electrical generation; promoting stable retail rates for electric service; a diversified and balanced energy generation portfolio; meeting the state's resource adequacy requirements; safe and reliable operation of the electrical grid; and implementing the state's transmission and land use planning activities.**

Public Utilities Code §399.11 states that increasing California's reliance on eligible renewable energy resources is intended to displace fossil fuel consumption within the state, promote stable electricity prices, reduce greenhouse gas ("GHG") emissions, improve environmental quality and promote the goal of a diversified and balanced energy generation portfolio. The Projects are consistent with these goals because they generate clean energy and will produce little, if any, GHG emissions directly associated with energy production.

**2. Describe how procurement pursuant to the contract will meet IOU's specific RPS compliance period needs. Include Renewable Net Short calculation as part of response.**

Senate Bill ("SB") 2 1X was enacted in 2011 and was implemented by the Commission in Decision (D.)11-12-020 to require retail sellers of electricity to meet the following RPS procurement quantity requirements beginning on January 1, 2011:

- An average of twenty percent of the combined bundled retail sales during the first compliance period (2011-2013).
- Sufficient procurement during the second compliance period ("CP2") (2014-2016) that is consistent with the following formula: (.217 * 2014 retail sales) + (.233 * 2015 retail sales) + (.25 * 2016 retail sales).
- Sufficient procurement during the third compliance period ("CP3") (2017-2020) that is consistent with the following formula: (.27 * 2017 retail sales) + (.29 * 2018 retail sales) + (.31 * 2019 retail sales) + (.33 * 2020 retail sales).
- Thirty-three percent of bundled retail sales in 2021 and all years thereafter.

SB 350, enacted in 2015, extended the RPS statutory target to 50% by 2030 with interim requirements in 2024 and 2027. The Commission has not yet implemented SB 350's extended targets.

By ruling, the Commission has adopted a methodology for calculating a retail seller's renewable net short ("RNS") position relative to the RPS procurement targets adopted by SB 2 1X and implemented in D.11-12-020.[6] However, the Commission has not yet revised the RNS methodology to take into account the SB 350 extended targets. Because the Commission has not

[6] *See* Administrative Law Judge's Ruling on Renewable Net Short issued on May 21, 2014, including subsequent changes to the RNS reporting template per direction from the Energy Division on May 29, 2014.

yet implemented SB 350's new targets, and because the present sale transaction will be completed entirely within 2016, PG&E is providing an RNS calculation in Table 1 below that extends to 2020 and that is consistent in all other respects with the Commission's adopted RNS methodology.[7] PG&E is also providing an Alternative RNS calculation (the "Alternative RNS") in Table 2 below.[8] There are two main differences between the RNS and the Alternative RNS. First, the RNS utilizes PG&E's Bundled Retail Sales Forecast for years 2016-2019. Second, the Alternative RNS presents a modified display of PG&E's RNS in order to adequately show the results from PG&E's stochastic optimization of its RPS position. Further details on PG&E's stochastic optimization approach can be found in PG&E's 2015 Renewable Procurement Plan ("PG&E 2015 RPS Plan"), which was filed in Rulemaking 15-02-020 on January 14, 2016.

As illustrated in PG&E's Alternative RNS, PG&E's existing RPS portfolio is expected to provide sufficient RPS-eligible deliveries to meet PG&E's RPS compliance requirements in CP2 and CP3. PG&E does not expect to have incremental RPS physical procurement need, even under a 40% by 2024 scenario consistent with SB 350, until at least 2022.[9] PG&E's sale of 60,000 MWh of bundled renewable energy and green attributes through the Transaction reduces overall RPS compliance costs for PG&E customers with a negligible reduction in PG&E's RPS position.

[7] *See* Confidential Appendix A, "Consistency with Commission Decisions and Rules and Project Development Status," of this AL to access the confidential version of Tables 1 and 2.

[8] *Ibid*.

[9] PG&E 2015 RPS Plan at p. 1 and App. C.2.b.

# Table 1: Renewable Net Short Calculation as of Nov 2015 - 33%

## Net Short Calculation Using PG&E Bundled Retail Sales Forecast In Near Term (2015 - 2019) and LTPP Methodology (2020)

| Variable | Calculation | Item | Deficit from RPS prior to Reporting Year | 2011 Actuals | 2012 Actuals | 2013 Actuals | **2011-2013** | 2014 Actuals | 2015 Forecast | 2016 Forecast | **2014-2016** | 2017 Forecast | 2018 Forecast | 2019 Forecast | 2020 Forecast | **2017-2020** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Forecast Year | | - | - | - | CP1 | - | - | - | CP2 | - | - | - | - | CP3 |
| | | **Annual RPS Requirement** | | | | | | | | | | | | | | |
| A | | Bundled Retail Sales Forecast (LTPP)[1] | | 74,864 | 76,205 | 75,705 | 226,774 | 74,547 | 72,346 | 70,570 | 217,462 | [redacted] | 64,657 | 62,081 | 79,463 | [redacted] |
| B | | RPS Procurement Quantity Requirement (%) | | 20.0% | 20.0% | 20.0% | 20.0% | 21.7% | 23.3% | 25.0% | 23.3% | 27.0% | 29.0% | 31.0% | 33.0% | 30.0% |
| C | A*B | **Gross RPS Procurement Quantity Requirement (GWh)** | | 14,973 | 15,241 | 15,141 | 45,355 | 16,177 | 16,857 | 17,642 | 50,676 | [redacted] | 18,750 | 19,245 | 26,223 | [redacted] |
| D | | Voluntary Margin of Over-procurement[2] | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| E | C+D | **Net RPS Procurement Need (GWh)** | | 14,973 | 15,241 | 15,141 | 45,355 | 16,177 | 16,857 | 17,642 | 50,676 | [redacted] | 18,750 | 19,245 | 26,223 | [redacted] |
| | | **RPS-Eligible Procurement** | | | | | | | | | | | | | | |
| Fa | | Risk-Adjusted RECs from Online Generation[10] | | 14,577 | 14,510 | 17,152 | 46,240 | 20,207 | 21,426 | 23,227 | 64,860 | 22,332 | 20,409 | 19,755 | 18,908 | 81,404 |
| Faa | | Forecast Failure Rate for Online Generation (%) | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Fb | | Risk-Adjusted RECs from RPS Facilities in Development[11] | | - | - | - | - | - | 11 | 371 | 382 | 1,025 | 1,022 | 1,913 | 1,982 | 5,941 |
| Fbb | | Forecast Failure Rate for RPS Facilities in Development (%) | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Fc | | Pre-Approved Generic RECs | | - | - | - | - | - | - | 0 | - | 44 | 711 | 1,098 | 1,218 | 3,070 |
| Fd | | Executed REC Sales | | - | - | - | - | (50) | - | - | (50) | - | - | - | - | - |
| F | Fa + Fb +Fc - Fd | Total RPS Eligible Procurement (GWh)[9] | | 14,577 | 14,510 | 17,152 | 46,240 | 20,156.5500 | 21,437 | 23,598 | 65,192 | 23,400 | 22,141 | 22,766 | 22,108 | 90,415 |
| F0 | | Category 0 RECs | | 14,529 | 13,047 | 14,268 | 41,844 | 17,181 | 17,815 | 18,645 | 53,642 | 18,153 | 16,205 | 15,511 | 14,667 | 64,536 |
| F1 | | Category 1 RECs | | 48 | 1,463 | 2,884 | 4,395 | 3,291 | 3,951 | 5,353 | 12,595 | 5,646 | 6,334 | 7,653 | 7,841 | 27,474 |
| F2 | | Category 2 RECs | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| F3 | | Category 3 RECs | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | **Gross RPS Position (Physical Net Short)** | | | | | | | | | | | | | | |
| Ga | F-E | **Annual Gross RPS Position (GWh)** | | (395) | (731) | 2,011 | 885 | 3,980 | 4,580 | 5,956 | [redacted] | [redacted] | 3,391 | 3,521 | (4,115) | [redacted] |
| Gb | F/A | **Annual Gross RPS Position (%)** | | 19.5% | 19.0% | 22.7% | 20.4% | 27.0% | 29.6% | 33.4% | [redacted] | 34.6% | 34.2% | 36.7% | 27.8% | [redacted] |
| | | **Application of Bank** | | | | | | | | | | | | | | |
| Ha | H - Hc (from previous year) | Existing Banked RECs above the PQR[3,4] | | - | (395) | (1,157) | - | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Hb | | RECs above the PQR added to Bank | | (395) | (731) | 2,011 | 885 | 3,980 | 4,580 | 5,956 | [redacted] | [redacted] | 3,391 | 3,521 | - | [redacted] |
| Hc | | Non-bankable RECs above the PQR | | - | 31 | 12 | 43 | 26 | 24 | 75 | 124 | 85 | - | - | - | 85 |
| H | Ha+Hb | Gross Balance of RECs above the PQR | | (395) | (1,126) | 854 | 885 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Ia | | Planned Application of RECs above the PQR towards RPS Compliance[5] | | - | - | - | - | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Ib | | Planned Sales of RECs above the PQR[6] | | - | - | - | - | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| J | H-Ia-Ib | Net Balance of RECs above the PQR[3] | | (395) | (1,126) | 854 | 885 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| J0 | | Category 0 RECs | | - | - | - | - | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| J1 | | Category 1 RECs | | - | - | 854 | 854 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| J2 | | Category 2 RECs | | - | - | - | - | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | | **Expiring Contracts** | | | | | | | | | | | | | | |
| K | | RECs from Expiring RPS Contracts[12] | | N/A | N/A | N/A | N/A | - | - | 309 | 309 | 819 | 2,981 | 3,674 | 4,539 | 12,013 |
| | | **Net RPS Position (Optimized Net Short)** | | | | | | | | | | | | | | |
| La | Ga + Ia – Ib – Hc | **Annual Net RPS Position after Bank Optimization (GWh)[7]** | | (395) | (762) | 2,000 | 842 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Lb | (F + Ia – Ib – Hc)/A | **Annual Net RPS Position after Bank Optimization (%)[7,8]** | | 19.5% | 19.0% | 22.6% | 20.4% | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

General Table Notes: Values are shown in GWhs. Fields in grey are protected as Confidential under CPUC Confidentiality Rules.

**(1) (Row A)** LTPP sales forecast is not representative of PG&E's actual retail sales. Forecasts of retail sales for the first five years of the forecast were generated by PG&E's Load Forecasting and Research team at the beginning of each year, and may be updated throughout the year as additional data becomes available.

**(2) (Row D)** As a portion of the Bank will be used as VMOP, Row D will remain zero. See 2015 RPS Plan for a description of PG&E's VMOP.

**(3) (Rows Ha and J)** As PG&E's Alternative RNS incorporates additional risk-adjustments to the results from the Physical Net Short, the Bank sizes indicated in Rows Ha and J appear larger than they are in Rows Ha and J of the Alternative RNS, which shows the stochastically-adjusted Bank size.

**(4) (Rows Ha)** At the beginning of each compliance period Row Ha subtracts previous compliance non-bankable volumes from the previous compliance period net balance of RECs. For example, the 2021 forecast for Row Ha is equivalent to the Row J in CP3 minus Row Hc in CP3.

**(5) (Row Ia)** The results in Ia are only applicable within the context of the stochastic model. Please see the Alternative RNS for the application of the bank.

**(6) (Row Ib)** The purpose of the planned sales is to minimize the non-bankable volumes, but the actual sales could be a combination of bankable and non-bankable volumes.

**(7) (Rows La and Lb)** Rows La and Lb incorrectly subtract the non-bankable volumes. Although these volumes can not be carried forward, per Decision 12-06-038, these volumes could be used towards meeting compliance in the current period. Therefore, the non-bankable volumes should be included in the Annual Net RPS Position after Bank Optimization.

**(8) (Row Lb)** Row Lb incorrectly calculates the Annual Net RPS Position after Bank Optimization. PG&E has changed the formula in the Alternative RNS to (Ga+Ia-Ib+E)/A in order to express these values in a comparable way to the Physical Net Short (%) in Row Gb.

**(9) (Row F)** Row F has subtracted 134 GWh of RECs associated with 2011 generation from the Hay Canyon Wind Facility and the Nine Canyon Wind Phase 3. These RECs are not being used for RPS compliance because they were not retired within the RPS statute's 36-month REC retirement deadline.

**(10) (Row Fa)** "Online Generation" includes forecasted volumes from replacement contracts (i.e. ReMAT contracts replacing QF contracts) for facilities that are already online.

**(11) (Row Fb)** "In Development" includes forecasted volumes from phase-in projects. This is consistent with labeling in the RPS Database (which labels phase-in projects as "In Development" under "Overall Project Status").

**(12) (Row K) Row K now includes only expiring volumes from contracts as of November 2015.**

*Stochastic Results in Rows Ga-Lb reflect a November 2015 stochastic modeling vintage.

†Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans, Rulemaking ("R.") 13-12-010, filed December 19, 2013.

# Table 2: Alternate Renewable Net Short Calculation as of Nov 2015 - 33%

## Stochastically-Optimized Net Short Calculation Using PG&E Bundled Retail Sales Forecast and Corrections to Formulas

| Variable | Calculation in Energy Division RNS Calculation Template | Revised Calculation Correcting Apparent Errors in Energy Division Template | Item | Deficit from RPS prior to Reporting Year | 2011 Actuals | 2012 Actuals | 2013 Actuals | **2011-2013** | 2014 Actuals | 2015 Forecast | 2016 Forecast | **2014-2016** | 2017 Forecast | 2018 Forecast | 2019 Forecast | 2020 Forecast | **2017-2020** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Forecast Year | | - | - | - | CP1 | - | - | - | CP2 | - | - | - | - | CP3 |
| | | | **Annual RPS Requirement** | | | | | | | | | | | | | | |
| A | | | Bundled Retail Sales Forecast (Alternate)[1] | | 74,864 | 76,205 | 75,705 | 226,774 | 74,547 | 72,346 | 70,570 | 217,462 | [redacted] | 64,657 | 62,081 | 59,368 | [redacted] |
| B | | | RPS Procurement Quantity Requirement (%) | | 20.0% | 20.0% | 20.0% | 20.0% | 21.7% | 23.3% | 25.0% | 23.3% | 27.0% | 29.0% | 31.0% | 33.0% | 30.0% |
| C | A*B | | **Gross RPS Procurement Quantity Requirement (GWh)** | | 14,973 | 15,241 | 15,141 | 45,355 | 16,177 | 16,857 | 17,642 | 50,676 | [redacted] | 18,750 | 19,245 | 19,591 | [redacted] |
| D | | | Voluntary Margin of Over-procurement[2] | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| E | C+D | | **Net RPS Procurement Need (GWh)** | | 14,973 | 15,241 | 15,141 | 45,355 | 16,177 | 16,857 | 17,642 | 50,676 | [redacted] | 18,750 | 19,245 | 19,591 | [redacted] |
| | | | **RPS-Eligible Procurement** | | | | | | | | | | | | | | |
| Fa | | | Risk-Adjusted RECs from Online Generation[10] | | 14,577 | 14,510 | 17,152 | 46,240 | 20,207 | 21,426 | 23,227 | 64,860 | 22,332 | 20,409 | 19,755 | 18,908 | 81,404 |
| Faa | | | Forecast Failure Rate for Online Generation (%) | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Fb | | | Risk-Adjusted RECs from RPS Facilities in Development[11] | | - | - | - | - | - | 11 | 371 | 382 | 1,025 | 1,022 | 1,913 | 1,982 | 5,941 |
| Fbb | | | Forecast Failure Rate for RPS Facilities in Development (%) | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Fc | | | Pre-Approved Generic RECs | | - | - | - | - | - | - | - | - | 44 | 711 | 1,098 | 1,218 | 3,070 |
| Fd | | | Executed REC Sales | | - | - | - | - | (50) | - | - | (50) | - | - | - | - | - |
| F | Fa + Fb +Fc - Fd | | Total RPS Eligible Procurement (GWh)[9] | | 14,577 | 14,510 | 17,152 | 46,240 | 20,157 | 21,437 | 23,598 | 65,192 | 23,400 | 22,141 | 22,766 | 22,108 | 90,415 |
| F0 | | | Category 0 RECs | | 14,529 | 13,047 | 14,268 | 41,844 | 17,181 | 17,815 | 18,645 | 53,642 | 18,153 | 16,205 | 15,511 | 14,667 | 64,536 |
| F1 | | | Category 1 RECs | | 48 | 1,463 | 2,884 | 4,395 | 3,291 | 3,951 | 5,353 | 12,595 | 5,646 | 6,334 | 7,653 | 7,841 | 27,474 |
| F2 | | | Category 2 RECs | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| F3 | | | Category 3 RECs | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | **Step 1 Result: Physical Net Short[3]** | | | | | | | | | | | | | | |
| Ga | F-E | | **Annual Gross RPS Position (GWh)** | | (395) | (731) | 2,011 | 885 | 3,980 | 4,580 | 5,956 | 14,516 | [redacted] | 3,391 | 3,521 | 2,517 | [redacted] |
| Gb | F/A | | **Annual Gross RPS Position (%)** | | 19.5% | 19.0% | 22.7% | 20.4% | 27.0% | 29.6% | 33.4% | 30.0% | [redacted] | 34.2% | 36.7% | 37.2% | [redacted] |

PG&E's Alternative RNS Table - Stochastic-Adjustment (2011-2025)

| Variable | Calculation in Energy Division RNS Calculation Template | Revised Calculation Correcting Apparent Errors in Energy Division Template | Item | Deficit from RPS prior to Reporting Year | 2011 Actuals | 2012 Actuals | 2013 Actuals | 2011-2013 Actuals | 2014 Actuals | 2015 Forecast | 2016 Forecast | **2014-2016** | 2017 Forecast | 2018 Forecast | 2019 Forecast | 2020 Forecast | **2017-2020** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Step 2 Result: Stochastically-Adjusted Net Short (Physical Net Short + Stochastic Risk-Adjustment)[4]** | | | | | | | | | | | | | | |
| Gd | | | **Stochastically-Adjusted Annual Gross RPS Position (GWh)** | | | | | 885 | | | | [redacted] | | | | | [redacted] |
| Ge | | | **Stochastically-Adjusted Annual Gross RPS Position (%)** | | | | | 20.4% | | | | [redacted] | | | | | [redacted] |
| | | | **Application of Bank** | | | | | | | | | | | | | | |
| Ha | H - Hc (from previous year) | J - Hc (from previous year) | Existing Banked RECs above the PQR (The Bank at Beg. Of Period)[5,6] | | | | | 0 | | | | [redacted] | | | | | [redacted] |
| Hb | | | RECs above the PQR added to Bank | | | | | 885 | | | | [redacted] | | | | | [redacted] |
| Hc | | | Non-bankable RECs above the PQR | | | | | 43 | Optimization is Based on Compliance Period Only | | | [redacted] | Optimization is Based on Compliance Period Only | | | | 85 |
| H | Ha+Hb | | Gross Balance of RECs above the PQR | | | | | 885 | | | | [redacted] | | | | | [redacted] |
| Ia | | | Planned Application of RECs above the PQR towards RPS Compliance | | | | | - | | | | [redacted] | | | | | [redacted] |
| Ib | | | Planned Sales of RECs above the PQR[7] | | | | | - | | | | [redacted] | | | | | [redacted] |
| J | H-Ia-Ib | | Net Balance of RECs above the PQR (The Bank at End of Period)[5] | | | | | 885 | | | | [redacted] | | | | | [redacted] |
| J0 | | | Category 0 RECs | | | | | - | | | | [redacted] | | | | | [redacted] |
| J1 | | | Category 1 RECs | | | | | 885 | | | | [redacted] | | | | | [redacted] |
| J2 | | | Category 2 RECs | | | | | - | | | | [redacted] | | | | | [redacted] |
| | | | **Expiring Contracts** | | | | | | | | | | | | | | |
| K | | | RECs from Expiring RPS Contracts[12] | | N/A | N/A | N/A | N/A | - | - | 309 | 309 | 819 | 2,981 | 3,674 | 4,539 | 12,013 |
| | | | **Step 3 Result: Stochastically-Optimized Net Short (Stochastically-Adjusted Net Short + Application of Bank)[8]** | | | | | | | | | | | | | | |
| La | Ga + Ia – Ib – Hc | Gd+Ia-Ib | **Annual Net RPS Position after Bank Optimization (GWh)** | | | | | 885 | Optimization is Based on Compliance Period Only | | | [redacted] | Optimization is Based on Compliance Period Only | | | | [redacted] |
| Lb | (F + Ia – Ib – Hc) / A | (Gd+Ia-Ib+E) / A | **Annual Net RPS Position after Bank Optimization (%)** | | | | | 20.4% | | | | [redacted] | | | | | [redacted] |

General Table Notes: Values are shown in GWhs. Fields in grey are protected as Confidential under CPUC Confidentiality Rules.

**(1) (Row A) PG&E uses its April 2015 internal alternative load forecast for its procurement decisions.†**

**(2) (Row D)** As a portion of the Bank will be used as VMOP, Row D will remain zero. See 2015 RPS Plan for a description of PG&E's VMOP.

**(3) (Step 1 Result: Physical Net Short)** Rows Ga and Gb represent PG&E's physical net short based on PG&E's internal bundled retail sales forecast, as opposed to the LTPP forecast provided in the RNS.

**(4) (Step 2 Result: Stochastically-Adjusted Net Short (Physical Net Short+ Stochastic Risk-Adjustment)** PG&E added rows Gd and Ge to the Alternative RNS in order to show the stochastically-adjusted physical net short, which incorporates the risks and uncertainties addressed in the stochastic model. For more details on PG&E's stochastically modeled risks, see the 2015 RPS Plan.

This is prior to any application of the Bank.

**(5) (Rows Ha and J)** As PG&E's Alternative RNS incorporates additional risk-adjustments to the results from the Physical Net Short, the Bank sizes indicated in Rows Ha and J appear smaller than they are in Rows Ha and J of the RNS, which shows the non-stochastically-adjusted Bank size.

**(6) (Rows Ha)** At the beginning of each compliance period Row Ha subtracts previous compliance non-bankable volumes from the previous compliance period net balance of RECs. For example, the 2021 forecast for Row Ha is equivalent to the Row J in CP3 minus Row Hc in CP3.

**(7) (Row Ib)** The purpose of the planned sales is to minimize the non-bankable volumes, but the actual sales could be a combination of bankable and non-bankable volumes.

**(8) (Step 3 Result: Stochastically-Optimized Net Short (Stochastically-Adjusted Net Short + Application of Bank))**

(a) Rows La and Lb represent the optimized net short that results from taking Row Gd (Step 2 Result) and then applying Bank usage. Bank can be used for either (i) compliance purposes (row Ia) or (ii) sales (Row Ib).

(b) Row La in the Alternative RNS does not match Row La in the RNS, because the RNS does not include Row Gd (Stochastically-Adjusted Net Short).

(c) PG&E includes the non-bankable volumes in calculating rows La and Lb. Although these volumes can not be carried forward, per Decision 12-06-038, these volumes could be used towards meeting compliance in the current period. Therefore, the non-bankable volumes should be included in the Annual Net RPS Position after Bank Optimization.

**(9) (Row F)** Row F has subtracted 134 GWh of RECs associated with 2011 generation from the Hay Canyon Wind Facility and the Nine Canyon Wind Phase 3. These RECs are not being used for RPS compliance because they were not retired within the RPS statute's 36-month REC retirement deadline.

**(10) (Row Fa)** "Online Generation" includes forecasted volumes from replacement contracts (i.e. ReMAT contracts replacing QF contracts) for facilities that are already online.

**(11) (Row Fb)** "In Development" includes forecasted volumes from phase-in projects. This is consistent with labeling in the RPS Database (which labels phase-in projects as "In Development" under "Overall Project Status").

**(12) (Row K)** Row K now includes only expiring volumes from contracts as of November 2015.

*Stochastic Results in Rows Gd-Lb reflect a November 2015 stochastic modeling vintage.

†Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans, Rulemaking ("R.") 13-12-010, filed December 19, 2013.

### G. Confidentiality

**Explain if confidential treatment of specific material is requested. Describe the information and reason(s) for confidential treatment consistent with the showing required by D.06-06-066, as modified by D.08-04-023.**

In support of this Advice Letter, PG&E has provided the confidential information listed below. This information includes the PPSA and other information that more specifically describes the rights and obligations of the parties involved. 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 Investor Owned Utility 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[10]:**

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

**Appendix B – E-Solicitation Overview**

**Appendix C1 – Independent Evaluator Report – Confidential**

**Appendix D – Contract Summary**

**Appendix E – Redline of Power Purchase and Sale Agreement against Approved Form of Short-Term RPS Sale Agreement[11]**

**Appendix F – Power Purchase and Sale Agreement[12]**

**Public Attachment**

**Appendix C2 – Independent Evaluator Report – Public**

**Appendix G – PG&E Notification of Electronic Solicitation**

**Appendix H – PG&E Electronic Solicitation Bid Form**

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[11] The Commission approved PG&E's form agreement for the sale of RPS products with terms of 5 years or less as part of its approval of PG&E's 2014 RPS Plan in D.14-11-042. That form agreement was included as Attachment H3 to PG&E's 2014 RPS Plan. Accordingly, the comparison in Appendix E is to Attachment H3 in PG&E's 2014 RPS Plan.

[12] The PPSA isin the form of a confirm to the Edison Electric Institute ("EEI") Master Contract for bilateral transactions ("EEI Master"). The EEI Master agreement, which is incorporated by reference into the PPSA, is available at the following link: http://www.eei.org/resourcesandmedia/mastercontract/Pages/default.aspx. PG&E did not include the EEI Master in Appendices E or F for purposes of brevity.

## II. Consistency with Commission Decisions

### A. RPS Procurement Plan

#### 1. Identify the Commission decision that approved the utility's RPS Procurement Plan. Did the utility adhere to Commission guidelines for filing and revisions?

PG&E's 2014 RPS Plan was conditionally approved in D.14-11-042 on November 20, 2014. In that Decision, the Commission approved staff proposals for changes to the review process for short-term RPS contracts like the one presented in this advice letter. Specifically, the Commission approved the use of a streamlined Tier 1 advice letter filing process so long as a utility included a pro forma short-term contract as part of its approved RPS plan filing.[13] The Commission further provided that parties may negotiate and modify the pro forma short-term contract as needed for specific transactions.[14]

In compliance with D.14-11-042, PG&E included a pro forma short-term sales contract as Attachment H3 of PG&E's approved 2014 RPS Plan. Appendix E to this advice letter shows the changes negotiated by the parties to that pro forma contract.

PG&E did not file form contracts or solicitation materials as part of its 2015 RPS Plan because it received approval from the Commission not to hold a 2015 RPS procurement solicitation. However, PG&E's approved 2015 RPS Plan, like its 2014 RPS Plan, stated that PG&E would consider sales of surplus procurement that provide a value to customers through optimization of PG&E's RPS portfolio.[15] To carry out this optimization strategy, PG&E has used its most recently-approved pro forma short-term contract.[16]

The Transaction and this advice letter are consistent with the optimization strategy in PG&E's approved 2015 RPS Plan and with the procedural requirements for short-term contracts set forth in D.14-11-042 and implemented in PG&E's approved 2014 RPS Plan.

#### 2. Describe the Procurement Plan's assessment of portfolio needs.

In PG&E's 2015 RPS Plan, PG&E demonstrated that under both the 33% RPS by 2020 target and a 40% by 2024 scenario, PG&E is well-positioned to meet its RPS compliance requirements for the second (2014-2016) and third (2017-2020) compliance periods and will not have incremental procurement need until at least 2022.[17] PG&E believes that its existing portfolio of executed RPS contracts, its owned RPS-eligible generation, and its expected balances of surplus RPS generation from prior compliance periods will be adequate to ensure compliance with near-term RPS requirements. Additionally, PG&E expects to procure additional volumes of incremental RPS-eligible contracts through mandated procurement programs in 2016. In

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[13] D.14-11-042 at 76-77.

[14] *Id.* at 77.

[15] PG&E 2015 RPS Plan at 19, 50. *See also* PG&E 2014 RPS Plan (Confidential Version) at 11-12.

[16] Changes to the pro forma short-term contract shown in Appendix E are largely related to the fact that PG&E's pro forma confirm assumed the existence of a master agreement between the parties. Since PG&E does not have such a master agreement in place with Exelon, the parties modified the pro forma confirm to incorporate the additional terms that would have been included in a master agreement.

[17] PG&E 2015 RPS Plan at 1 and Appendix C.2.b.

recognition that PG&E has no near-term RPS procurement need, the Commission approved PG&E's request to not hold an RPS solicitation in the 2015 RPS cycle.[18]

**3. Discuss how the Project is consistent with the utility's Procurement Plan and meets utility procurement and portfolio needs (e.g. capacity, electrical energy, resource adequacy, or any other product resulting from the project).**

The proposed PPSA is for the sale of energy and RECs generated in 2016. PG&E's 2015 RPS Plan provides that in addition to procurement, PG&E's optimization strategy includes consideration of sales of surplus procurement that provide a value to customers.[19] The Transaction meets those criteria as the PPSA includes surplus RPS products. PG&E intends to utilize three PCWA resources as the primary facilities from which the Product will be delivered. PG&E's commercial strategy to maximize the value to PG&E's customers from the Transaction and the expected transfer of a very small number of RECs from Geysers resources is further discussed in Confidential Appendix D and in footnote 2, above. The revenue from the Transaction will reduce customer costs while maintaining compliance with near-term RPS targets.

**4. Describe the preferred project characteristics set forth in the solicitation, including the required deliverability characteristics, online dates, locational preferences, etc. and how the Project meets those requirements.**

Required deliverability characteristics, online dates, and location preferences do not apply to this transaction. The Delivery Term of approximately eight months helps to ensure the greatest value for PG&E's customers from the Transaction since it will maximize PG&E's ability to fulfill the delivery obligations using non-bankable and variable PCWA resources as the primary resources for the sale, as more fully discussed in Confidential Appendix D.

**5. Sales**

**a) For Sales contracts, provide a quantitative analysis that evaluates selling the proposed contracted amount vs. banking the RECs towards future RPS compliance requirements (or any reasonable other options).**

PG&E's sale of 60,000 MWh of bundled renewable energy and green attributes through the PPSA reduces overall RPS compliance costs for PG&E customers with a negligible reduction in PG&E's RPS position. Moreover, this Transaction captures for PG&E customers the significant Product Content Category (PCC) 1 REC value associated with generation from the three PCWA resources that PG&E customers may otherwise lose due to the short-term duration of the PPA

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[18] D.15-12-025 at p. 120 (Finding of Fact 6) ("PG&E's and SDG&E's showing regarding its compliance with current statutory RPS procurement mandates justifies granting PG&E's and SDG&E's request to not holding a solicitation in 2015.").

[19] PG&E's 2015 RPS Plan at 13, 50.

with those resources. Specifically, under the RPS statute as implemented by the Commission, the RECs associated with short-term contracts retired for use in the 2014-2016 RPS compliance period must be deducted from any surplus RECs from long-term contracts retired in the same period.[20] Since PG&E's contract with PCWA is short-term and since PG&E anticipates retiring surplus RECs in the 2014-2016 compliance period, the value to PG&E of the PCWA RECs would be zero if they were also retired in PG&E's RPS compliance account in 2016. This is because the effect of such retirement would be to simply reduce by the same number of RECs PG&E's banked surplus going forward.

By selling the PCWA bundled product to a counterparty that can realize the full PCC 1 value and is willing to pay the market price for a PCC 1 product, PG&E's customers are able to capture greater value from the PCWA RPS generation.

Additionally, if the Commission does not approve this transaction, PG&E would be left with unbundled (PCC 3) RECs for the portion of energy that it had already the sold to Exelon under the Transaction. These unbundled RECs would have a market value far lower than the price for the PCC 1 RECs that PG&E has negotiated with Exelon.

**b) Explain the process used to determine price reasonableness, with maximum benefit to ratepayers.**

In the summer and fall of 2015, PG&E was contacted by multiple brokers and energy service providers ("ESP") interested in purchasing 2016 RECs from PG&E. Based on what it perceived as a significant amount of bilateral interest, PG&E elected to release an e-solicitation to the marketplace announcing the availability of RECs for sale, consistent with PG&E's 2010 and 2014 Bundled Procurement Plan.[21] This approach also supported PG&E's intention to transact using the form of short-term sale agreement approved in PG&E's 2014 RPS Plan.[22] PG&E had four primary goals for the e-solicitation:

1) PG&E sought to obtain the highest purchase price for the RECs which would reduce the cost of electricity for PG&E customers;
2) Execute the transaction as quickly as possible to capitalize on the largest volume of RECs generated in 2016;
3) Negotiate and execute a transaction in substantially the same form as the proforma short term sale agreement filed in the 2014 RPS Plan; and
4) To create greater transparency in the transaction than would be possible through a strictly bilateral negotiation, thus facilitating the Commission's review and approval process.

PG&E released the e-solicitation via email on November 23, 2015 including the form of agreement. The announcement was sent to 15 potential bidders (10 brokers, three ESPs and two CCAs), which had been identified as likely interested parties after consultations with the IE. Bidders were notified that PG&E would engage in limited negotiations with the highest

[20] Cal. Pub. Util. Code § 399.13(a)(4)(B) as implemented in D.12-06-038.
[21] PG&E's 2010 Bundled Procurement Plan, Table II.5, at 35; PG&E's 2014 Bundled Procurement Plan, Table B-1, at 57.
[22] *See* Section II.A.1, *supra.*

bidder (based on the prices submitted), subject to credit and collateral requirements. Bids were received on December 2, 2015.

Additional detail can be found in Appendix G and H, where the e-solicitation documents are provided.

**6. Portfolio Optimization Strategy**

**a) Describe how the proposed procurement (or sale) optimizes IOU's RPS portfolio (or entire energy portfolio). Specifically, a response should include:**

**i. Identification of IOU's portfolio optimization strategy objectives that the proposed procurement (or sale) are consistent with.**

See Section II.A.2 above.

**ii. Identification of metrics within portfolio optimization methodology or model (e.g. PPA costs, energy value, capacity value, interest costs, carrying costs, transaction costs, etc.) that are increased/decreased as a result of the proposed transaction.**

See Sections B and E.9 of Confidential Appendix D.

**iii. Identification of risks (e.g. non-compliance with RPS requirements, regulatory risk, over-procurement of non-bankable RPS-eligible products, safety, etc.) and constraints included in optimization strategy that may be decreased or increased due to proposed procurement (or sale).**

The Transaction is consistent with PG&E's objective of minimizing customer costs while achieving and maintaining RPS compliance. Through the timely sale of excess RPS-eligible energy at a competitive price, the PPSA reduces the total cost impact of the RPS program to customers. Further, the sale of surplus non-bankable RPS products included in the PPSA provides additional value for customers.[23] Given PG&E's current long RPS position through at least 2022, it is highly unlikely that the PPSA will jeopardize PG&E's ability to meet near-term RPS requirements.[24]

**b. Description of how proposed procurement (or sale) is consistent with IOUs overall planned activities and range of transactions planned to optimize portfolio.**

As stated in the 2015 RPS Plan, PG&E's strategy to minimize customer costs includes examining opportunities to sell surplus non-bankable RPS volumes and considering

[23] *See* Section II.A.5, *supra*.
[24] *See* Section II.A.2, *supra*.

opportunities to sell surplus bankable volumes if it can still maintain an adequate Bank and if market conditions are favorable.[25]

### B. Bilateral contracting

#### 1. Discuss compliance with D.06-10-019 and D.09-06-050.

As described above, the Transaction was the result of an e-solicitation, and therefore was not a "bilateral" contract in the traditional sense of a transaction negotiated outside of a solicitation. However, the Transaction complies with the applicable bilateral contracting standards if the Commission were to apply them here.

To address the issue of bilateral contracting, the Commission developed guidelines pursuant to which utilities may enter into bilateral RPS contracts. In D.03-06-071, the Commission authorized entry into bilateral RPS contracts, provided that such contracts did not require Public Goods Charge funds and were "prudent." Later, in D.06-10-019, the Commission again held that bilateral contracts were permissible provided that they were at least one month in duration, and also found that such contracts must be reasonable and submitted for Commission approval via the advice letter process. Based on D.03-06-071 and D.06-10-019, the Commission set forth the following four requirements for approval of bilateral contracts in a Resolution approving a bilateral RPS contract executed by PG&E: (1) the contract is submitted for approval via advice letter; (2) the contract is longer than one month in duration; (3) the contract does not receive above-market funds; and (4) the contract is deemed reasonable by the Commission.[26] The Commission noted that it would be developing evaluation criteria for bilateral contracts, but that the above four requirements would apply in the interim.[27]

On June 19, 2009, the Commission issued D.09-06-050 establishing price benchmarks and contract review processes for short-term and bilateral RPS contracts. D.09-06-050 provides that bilateral contracts should be reviewed using the same standards as contracts resulting from RPS solicitations.

The Transaction satisfies the requirements listed above and the requirements of D.09-06-050. The Transaction is being submitted for approval by this Advice Letter. The term is at least one month in duration and the PPSA is reasonable when considered against the standards used for evaluation given PG&E's current needs and the proposed pricing associated with the Transaction.

#### 2. Specify the procurement and/or portfolio needs necessitating the utility to procure bilaterally as opposed to a solicitation.

This is not applicable since PG&E used an e-solicitation process to identify and negotiate this Transaction.

#### 3. Describe why the Project did not participate in the solicitation and why the benefits of the Project cannot be procured through a subsequent solicitation.

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25 PG&E's 2015 RPS Plan at 5, 19, 50.
26 Resolution E-4216, p.5.
27 Ibid.

This is not applicable since PG&E used an e-solicitation process to identify and negotiate this Transaction.

**C. Least-Cost, Best-Fit (LCBF) Methodology and Evaluation**

**1. Briefly describe IOU's LCBF Methodology and how the Project compared relative to other offers available to the IOU at the time of evaluation.**

PG&E used an e-solicitation to seek bids for this sale and applied the applicable elements of its standard LCBF methodology in evaluating those bids. The bids and PG&E's evaluation of them are described more fully in Confidential Appendices A, B, and D.

**2. Indicate when the IOU's Shortlist Report was approved by Energy Division.**

There is no Shortlist Report associated with PG&E's 2015 RPS Plan as PG&E will not be holding an RPS solicitation in 2015. The 2014 Shortlist Report was approved on July 14, 2015 and made effective May 7, 2015.

**D. Compliance with Standard Terms and Conditions (STCs)**

**1. Does the proposed contract comply with D.08-04-009, D.08-08-028, and D.10-03-021, as modified by D.11-01-025?**

The non-modifiable STCs in the PPSA conform exactly to the "non-modifiable" terms set forth in Attachment A of D.08-04-009, as modified by D.08-08-028 and D.13-11-024 and by Appendix C of D.10-03-021, as modified by D.11-01-025.

**2. Using the tabular format, provide the specific page and section number where the RPS non-modifiable STCs are located in the contract.**

The locations of non-modifiable terms in the PPSA are indicated in the table below:

| Non-Modifiable Term | Contract Section Number | Contract Page Number |
|---|---|---|
| STC 1: CPUC Approval | 2.11 | 9 |
| STC 6: Eligibility | 6.1(a) | 15 |
| STC 17: Applicable Law | 9.3(b) | 19 |
| STC REC 1: Transfer of RECs | 6.1(b) | 15 |
| STC REC 2: WREGIS Tracking of RECs | 6.1(c) | 15 |

**3. Provide a redline of the contract against the utility's Commission-approved pro forma RPS contract as Confidential Appendix E to the**

**filed advice letter. Highlight modifiable terms in one color and non-modifiable terms in another.**

A redline between the executed confirm and the Form of Short-term RPS Sale Agreement included as Attachment H3 to PG&E's 2014 RPS Plan is included in Confidential Appendix E.

**E. Portfolio Content Category Claim and Upfront Showing (D.11-12-052, Ordering Paragraph 9)**

**1. Describe the contract's claimed portfolio content category.**

**2. Explain how the procurement pursuant to the contract is consistent with the criteria of the claimed portfolio content category as adopted in D.11-12-052.**

PG&E will sell energy and associated RECs generated from California-based CEC certified eligible renewable energy resources that have their first point of interconnection with the CAISO balancing authority. Accordingly, the PPSA involves a PCC 1 product as defined in California Public Utilities Code Section 399.16(b)(1).[28] Furthermore, as defined under D.10-03-021, as modified by D.11-01-025, the proposed PPSA is a bundled transaction since both renewable energy and its associated RECs are being sold together.

**3. Describe the risks that the procurement will not be classified in the claimed portfolio content category.**

There is no known risk that the product conveyed by the Transaction would not be categorized as PCC 1. If the Transaction is not approved, RECs associated with energy that was conveyed prior to disapproval would become unbundled (PCC 3) products.

**4. Describe the value of the contract to ratepayers if:**

**1. Contract is classified as claimed**

**2. Contract is not classified as claimed**

Please see Section II.A.5.a, above.

**5. Use the table below to report how the procurement pursuant to the contract, if classified as claimed, will affect the IOU's portfolio balance requirements, established in D.11-12-052.**

Per PG&E's November 2015 Renewable Net Short (RNS) table, PG&E's current Portfolio Balance Requirements are listed in the table below. As the proposed PPSA generation is a

[28] As further discussed in footnote 2, above, PG&E expects that very small volumes from the Geysers will be transferred in this transaction. These volumes are grandfathered, PCC 0 products as described in Section 399.16(d) of the California Public Utilities Code, as to PG&E, but PG&E expects they would become PCC 1 products when transferred to Exelon.

combination of PCC 0 and PCC 1 volumes,[29] PG&E will not know the exact allocation between the categories until the RECs have been transferred to the counterparty. PG&E estimates that the quantity of PCC 1 reduction from the proposed PPSA will be approximately 60,000 MWh, as reflected in the following table.

| **Forecast of Portfolio Balance Requirements** | **Compliance Period 2 (2014-2016)** |
|---|---|
| PCC 1 Balance Requirement<br>*CP 2 = 65% of RECs applied to procurement quantity*<br>*CP 3 = 75% of RECs applied to procurement quantity* | |
| Quantity of PCC 1 RECs (under contract, not including proposed contract) (MWh) | 12,535,442 |
| Quantity of PCC 1 RECs from proposed contract (MWh) | 60,000 |
| Quantity of PCC 2 RECs | 0 |
| Quantity of PCC 2 RECs (under contract, not including proposed contract) | 0 |
| Quantity of PCC 2 RECs from proposed contract | 0 |
| PCC 3 Balance Limitation<br>*CP 2 = 15% of RECs applied to procurement quantity*<br>*CP 3 = 10% of RECs applied to procurement quantity* | |
| Quantity of PCC 3 RECs (under contract, not including proposed contract) | 0 |
| Quantity of PCC 3 RECs from proposed contract | 0 |

**F. Long-Term Contracting Requirement**

**D.12-06-038 established a long-term contracting requirement that must be met in order for an IOU to count RPS procurement from contracts less than 10 years in length ("short-term contracts") toward RPS compliance.**

In D.12-06-038, the Commission adopted a threshold standard pursuant to SB 2 1X that requires load serving entities to sign long-term contracts in each compliance period equal to at least 0.25

[29] *See* Confidential Appendix D for a more detailed discussion of why a very small volume of PCC 0 products from the Geysers are expected to be included in the Transaction.

percent of their expected retail sales over that same compliance period. The proposed PPSA is a short-term sales contract, which is not subject to the long-term contracting requirement.

**1. Explain whether or not the proposed contract triggers the long-term contracting requirement.**

As a short-term sales transaction, this PPSA does not trigger the long-term contracting requirement.

**2. If the long-term contracting requirement applies, provide a detailed calculation that shows the extent to which the utility has satisfied the long-term contracting requirement. If the requirement has not yet been satisfied for the current compliance period, explain how the utility expects to satisfy the quantity by the end of the compliance period to count the proposed contract for compliance.**

The long-term contracting requirement does not apply as this PPSA is a short-term sales transaction.

### G. Interim Emissions Performance Standard

**In D.07-01-039, the Commission adopted a greenhouse gas Emissions Performance Standard (EPS) which is applicable to electricity contract for baseload generation, as defined, having a delivery term of five years or more.**

**1. Explain whether or not the contract is subject to the EPS.**

Pursuant to D.07-01-039, the proposed PPSA is not subject to EPS as it has a delivery term shorter than five years.

**2. If the contract is subject to the EPS, discuss how the contract is in compliance with D.07-01-039.**

See Section G.1 above.

**3. If the contract is not subject to EPS, but delivery will be firmed/shaped with specified baseload generation for a term of five or more years, explain how the energy used to firm/shape meets EPS requirements.**

See Section G.1 above.

**4. If the contract term is five or more years and will be firmed/shaped with unspecified power, provide a showing that the utility will ensure that the amount of substitute energy purchases from unspecified resources is limited such that total purchases under the contract (renewable and non-renewable) will not exceed the total expected output from the renewable energy source over the term of the contract.**

See Section G.1 above.

**5. If substitute system energy from unspecified sources will be used, provide a showing that:**

**a. the unspecified energy is only to be used on a short-term basis; and**

**b. the unspecified energy is only used for operational or efficiency reasons; and**

**c. the unspecified energy is only used when the renewable energy source is unavailable due to a forced outage, scheduled maintenance, or other temporary unavailability for operational or efficiency reasons; or**

**d. the unspecified energy is only used to meet operating conditions required under the contract, such as provisions for number of start-ups, ramp rates, minimum number of operating hours.**

Substitute system energy from unspecified sources will not be used.

**H. Procurement Review Group (PRG) Participation**

**1. List PRG participants (by organization/company).**

The Procurement Review Group ("PRG") for PG&E includes the Commission's Energy Division, the Office of Ratepayer Advocates, the Union of Concerned Scientists, The Utility Reform Network, the Coalition of California Utility Employees, and Coast Economic Consulting.

**2. Describe the utility's consultation with the PRG, including when information about the contract was provided to the PRG, whether the information was provided in meetings or other correspondence, and the steps of the procurement process where the PRG was consulted.**

At the December 15, 2015 in-person PRG meeting, PG&E provided an overview of the potential Transaction. The PRG was updated via email on February 2, 2016

**3. For short-term contracts, if the PRG was not able to be informed prior to filing, explain why the PRG could not be informed.**

This is not applicable as the PRG was notified in advance of execution.

**I. Independent Evaluator (IE)**

**The use of an IE is required by D.04-12-048, D.06-05-039, 07-12-052, and D.09-06-050.**

**1. Provide name of IE.**

The Independent Evaluator ("IE") is Lewis Hashimoto of Arroyo Seco Consulting.

**2. Describe the oversight provided by the IE.**

The IE reviewed e-mails exchanged between PG&E and the counterparty. The IE also participated on phone calls between PG&E and the counterparty.

3. **List when the IE made any findings to the Procurement Review Group regarding the applicable solicitation, the project/bid, and/or contract negotiations**.

The IE did not provide any findings to the PRG related to this PPSA. The IE recommends that the Commission approve the Transaction in his IE report.

4. **Insert the public version of the project-specific IE Report.**

The public version of the IE report is attached to this Advice Letter as Appendix C2.

## III. Project Development Status

Since the Projects are already commercially operable, this section is not applicable.

## IV. Contingencies and/or Milestones

**Describe major performance criteria and guaranteed milestones, including those outside the control of the parties, including transmission upgrades, financing, and permitting issues.**

Absent the Delivery of 60,000 MWh of energy corresponding to eventually created Green Attributes, this short-term transaction has no guaranteed milestones. The Transaction for Green Attributes is conditioned upon CPUC Approval, as defined in the proposed PPSA.

## V. Safety Considerations

1. **What terms in the PPA address the safe operation, construction and maintenance of the Project? Are there any other conditions, including but not limited to conditions of any permits or potential permits, that the IOU is aware of that ensure such safe operation, construction and decommissioning?**

The Transaction covers the resale of energy and RECs purchased under existing PPAs. These Projects are existing resources currently performing under existing PPAs with PG&E. The Transaction that is the subject of this Advice Letter has no impact on the underlying PPAs and provides PG&E no incremental visibility on any potential safety matters related to the generation of the energy.

2. **What has the IOU done to ensure that the PPA and the Project's operation are: consistent with Public Utilities Code Section 451; do not interfere with the IOU's safe operation of its utility operations and facilities; and will not adversely affect the public health and safety?**

See Section V.1 above.

3. **If PPA or amendment is with an existing facility, please provide a matrix that identifies all safety violations found by any entity, whether government, industry-based or internal with an indication of the issue and if the resolution of that alleged violation is pending or resolved and what the progress or resolution was/is.**

See Section V.1 above.

4. **If PPA or amendment is with an existing facility, will the PPA or amendment lead to any changes in the structure or operations of the facility? Any change in**

**the safety practices at the facility? If so, with what federal, state and local agencies did the developer confer or seek permits or permit amendments for these changes?**

See Section V.1 above.

## VI. REQUEST FOR COMMISSION DISPOSITION

PG&E requests that the Energy Division issue a disposition making this advice letter effective no later than 30 days after filing. Any such disposition that makes this advice letter effective shall be deemed to constitute the following:

1. Approval of the PPSA in its entirety;
2. A finding that this PPSA is consistent with PG&E's CPUC approved RPS Plan and that the sale of the bundled renewable electricity and green attributes under the PPSA is reasonable and in the public interest;
3. A finding that all costs of the PPSA, including broker fees associated with the Transaction, are fully recoverable in rates over the life of the PPSA, subject to CPUC review of PG&E's administration of the PPSA; and
4. A finding that the payments received by PG&E pursuant to the PPSA shall be credited to PG&E customers through PG&E's Energy Resource Recovery Account over the life of the PPSA, subject to CPUC review of PG&E's administration of the PPSA.

**<u>Protests</u>:**

Anyone wishing to protest this Advice Letter may do so by letter sent via U.S. mail, facsimile or E-mail, no later than March 28, 2016, which is 21 days after the date of this filing.[30] Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

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

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

[30] The 20-day protest period concludes on a weekend. Accordingly, PG&E is moving this date to the following business day.

Erik Jacobson
Director, Regulatory Relations
c/o Megan Lawson
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-7226
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Rule 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Rule 3.11).

**Effective Date:**

Pursuant to D.14-11-042, PG&E is filing this advice letter with a Tier 1 designation to be effective upon filing, March 7, 2016, pending disposition.

**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 list shown below, including the service list for R.15-02-020. Non-market participants who are members of PG&E's PRG and have signed appropriate Non-Disclosure Certificates will also receive 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.

/S/

Erik Jacobson
Director, Regulatory Relations

Attachments

cc: Service List for R.15-02-020
Paul Douglas – Energy Division
Robert Blackney – Energy Division
Joseph Abhulimen – ORA
Karin Hieta – ORA

Cynthia Walker – ORA

**Limited Access to Confidential Material:**

The portions of this Advice Letter marked Confidential Protected Material are submitted under the confidentiality protection of Section 583 and 454.5(g) 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 PPSA itself, price information, and analysis of the PPSA, 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.

# 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: Jennifer Wirowek

Phone #: (415) 973-1419

E-mail: J6WS@pge.com and PGETariffs@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) #: **4803-E** **Tier: 2**

Subject of AL: **Power Purchase and Sale Agreement for Renewable Energy Credits Between Exelon Generation Company and Pacific Gas and Electric Company**

Keywords (choose from CPUC listing): Compliance, 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

Confidential information will be made available to those who have executed a nondisclosure agreement: Yes

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: _________Marie Y. Fontenot_ (415) 973-4985____________________________________________

Resolution Required? ☐ Yes ☑No

Requested effective date: **April 6, 2016** 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). N/A

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 21 days[1] after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

**California Public Utilities Commission**
**Energy Division**
**EDTariffUnit**
**505 Van Ness Ave., 4th Flr.**
**San Francisco, CA 94102**
**E-mail: EDTariffUnit@cpuc.ca.gov**

**Pacific Gas and Electric Company**
**Attn: Erik Jacobson**
**Director, Regulatory Relations**
**c/o Megan Lawson**
**77 Beale Street, Mail Code B10C**
**P.O. Box 770000**
**San Francisco, CA 94177**
**E-mail: PGETariffs@pge.com**

[1] The 20-day protest period concludes on a weekend. Accordingly, PG&E is moving this date to the following business day.

**BEFORE THE PUBLIC UTILTIES COMMISSION**
**OF THE STATE OF CALIFORNIA**

**PACIFIC GAS AND ELECTRIC COMPANY U-39-E**

**DECLARATION OF MARIE Y. FONTENOT**
**SEEKING CONFIDENTIAL TREATMENT**
**FOR CERTAIN DATA AND INFORMATION**
**CONTAINED IN ADVICE LETTER 4803-E**

I, Marie Y. Fontenot declare:

1. I am a Principal in the Renewable Energy group of the Energy Procurement organization at Pacific Gas and Electric Company (PG&E). In this position, my responsibilities include negotiating PG&E's Renewables Portfolio Standard Program ("RPS") Power Purchase Agreements. This declaration is based on my personal knowledge of PG&E's practices and my understanding of the Commission's decisions protecting the confidentiality of market-sensitive information.

2. Based on my knowledge and experience, and in accordance with the Decisions 06-06-066, 08-04-023, and relevant Commission rules, I make this declaration seeking confidential treatment for Appendices A, B, C1, D, E and F to Advice Letter 4803–E submitted on March 7, 2016. By this Advice Letter, PG&E is seeking the Commission's approval of a power purchase and sale agreement with Exelon Generation Company.

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 confidential market sensitive data and information covered by D.06-06-066 and Commission rules. Further, 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. The information for which PG&E seeks confidential treatment is not already public and the data cannot be aggregated, redacted, summarized or otherwise protected in a way that allows partial disclosure.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct. Executed on March 7, 2016, at San Francisco, California.

Marie Y. Fontenot

Marie Y. Fontenot

# PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)
## Advice Letter 4803-E
## March 7, 2016

## 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 A | Y | Item V C) LSE Total Energy Forecast – Bundled Customer (MWh)<br><br>Item VI B) Utility Bundled Net Open (Long or Short) Position for Energy (MWh)<br><br>Item VII G) Renewable Resource Contracts under RPS program – Contracts without SEPs.<br><br>General Order ("GO") 66-C. | Y | Y | Y | This appendix contains information on PG&E's sales forecast and PG&E's renewable net open position. If released publicly, this information would provide market sensitive information to PG&E's competitors and is therefore considered confidential.<br><br>In addition this appendix contains price information and discusses, analyzes, and evaluates the other terms of the Power Purchase and Sales Agreement ("PPSA"). Public disclosure of this information would offer valuable market sensitive information to PG&E's competitors. It is in the public interest to treat such information as confidential. Release of this information would be damaging to future PG&E contract negotiations and ultimately detrimental to PG&E's ratepayers. | For information covered under Item V C) and VI B) the front three years of the forecast remain confidential for three years.<br><br>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).<br><br>For information covered under GO 66-C, remain confidential indefinitely. |

# PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)
## Advice Letter 4803-E
## March 7, 2016

## 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 B) Specific quantitative analysis involved in scoring and evaluation of participating bids. | Y | Y | Y | This appendix contains confidential bid information and specific bid evaluations from PG&E's e-solicitation. If released publicly, this information would provide market sensitive information to PG&E's competitors therefore this information should be considered confidential. | 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 4803-E**
**March 7, 2016**

**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 C1 | Y | Item VII G) Renewable Resource Contracts under RPS program - Contracts without SEPs.<br><br>Item VII (un-numbered category following VII G) Score sheets, analyses, evaluations of proposed RPS projects.<br><br>Item VIII B) Specific quantitative analysis involved in scoring and evaluation of participating bids.<br><br>General Order 66-C. | Y | Y | Y | This appendix contains the IE report, which includes confidential bid information and specific bid evaluations from the e-solicitation. The confidential IE report also discusses, analyzes and evaluates the Project and the terms of the PPSA. Disclosure of this information would provide valuable market sensitive information to competitors. Release of this information would be damaging to future negotiations with other counterparties for similar product and should 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).<br><br>For information covered under Item VII (un-numbered category following VII G), remain confidential for three years.<br><br>For information covered under Item VIII B), remain confidential for three years after winning bidders selected.<br><br>For information covered under GO 66-C, remain confidential indefinitely. |

**PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)**
**Advice Letter 4803-E**
**March 7, 2016**

**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 | Item VII G) Renewable Resource Contracts under RPS program - Contracts without SEPs.<br><br>Item VII (un-numbered category following VII G) Score sheets, analyses, evaluations of proposed RPS projects.<br><br>Item VIII B) Specific quantitative analysis involved in scoring and evaluation of participating bids.<br><br>General Order 66-C. | Y | Y | Y | This appendix contains bid information and discusses the terms of the PPSA. Public disclosure of this information would offer valuable market sensitive information to PG&E's competitors. Release of this information publicly would be damaging to PG&E's future negotiations with other counterparties for similar products therefore this information should 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).<br><br>For information covered under Item VII (un-numbered category following VII G), remain confidential for three years.<br><br>For information covered under Item VIII B), remain confidential for three years after winning bidders selected.<br><br>For information covered under GO 66-C, remain confidential indefinitely. |

**PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 E)**
**Advice Letter 4803-E**
**March 7, 2016**

**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 PPSA for which PG&E seeks approval in the Advice Letter filing. Public disclosure of certain terms of the PPSA would provide valuable market sensitive information to PG&E's competitors. Release of this information publicly would be damaging to PG&E's future negotiations with other counterparties for similar product, therefore this information should 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 PPSA for which PG&E seeks approval in this advice letter filing. Public disclosure of certain terms of the PPSA would provide valuable market sensitive information to PG&E's competitors. Release of this information publicly would be damaging to PG&E's future negotiations for similar product with other counterparties therefore this information should 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 C2

# Independent Evaluator Report (Public)

ARROYO SECO CONSULTING

# PACIFIC GAS AND ELECTRIC COMPANY BILATERAL CONTRACT EVALUATION

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## REPORT OF THE INDEPENDENT EVALUATOR ON A CONTRACT FOR SALE OF RENEWABLE ENERGY TO EXELON GENERATION COMPANY, LLC

MARCH 07, 2016

# TABLE OF CONTENTS

# 1. EXECUTIVE SUMMARY

This report provides an independent evaluation of an agreement between the Pacific Gas and Electric Company ("PG&E") and Exelon Generation Company, LLC ("Exelon") for the sale by the utility of a fixed volume of renewable energy. An independent evaluator (IE), Arroyo Seco Consulting (Arroyo), conducted various activities to review, test, and check PG&E's processes as the parties negotiated the agreement. PG&E and Exelon executed the confirmation agreement on February 10, 2016. The contract specifies delivery of 60 GWh of Portfolio Content Category 1 (PCC 1) renewable energy beginning on the execution date.

This report of Arroyo Seco Consulting, serving as Independent Evaluator ("IE") of PG&E's contracting for renewable energy, provides a review of:

- The role of the Independent Evaluator,
- The adequacy of PG&E's outreach to potential buyers and robustness of the solicitation,
- The degree to which the design of PG&E's methodology provided for fair evaluation of bids,
- The fairness with which PG&E's evaluation process was administered,
- The fairness of contract-specific negotiations, and
- Merit of the executed contract for approval by the California Public Utilities Commission ("CPUC").

PG&E did not conduct a formal competitive solicitation with written, publicly disseminated protocols. Instead, the process was characterized as an "e-solicitation" in which several potential buyers were contacted directly by e-mail, rather than through public outreach efforts, and asked to submit bids to purchase the energy. PG&E's conduct of the e-solicitation did not conform to directives and principles provided by the CPUC in prior decisions and in report templates for fairness of methodology in solicitations to buy renewable energy. Although the streamlined approach used a less transparent process than PG&E's formal solicitations to buy renewable energy, the evaluation and selection process was, in Arroyo's opinion, otherwise handled fairly. Broader outreach, a robust response to the request for bids, a systematic feedback process, and clear public protocols for bid evaluation and selection would have improved the fairness of the process.

Arroyo's opinion is that contract negotiations were conducted in a manner that was, overall, fair to ratepayers and to competing buyers. Arroyo believes that the contract price is reasonable, although the market is illiquid and not transparent, and there are few publicly observable, recent transactions on which to base valid price comparisons, which makes a firm finding of price reasonableness challenging. The sale is consistent with PG&E's 2015 RPS procurement plan, and ratepayers will benefit from monetizing the value of non-bankable renewable energy credits. Based on the fairness of negotiations, based on the likely reasonableness of the contract price, and despite the problematic nature of the evaluation and selection process, Arroyo's opinion is that the executed contract merits CPUC approval.

# 2. ROLE OF THE INDEPENDENT EVALUATOR

This chapter describes key roles of the IE and summarizes activities undertaken to fulfill those roles in PG&E's process of seeking bids for the sale of the 60 GWh volume.

## A. KEY INDEPENDENT EVALUATOR ROLES

The CPUC stated its intent for participation of an IE in competitive procurement solicitations to "separately evaluate and report on the IOU's entire solicitation, evaluation and selection process", in order to "serve as an independent check on the process and final selections."[1] The Energy Division has provided IEs with a standard-form template for use in reporting about RPS transactions for which utilities seek approval through advice letters, specifying that such a report should cover topics including:

- Describe the IE's role.
- How did the IOU conduct outreach to bidders, and was the solicitation robust?
- Was the IOU's methodology designed such that proposals were fairly evaluated?
- Was the evaluation process fairly administered?
- Were contract-specific negotiations fair?
- Does the contract merit Commission approval?

The structure of this report, setting out detailed findings for each of these issues, is organized around these major topics.

## B. IE ACTIVITIES

To fulfill the role of evaluating the renewable energy contract between PG&E and Exelon, Arroyo performed various key tasks:

- Observed some of PG&E's prior efforts to sell PCC 1 renewable energy through bilateral negotiations;
- Discussed with the PG&E team its plan to hold an e-solicitation to pursue sale of the energy, and suggested possible improvements to its outreach efforts;
- Observed (telephonically) negotiations between the parties;
- Reviewed marked-up drafts of the confirmation agreement as the parties proposed changes to the underlying form;
- Researched comparable transactions for publicly available pricing data.

[1] CPUC Decision 06-05-039, May 25, 2006, "Opinion Conditionally Approving Procurement Plans for 2006 RPS Solicitations, Addressing TOD Benchmarking Methodology", page 46.

# 3. PG&E'S OUTREACH EFFORTS AND THE ROBUSTNESS OF THE RESPONSE

PG&E directly contacted 15 potential bidders by e-mail on November 23, 2015. In the communication, PG&E provided a draft of an Edison Electric Institute (EEI) confirmation form letter, a bid form composed as a spreadsheet, and a cover letter stating the form of transaction and price and providing bidding instructions including a deadline of 5 p.m. December 2. PG&E received 3 bids all timely submitted prior to the deadline.[2]

## A. ADEQUACY OF THE DISTRIBUTION OF NOTIFICATIONS

Prior to notifying potential participants of the request for bid, PG&E had been in discussions with [redacted] potential renewable energy credit (REC) buyers who had expressed interest in a transaction, either directly or through brokers. PG&E drafted a notification list that included these energy services providers and brokers, enlarged by adding more brokers, energy services companies, and community choice aggregators that could have an interest in purchasing RECs. Arroyo also suggested enlarging the outreach list with wholesale energy marketers, municipal utilities, and additional community choice aggregators (CCAs) and their energy service providers; PG&E included some of these suggestions in the list.

The contact list of 15 entities that PG&E notified does not represent a thoroughly comprehensive list of all potential parties that might possible have an interest and capability of purchasing bundled renewable energy or RECs (with pricing at NP15 market index plus premium for renewable attributes, the transaction is equivalent to purchasing RECs at the price premium) from PG&E. In Arroyo's opinion it represents a solid list of leads and an improvement over the initial set of six potential counterparties.

In contrast to PG&E's practices in its formal renewable solicitations, for this informal effort the utility did not pursue outreach through public media such as the electricity trade press. PG&E did not convene a bidders' conference, as is the case with its annual solicitations for renewable energy, greenhouse compliance instruments, and other products. PG&E did not employ its standing Request for Offer (RFO) contact list that includes thousands of individuals who have either contacted PG&E to be included in notifications or whom PG&E has identified as possible participants in RFOs; Arroyo believes that the vast majority of those contacts likely would lack any interest in or capability of purchasing RECs.

PG&E did not seek feedback from participants or non-participants about its e-solicitation by distributing a survey by e-mail or by, upon notification of the bid outcome,

[redacted]

offering to losing participants to discuss their proposals by telephone, as it does with formal RPS solicitations. Upon notification of the failure of its bid, one of the participants [redacted] requested feedback about its proposal by e-mail, but to Arroyo's knowledge PG&E did not respond to that request. PG&E's highly streamlined approach to managing this informal request for bids differed markedly from the utility's practices with formal solicitations to purchase renewable energy or other products.

## B. CLARITY AND CONCISION OF SOLICITATION MATERIALS

For this informal e-solicitation PG&E did not draft or disseminate written protocols, either public or non-public, to document the requirements of the request for bids or to state the evaluation criteria that the utility would use to make its selection decision. This contrasts to PG&E's procedures with formal competitive procurement efforts. The e-mail sent to the potential bidders identified by the team was terse, consisting of less than one page of text for the cover sheet, a small spreadsheet, and a twelve-page form agreement.

Arroyo's opinion is that solicitation materials were clear to potential bidders. Each participant provided sufficient information in its bid package for PG&E to conduct its evaluation. The simplicity of the bid instructions and of the bidding form compared strikingly to the density of PG&E's usual RPS RFO documents. However, this is partly because the materials revealed very little to bidders about how the e-solicitation would work. The materials were clear and concise rather than comprehensive in their disclosure.

## C. ROBUSTNESS OF THE SOLICITATION

PG&E did not set any quantitative target for response of bids for this e-solicitation. Three bids were received, all from firms that were contacted by e-mail. Arroyo does not consider this to be a robustly competitive response.

There may be several factors, mostly beyond PG&E's control, at play in limiting the market response to such a request for bids for renewable energy:

- Only a limited number of California retail energy providers may hold net short RPS compliance positions for the current compliance period. The IOUs hold long positions, leaving some but not all municipal utilities, CCAs, and direct access providers as potential buyers.
- Among those with short positions for 2016, there may be a limited appetite for purchasing RECs that cannot be banked for longer-term compliance needs; at least one of the potential buyers with whom PG&E was in contact prior to the e-solicitation lost interest when the utility disclosed that the RECs are non-bankable.
- Others may lack interest in procuring renewable energy through short-term purchases from existing renewable facilities, as opposed to executing long-term contracts with proposed new projects, given their compliance and procurement strategies.
- Some potential buyers appear to have narrow requirements for the RECs, such as Green-e certification, that PG&E's volume does not satisfy.

- PG&E sent its request for bids on November 23 and required a deadline of December 2; this provided five business days for most respondents to compose bids (the interval included the Thanksgiving holiday). It may be challenging for some entities such as municipal utilities to respond on short notice. PG&E's recent RFOs for RPS-eligible energy and greenhouse gas compliance instruments have given potential respondents between four and five weeks to prepare and submit proposals.

[redacted] Arroyo views this as evidence that, despite the less than robust response to the request for bids, the e-solicitation may have succeeded in eliciting better pricing for the REC sale than would likely have been the case had PG&E solely continued to pursue bilateral discussions. It is unclear whether expanding the outreach efforts to elicit a more robust response for this request for bids would have resulted in any higher-priced proposals.

If PG&E were to attempt a similar e-solicitation in the future, Arroyo would recommend (1) enlarging the contact list to encompass more municipal utilities, CCAs, direct access energy providers, and wholesale marketers and traders, especially those that have demonstrated a willingness to purchase PCC 1 renewable energy recently, and (2) expanding the time window between issuing a request for bids and the response deadline. While the small size of the universe of potential buyers of PG&E's non-bankable RECs may limit the response anyway, these steps could help ensure that an e-solicitation's weak response could not be attributed to any shortcomings in PG&E's outreach efforts. More research would reveal which municipal utilities, irrigation districts, and other entities have made short-term purchases of RECs for compliance needs in the recent past, such as the city of Colton and the Imperial Irrigation District; these might usefully be added to the contact list.

Also, the outreach process would be more fair if PG&E adheres in future to its practice in formal RFOs of either circulating surveys for feedback or offering to provide one-on-one feedback to all participants with losing bids, even if that feedback consisted simply of identifying which specific criterion was the one for which the bid was deficient compared to the winning bid.

# 4. FAIRNESS OF PG&E'S EVALUATION METHODOLOGY

This section describes PG&E's methodology for evaluating bids and selecting a bid in this e-solicitation, and reviews its fairness to ratepayers and participants.

## A. PRINCIPLES TO EVALUATE PG&E'S BID EVALUATION METHODOLOGY

The Energy Division of the CPUC has suggested a set of principles for evaluating the process used by IOUs for selecting Offers in competitive renewable solicitations, within the template intended for use by IEs in reporting:

- There should be no consideration of any information that might indicate whether the participant is an affiliate.
- Procurement targets, objectives, and preferences were clearly defined in the IOU's solicitation materials.
- The IOU's methodology should identify quantitative and qualitative criteria and describe how they will be used to rank offers. These criteria should be applied consistently to all offers.
- The LCBF methodology should evaluate proposals in a technology-neutral manner.
- The LCBF methodology should allow for consistent evaluation and comparison of proposals of different sizes, in-service dates, and contract length.

Some additional considerations appear relevant to PG&E's specific situation. Unlike some utilities, PG&E does not rely on weighted-average calculations of scores for evaluation criteria to arrive at a total aggregate score. In most PG&E solicitations for transactions for renewable energy, the team ranks offers by Portfolio Adjusted Value ("PAV").

- The methodology should identify how non-valuation measures will be considered; all non-valuation criteria used in selecting Offers should be transparent to participants.
- The logic of how non-valuation criteria or preferences are used to reject higher-value Offers and select lower-value Offers should be applied consistently and without bias.
- The valuation methodology should be reasonably consistent with industry practices

## B. PG&E'S METHODOLOGY

In contrast to its usual practice with formal solicitations, PG&E did not draft any written protocols, public or non-public, stating its methodology for evaluating bids. Observing PG&E's actual conduct, Arroyo can infer that the utility employed two evaluation criteria:

<u>Pricing.</u> PG&E sought to maximize the benefit to ratepayers of selling the volume of PCC 1 energy by preferring higher-priced bids to lower-priced bids. The utility team did not

employ its Portfolio-Adjusted Value methodology specified in its approved 2015 RPS procurement plan for analyzing offers (as opposed to bids) for value and portfolio fit. However, in this situation where multiple bids pursue a fixed volume of RPS-eligible energy from the same generators for the same period of time, priced at market index plus a fixed REC bid premium in $/MWh, the PAV ranking of competing bids should be identical to the ranking by bid REC price. On that basis the use of PAV as the metric for value and fit should lead to the same result as ranking by REC price; the methodologies are equivalent. Ranking bids by price premium is less burdensome than running PG&E's PAV algorithms.

Credit. The two highest-priced bids [redacted]. PG&E [redacted] invoked creditworthiness as a criterion [redacted] noting that [redacted]

In making its selection, PG&E did not cite any other criteria employed in its approved 2014 RPS evaluation methodology, such as supplier diversity, RPS goals, counterparty concentration, etc. It is unclear whether the various other criteria that PG&E has developed to evaluate offers to sell the utility RPS-eligible energy are at all relevant to a situation where the participants bid to buy power from PG&E's portfolio.

## C. STRENGTHS AND WEAKNESSES OF PG&E'S METHODOLOGY

The use of an e-solicitation to identify a high bidder willing to purchase RECs from PG&E was a novel approach; its benefits included a streamlined process allowing quick decision-making, while it suffered from a distinct lack of transparency for potential buyers.

<u>Consistency with RPS Procurement Plan.</u> PG&E's 2015 draft RPS procurement plan, which was accepted with modifications in CPUC Decision 15-12-025, states that "PG&E will consider selling surplus non-bankable RPS volumes and may consider selling surplus bankable volumes if it can still maintain an adequate Bank and if market conditions are favorable."[3] PG&E views the non-bankable 60 GWh sold in this contract to be surplus to its needs, and the size of the sale is quite small compared to the utility's overall banked volume. As for market conditions, the plan also states "…PG&E's optimization strategy includes consideration of sale of surplus procurement that provide a value to customers".[4]

The sale to Exelon would be consistent with the RPS procurement plan if the volume is surplus to needs and provides a value to ratepayers beyond what would be realized with alternative uses of the RECs. Arroyo is not privy to confidential portions of PG&E's current projections of its bank size and its needs. However, if PG&E used the 60 GWh for 2016 compliance needs, the amount of excess procurement PG&E can bank for later years will be reduced by a like amount under current banking rules. This makes a sale of the 60 GWh to a third party more valuable than use for compliance. Inspection of the renewable net short calculations in PG&E's 2015 procurement plan suggests that the 60 GWh volume

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[3] Pacific Gas and Electric Company, "Pacific Gas and Electric Company's (U39 E) August 4, 2015 Draft Renewable Energy Procurement Plan", August 4, 2015, page 5.
[4] Op. cit., page 18.

makes up most of PG&E's estimate for non-bankable RECs above the portfolio quantity requirement in 2016.

Market Valuation. PG&E did not calculate Portfolio-Adjusted Values for the bids for these RECs. That would have been consistent with its past practice in renewable energy procurement and with the 2015 RPS procurement plan's statement that the use of PAV ensures procurement providing the best fit for PG&Es portfolio at the least cost. However, in the context of ranking competing bids for the same 60 GWh volume, a ranking by highest price should be equivalent to a ranking by highest PAV. Transmission costs, congestion costs, capacity value, project viability, and other valuation components are identical across bids because they are attributes of the same 60 GWh regardless of buyer.

Other issues. In the process of soliciting and evaluating bids for the 60 GWh volume, PG&E's primary deviation from the Energy Division's suggested principles for evaluating fairness is that PG&E did not thoroughly define the evaluation criteria it would apply to the bids and communicate them transparently to potential bidders. There was no written protocol describing qualitative and quantitative criteria and how they would be used to rank bids. PG&E did however include this text in its e-mailed note to its contact list:

> "PG&E will transact with the highest bidder that meets [redacted]

This statement omitted any specifics of how PG&E would apply creditworthiness as an evaluation criterion. There was no communication about what would constitute acceptable credit quality or posted collateral that would meet PG&E's requirement. In contrast PG&E's formal RPS solicitation protocols have spelled out in some detail the security requirements for RFO participants, have provided a form of letter of credit, and detailed within a form agreement what credit ratings are acceptable to PG&E for counterparty's commercial bank to provide a letter of credit. When applying non-valuation criteria it is particularly important to provide participants with clear guidance on how their proposals will be evaluated in order to ensure that participants view PG&E's methodology as fair.

While PG&E has, with CPUC approval, used credit as a criterion in its formal RPS solicitations for several years, its use has always been accompanied by a written description of the evaluation criterion in a public solicitation protocol. In its decisions establishing the RPS program, the CPUC directed "the utilities to use transparent criteria in evaluating the tie-breakers used to rank bids".[5] The practice in this e-solicitation falls short of the ideal.

If PG&E were to use an e-solicitation for future REC sales, Arroyo suggests more attention be paid to how to communicate with potential bidders about the evaluation criteria PG&E will use to rank bids. Lack of transparency in this process leaves the methodology vulnerable to concerns about unfair treatment of competing buyers. Similarly, it would be better to have some form of written internal protocol about the evaluation criteria in place prior to opening the request for bids, in order to ensure that PG&E is following its intended set procedures rather than making up criteria and preferences as it goes along.

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[5] California Public Utilities Commission, Decision 04-07-029, "Opinion Adopting Criteria For The Selection Least-Cost And Best-Fit Renewable Resources", July 8, 2004, page 30.

# 5. FAIRNESS OF PG&E'S BIDDING AND SELECTION PROCESS

This section provides a narrative of how PG&E administered its evaluation and selection process and selected a short list for its 2014 GHG offset credit RFO. Arroyo's opinion is that despite clear infirmities and a failure to observe best practices to ensure transparency the process was, overall, fair to ratepayers and competitors.

## A. GUIDELINES TO DETERMINE FAIRNESS OF EVALUATION PROCESS

The Energy Division has suggested a set of principles to guide IEs in determining if an IOU's administration of its evaluation and selection process was fair:

- Were all proposals treated the same regardless of the identity of the bidder?
- Were participants' questions answered fairly and consistently and the answers made available to all participants?
- Did the utility ask for "clarifications" that provided one participant an advantage over others?
- Was the economic evaluation of the proposals fair and consistent?
- Was there a reasonable justification for any fixed parameters that were a part of the IOU's LCBF methodology?
- Were the qualitative and quantitative factors used to evaluate bids fair to all bids?

Some other considerations appear relevant to reviewing PG&E's administration of its methodology. The use of business judgment in bringing non-valuation criteria to bear on decision-making, rather than a mathematical, objective means of doing so, implies an opportunity to test the fairness of administration using additional principles:

- Were the decisions to reject higher-valued proposals from the short list because of low scores in criteria or preferences other than market valuation applied consistently across all proposals? Were the selections of lower-valued proposals in preference to higher-valued ones based on their superior attributes in non-valuation criteria made consistently, or were high-valued proposals skipped over unfairly?
- If PG&E did not select the proposals that provide the best overall value while meeting PG&E's compliance needs, what factors prevented those projects from being selected? Was their rejection based on considerations that were communicated transparently to participants in the solicitation protocol?
- Were the judgments used to make a selection based on evaluation criteria and preferences that were publicly disseminated to participants prior to bid submittal?

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## B. PG&E'S EVALUATION OF BIDS AGAINST CRITERIA

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PG&E appears to have applied only two evaluation criteria to rank bids. In the absence of a written protocol for the evaluation methodology it is hard to tell what other bid characteristics might otherwise have been considered.

Market Valuation. Two bids were priced at [redacted] was priced at [redacted] The lower-priced bid was dropped from active consideration.

Credit. [redacted] ote that information about creditworthiness of the participant was not part of the requested bid package, so PG&E drew its conclusions about the credit characteristics of bidders using other data sources.

<u>Other.</u> PG&E did not identify any other evaluation criteria used to make its selection. There were no non-conforming proposals; all three bid packages contained the requested information that PG&E required to make a selection. PG&E did not involve any third party in performing any part of the evaluation; PG&E did not develop any inputs or parameters for analysis of the bids, relying solely on bid price ranking for the valuation and on other data sources for assessing creditworthiness. No transmission costs or integration adders were involved in the evaluation. No affiliates of PG&E submitted bids.

In the absence of a bidding conference, potential participants asked questions of the PG&E team directly through e-mail prior to the bid deadline, and were provided answers that PG&E did not shared with all potential participants. These discussions were limited in nature. One query concerned the eligibility of the RECs for Green-e certification; another requested specific identification of the generating facilities from which the energy would be produced (PG&E declined to identify them before negotiations were to begin). Another question-and-answer e-mail discussion focused on the long-form version of the confirmation agreement and the specifics of PG&E's collateral requirements.

## C. RESULTS ANALYSIS

Overall, Arroyo agreed with the selection of Exelon's bid by PG&E, but important elements of the selection process were flawed.

The use of credit as a tie-breaking criterion to choose between two bids of equal valuation was problematic. PG&E did not draft any written protocols for evaluating bids, and had no internal written protocol for how to assess creditworthiness in this e-solicitation. In prior formal RFOs the utility has had in place written protocols to score proposals on creditworthiness[6]; that was not the case for this e-solicitation. What was communicated to participants was that PG&E would transact with the bidder offering the highest price in a package "that meets PG&E's credit and collateral obligations". There was no indication what specifically those obligations would b [redacted] nor how PG&E scores creditworthiness. The wording of the communication suggests a binary check, not a scoring: either a proposal meets the utility's required credit obligations or it does not.

Despite the infirmities in how PG&E administered this rapid e-solicitation, Arroyo's opinion is that the use of creditworthiness as a tie-breaking criterion was reasonable. PG&E's typical practice in [redacted]

[redacted]

[6] For example, the non-public protocol for PG&E's 2015 Greenhouse Gas Offset Credit RFO established a scoring system from [redacted] in which proposals were evaluated based on [redacted]

[redacted]

[redacted] However, Arroyo's opinion is that all else being equal it is legitimate for a utility to prefer [redacted]

Upon [redacted] that its bid had not been selected for negotiation, the PG&E team communicated [redacted] that if negotiations with the selected party should not succeed then PG&E could contact [redacted] if it would still have an interest in a transaction. This suggests that despite [redacted] the utility would not have ruled out a contract wit [redacted]

PG&E has had prior business dealings with Exelon in the context of the latter's affiliates previously owning a share of biomass-fueled Qualifying Facilities contracted with PG&E, [redacted] but Arroyo observed no indication that these prior business dealings affected the selection process.

On that basis, Arroyo's opinion is that it reasonable for PG&E to rank [redacted] and to use that difference [redacted] However, it would have enhanced both the perceived and actual fairness of the selection process if the utility had communicated clearly to participants [redacted] a necessary requirement for selection. It would have better for PG&E to have explicitly chosen credit as an evaluation criterion rather than as a minimum requirement by drafting a protocol prior to bidding.

In hindsight, it would have even been better if, [redacted]

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7 [redacted]

[redacted] The difference in [redacted] seems quite small, [redacted] Arroyo does not perceive [redacted] as being materially less attractive than the bid from Exelon. [redacted] than the [redacted]

Other observations regarding fairness:

- Arroyo did not observe PG&E treating Exelon differently [redacted] other than stating that [redacted] Indeed, PG&E provided [redacted] more detailed information about the bid process, upon request, prior to bid deadline than it did Exelon. PG&E did not share questions and answers about the e-solicitation with all potential bidders, so Exelon did not benefit from answers that [redacted]
- Arroyo speculates that PG&E would likely not have invoked [redacted] had there not been [redacted]. Arroyo does not believe that PG&E planned to use creditworthiness as a criterion as a means to systematically discriminate [redacted] in the selection process; there was no evidence observable by the IE during the entire process that suggested such an intentional systematic bias. The PG&E team's treatment [redacted]
- That being said, Arroyo was not placed to observe PG&E's internal deliberations about the choice between the two bidders; there was no steering committee meeting for PG&E management to make a formal selection that an IE could attend, as would be the case with an RPS RFO. Arroyo cannot report anything on the decision-making process that took place within PG&E to arrive at Exelon's selection, nor [redacted]
- Arroyo did not observe PG&E signaling participants in a way that advantaged any one seller over others.
- PG&E selected [redacted]

Arroyo's opinion is that PG&E handled the bidding and selection process in this RFO in a manner that led to a result that was fair to ratepayers and to competitors, but the process of using creditworthiness as [redacted] was problematic and the evaluation lacked transparency. If PG&E were to use an e-solicitation process for a REC sale in future it would be best if the team were to use some form of scoring or written review of non-valuation criteria to establish an auditable trail that the regulator could use to assess the fairness of the selection process.

Overall the use of an e-solicitation fell between PG&E's formal RPS solicitation process and a bilateral negotiation along the spectrum of openness. Arroyo believes that the competition enabled ratepayers to benefit from superior value compared to what would have resulted from prior efforts to seek a bilaterally negotiated contract. An e-solicitation process was far swifter than a formal request for bids would have been with the process of public outreach, an extended period for participants to prepare bids, and public issuance of a formal solicitation protocol. PG&E sought to have a contract in place shortly after the start of 2016 when river flows from winter runoff increase generation from the powerhouses providing the 60 GWh. The streamlined process allowed contract execution in February. Further delays in commencing deliveries would represent an opportunity loss to ratepayers.

However, the tradeoff for timeliness was to select a winning bid through a process that was opaque to participants, did not provide feedback to losing bidders, arguably contravened the CPUC's direction in Decision 04-07-029 by employing a qualitative criterion [redacted] with little or no transparency to bidders about how that criterion was designed or applied[8], and therefore could be judged to be unfair by observers.

# 6. FAIRNESS OF CONTRACT-SPECIFIC NEGOTIATIONS

This chapter provides an independent review of the extent to which PG&E's negotiations with Exelon Generation Company, LLC were conducted fairly with respect to competitors and to ratepayers. Exelon Generation Company, LLC is a subsidiary of Exelon Corporation, housing the parent's power production activities including its nuclear fleet, and serving as a creditworthy subsidiary for contracting wholesale energy transactions originated by its affiliated marketing companies such as Constellation NewEnergy.

Sonoma Clean Power, a community choice aggregator, has contracted with Exelon Generation Company to serve as its provider of renewable and non-renewable energy and capacity through the end of 2016. Those parties' contract calls for Exelon to deliver 166 GWh of PCC 1 renewable energy in calendar 2016.[9] Arroyo speculates (with no specific information) that the 60 GWh of PCC 1 energy sold to Exelon in this transaction could be used to meet Sonoma Clean Power's renewable energy needs within 2016, or to supply other retail sellers that routinely require renewable energy and that have entered into EEI master sales agreements with Exelon, such as the city of Palo Alto.[10]

[8] It is unclear to Arroyo whether explicit CPUC directions on how to conduct annual competitive solicitations to buy renewable energy apply equally to IOUs' efforts to sell renewable energy. This issue would benefit from clarification by the regulator. On basic principles, however, a solicitation in which bidders do not know specifically how their proposals will be evaluated is less than fully fair.

[9] Geof Syphers, CEO, "Sonoma Clean Power Authority Business Operations Committee: Power Purchase Briefing", February 3, 2015.

[10] City of Palo Alto, "City Council Staff Report #3564: Approval of Electric Master Agreements", March 18, 2013.

PG&E notified Exelon that its bid had been selected on December 4, 2015. The remaining parties began negotiations later that month, concluding with execution of an agreement on February 10, 2016.

Arroyo observed four telephonic negotiation sessions between the commercial teams of PG&E and Exelon. Arroyo also reviewed multiple marked-up draft contract versions in order to identify specific proposals and counterproposals the parties made in the course of discussions. The starting point for the negotiations was a version of the Edison Electric Institute form confirmation agreement, enlarged by PG&E to accommodate a transaction between parties that do not have an EEI master agreement in place.

Arroyo's opinion is that PG&E's negotiations with Exelon were conducted in a manner that was fair to ratepayers and to competitors.

## A. NEGOTIATIONS BETWEEN PG&E AND EXELON GENERATION COMPANY

PG&E's e-solicitation was intended to find a high bidder for 2016 output of three powerhouses (French Meadows, Oxbow, and Hell Hole), owned by Placer County Water Agency (PCWA), that are eligible renewable resources.[11] PG&E had contracted to purchase the output of PCWA's various hydro units under a power purchase agreement with a term of four years and eight months. Because the PCWA contract's term is less than ten years, RECs associated with these powerhouses' output cannot be banked for use in later compliance periods. PG&E has built up a substantial volume of banked RECs that it expects to use in later periods, and views the non-bankable RECs as surplus to its needs and providing greater value to ratepayers if sold than if used for compliance needs in 2016.

The parties' negotiations covered contract terms such as:

- Contract price and delivery term. [redacted]

  [redacted]

[11] The contract also names 12 geothermal generation facilities owned by Calpine for which PG&E has contracted to purchase RPS-eligible energy. With the hydroelectric powerhouses there is some hydrologic risk that total generation over the term of the Exelon contract will not reach the contract quantity of 60 GWh. Historical deliveries from the three powerhouses for an average water year have averaged about 97 GWh/year, but the watershed of the Middle Fork of the American River has been affected by the recent multi-year drought. PG&E has discretion within the contract to choose which facilities' power to deliver. The geothermal units can serve as backup in the contingency that production from the PCWA powerhouses turns out to be insufficient to fulfill contract quantity.

[redacted]

- Credit and collateral. [redacted]

- Product classification. [redacted]

- Confirmation. [redacted]

- Default. [redacted]

- Calculation of settlement amounts. [redacted]

[redacted]

- Cross-defaults. [redacted]

- Force majeure. [redacted]
- Letter of credit. [redacted]
- Limitation of liability [redacted]
- Governing law. [redacted]
- Governmental charges. [redacted]
- General. [redacted]
- Dispute resolution. [redacted]
- Confidentiality. [redacted]

Overall, while Exelon requested various changes from PG&E's form agreement, PG&E granted few concessions to accept these changes.

## B. DEGREE OF FAIRNESS OF CONTRACT-SPECIFIC NEGOTIATIONS

In Arroyo's opinion, negotiations between PG&E and Exelon were conducted fairly. Most of the negotiations focused on how best to adapt the short-form EEI confirmation agreement to accommodate a transaction where the parties do not have an executed EEI master agreement in place. Both commercial teams attempted to move the contract language closer to familiar and standard terms and conditions that the parties' managements would be willing to accept. Arroyo did not observe PG&E providing Exelon with any non-public information that advantaged sellers against ratepayers or competitors.

In most of the discussion points during the negotiation PG&E either declined to grant concessions to Exelon over contested language, or accepted suggested language into the confirmation agreement that mirrors standard industry practices. To the extent that PG&E accommodated Exelon's requests for changes to the draft, Arroyo does not view these edits as disadvantaging ratepayers in any material way. Arroyo does not believe that Exelon's competitors were harmed or disadvantaged by PG&E accepting Exelon's proposed language in these cases. In Arroyo's judgment, the balance of rights, costs, risks, and benefits between buyer and seller in the contract is consistent with what PG&E has provided to other creditworthy counterparties. On that basis Arroyo's opinion is that negotiations between the parties were handled fairly.

# 7. MERIT FOR CPUC APPROVAL

This chapter provides an independent opinion on whether PG&E's contract with Exelon Generation Company, LLC merits approval by the CPUC. It also addresses other required topics identified in the Energy Division's template for Independent Evaluators to use in preparing reports on RPS procurement.

## A. FAIRNESS OF SOLICITATION

PG&E used an e-solicitation to seek bids for the volume of PCC 1 renewable energy that it sought to sell. The process did not have many of the safeguards ensuring fairness that are put in place for PG&E's formal RPS RFOs. In particular, the e-solicitation lacked transparency for potential bidders to learn what evaluation criteria would be applied and how they would be applied. PG&E used creditworthiness [redacted]; credit is an evaluation criterion that the utility has applied in its RPS RFOs and that is stated in prior years' CPUC-approved procurement plans. However, the communications to potential bidders for this e-solicitation did not indicate that creditworthiness would be used to rank bids, or how. Prior CPUC decisions have indicated that IOUs are allowed to [redacted] but directed the utilities to make the use of such criteria transparent to participants.

Although PG&E did not make the use of the credit criterion transparent to bidders, Arroyo's opinion is that the selection of Exelon's bid on the basis [redacted] was fair. [redacted]

[redacted] Arroyo acknowledges that other observers could easily judge PG&E's treatment of the losing bidders to be unfair given the lack of transparency of the selection process.

## B. BEST OFFER RECEIVED

PG&E selected Exelon's bid for the PCC 1 renewable energy because it was the [redacted] proposal. On that basis the selected bid provides the best overall value to ratepayers. [redacted]. The distinction in creditworthiness between the two participants is of a qualitative nature related to risk of default. [redacted]

[redacted]

## C. CONSISTENCY WITH PROTOCOL AND PROCUREMENT PLAN

PG&E did not draft any written protocols for the e-solicitation for bids and PG&E did not develop a 2015 solicitation protocol in the absence of a 2015 RPS RFO, so there is no way to ascertain whether the selection of the Exelon contract conforms to a protocol. The sale of non-bankable PCC 1 renewable energy credits is consistent with PG&E's 2015 RPS procurement plan, in which PG&E's states its intent to sell non-bankable RPS volumes.

## D. MERIT FOR CPUC APPROVAL

This section reports on the IE's view of attributes of the Exelon contract.

Pricing and market value. The contract prices the PCC 1 renewable energy deliveries [redacted] There are relatively few price benchmarks available to ascertain whether this is a reasonable price, given the illiquidity and opaqueness of the market for California RPS-eligible energy. Arroyo is not a participant in REC markets itself and cannot directly monitor private transactions other than PG&E's.

PG&E did not hold a 2015 RPS solicitation. Offers to sell PCC 1 renewable energy to PG&E in the 2013 and 2014 RPS RFOs were almost all for long-term contracts; the renewable price premium embedded in a 20-year contract is not useful for comparison to a sales price with a term of less than one year. Offers to PG&E in its 2013 RPS RFO for [redacted] were for unbundled PCC 3 RECs from generation in the WECC outside California, which were also not directly comparable to the Exelon contract. Two PCC 1 Offers to PG&E in that RFO for 5-year delivery term were rejected based on non-conformance to the requirements of the solicitation. PG&E's analysis of those non-conforming proposals submitted in January 2014 suggested that their contract pricing was roughly equivalent to REC pricing [redacted]

PG&E executed a bilaterally negotiated contract to sell Tenaska Power Services Co. up to 50 GWh of PCC 1 renewable energy with non-bankable RECs over a term from April to October 2014. The contract specified possible generation facilities from which this energy would be delivered that included the same three PCWA powerhouses named in the Exelon contract and various facilities of Calpine's Geysers geothermal project. That contract was priced at [redacted]

[redacted]

Arroyo does not have access to the prices of other short-term sales contracts recently consummated by IOUs. For example, in December 2015 Southern California Edison filed a sales contract for approval by the CPUC; the agreement would sell 404 GWh of PCC 1 generation and RECs to Tenaska Energy Management. The deliveries would take place within calendar 2016. This would seem to provide an appropriate price benchmark more comparable to the Exelon sale, but the pricing is not public.

There are pricing data for renewable energy sales to or from municipal utilities and community choice aggregators that have been made public:

- In June 2015 Marin Clean Energy executed a contract to buy PCC 1 renewable energy from hydroelectric facilities of the East Bay Municipal Utility District. The term of the agreement is ten years with options to extend, beginning in July 2015. The deliveries are prices in three volume tiers as market index plus a $/MWh price premium. The actual tiered pricing is non-public but the EBMUD staff estimated revenues and volumes in a median runoff year that would equate to about $52/MWh for bundled renewable energy on average.[12] Depending on EBMUD's view of forward energy pricing that could imply an average value for the embedded PCC 1 RECs in the teens for $/MWh.

- In April 2014 Calpine Energy Services, L.P. executed a contract to sell Marin Clean Energy 25 GWh of renewable energy from power plants of the Geysers geothermal project. The term of the sale was from effective date through the end of 2015. Contract price was market index plus $20/MWh.[13]

- In October 2013 the City of Anaheim executed a power sales agreement with San Gorgonio Farms, Inc. for the PCC 1 output of a 31-MW wind generation facility in Banning Pass. Delivery term is for ten years from effective date; the contract price is market index plus $38.50/MWh.[14] Caution is needed when comparing a ten-year agreement struck more than two years ago to a 2016 contract with less than one year's term.

- The City of Colton Electric Utility Department contracted with the Metropolitan Water District to purchase up to 10 GWh of renewable energy in the months of November and December 2013, at market index price plus $30/MWh. Colton also contracted to purchase bundled renewable energy from MWD and resold the brown energy component to the City of Anaheim; the net result was purchasing unbundled RECs at prices in the range of $45 to $50/MWh in 2013.[15]

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[12] Michael J. Wallis, Director of Operations and Maintenance, "Memo to Board of Directors, East Bay Municipal Utility District: Hydropower Contract Update", May 21, 2015.
[13] Marin Clean Energy Board of Directors Meeting agenda packet: Agenda Item #7, Power Purchase Agreement with Calpine Energy Services, L.P. for Renewable Energy Supply, May 1, 2014.
[14] City of Anaheim, "Renewable Power Purchase and Sale Agreement between City of Anaheim and San Gorgonio Farms, Inc.", October 11, 2013.
[15] City of Colton, Electric Utility Department, "2013 Integrated Resource Plan", September 2013, page 23.

- In mid-2012, Alameda Municipal Power, a department of the City of Alameda, contracted to sell PCC 1 renewable energy from geothermal and landfill gas generation to the California Department of Water Resources. The term of the sale is October 2012 to the end of 2016, the expected volume is 183 GWh/year, and pricing is set to market index plus $33/MWh.[16]

- In PG&E's 2013 RPS RFO, the utility selected for its short list a group of offers that were submitted in January 2014 to sell the utility PCC 3 RECs; these were priced in the range of $3 to $4/REC. One would expect the value of unbundled RECs to be below that of PCC 1 RECs given the legislative constraints on retail sellers' ability to use them for compliance needs.

Arroyo regards the prices of transactions executed in years prior to 2015 as stale and therefore poor benchmarks for a transaction in early 2016. Based on public data one may infer that pricing of short-term PCC 1 REC transactions has generally declined since 2012.

Another set of benchmarks may be found in proposals from Exelon's competitors provided at or near the same time as Exelon's bid. In the e-solicitation [redacted] Also, [redacted] PG&E pursued bilateral discussions with a potential buyer [redacted] The buyer started the discussion with an interest in purchasing PG&E's non-bankable PCC 1 RECs produced [redacted]

Absent better public market information establishing pricing for actual PCC 1 renewable energy transactions around the Exelon contract execution date, Arroyo's opinion is that the contract price is probably reasonable and within the range of market prices for such RECs available in late 2015 and early 2016.

<u>Portfolio fit.</u> PG&E's view is that the non-bankable RECs produced by the PCWA powerhouses are surplus to the utility's needs and that the ratepayer is better served by selling them at current prices than using them for RPS compliance in the current compliance period. The rules for excess procurement of RECs that apply to 2016, set by the CPUC in Decision 12-06-038, specify that if PG&E were to use RECs produced under a short-term contract for compliance needs this year it would reduce the utility's ability to bank excess procurement from 2016 to later years by 60 GWh. It is therefore advantageous to ratepayers for these RECs to be sold within 2016 at a market competitive price rather than retired.

PG&E did not perform a Portfolio-Adjusted Value analysis of the Exelon sale contract; the utility has in the past used the PAV methodology as the core of its least-cost best-fit evaluation process. PG&E's estimates indicate that its renewable net position in the second

[16] Janet Oppio, Alameda Municipal Power, "Public Utilities Board Agenda Item 4.J.1: Renewable Energy Sale to California Department of Water Resources – Information Only", December 10, 2012, page 2.

compliance period is long, so the Exelon sale fits with the utility's portfolio strategy of reducing the surplus 2016 REC position and monetizing part of the surplus for near-term value through REC sales.

<u>Summary.</u> Based on limited market data this sale transaction was struck at a price that appears to be within the range of market pricing for PCC 1 RECs during or near the period of time the sale was being negotiated. The sale of non-bankable RECs is consistent with PG&E's 2015 RPS procurement plan and fits well with PG&E's strategy for RPS portfolio management. Such a sale creates value for ratepayers that alternative uses of these non-bankable RECs would not. The administration of the e-solicitation that led to selection of Exelon's bid fell short of the Energy Division's suggested principles for fairness of evaluation methodologies because of its lack of transparency of evaluation criteria, and similarly fails to comply with the CPUC's prior directions to IOUs for transparent use of qualitative criteria [redacted] in competitive procurement of renewable energy.

Despite the flawed process and lack of transparency with which PG&E administered the e-solicitation, Arroyo agrees with the utility that the Exelon contract merits CPUC approval based on the value it will provide to ratepayers compared to alternative disposition of these non-bankable RECs. In Arroyo's opinion the selection of the Exelon bid over [redacted] that PG&E used. Arroyo acknowledges that other observers could instead draw the conclusion that the CPUC should not approve a contract selected through a selection process that lacks transparency about evaluation criteria.

# Appendix G (Public)

# Notification of E-Solicitation

# Exelon Generation Company

# Notification of Electronic Solicitation

Subject: PG&E Issues Electronic Solicitation for 2016 PCC1 REC Sale

Dear Prospective Bidder:

Pacific Gas & Electric Company is accepting bids for up to 60,000 MWh of 2016 PCC1 non-bankable RECs.

Parties interested in procuring the entire volume or any portion thereof must submit a bid by December 2, 2015. PG&E will transact with the highest bidder that meets PG&E's credit and collateral obligations, subject to final senior management approval.

Form of transaction and price:

• Transaction will take the form of an EEI confirm. If the selected counterparty has executed an EEI with PG&E a "short form" confirm will be utilized. Absent an EEI, a "long form confirm" will be utilized. A draft short form confirm is attached. Please note this confirm is generally non-negotiable, with limited exceptions for timing of transaction and energy deliveries.

• Price: Energy Price will be Index for each MWh of Delivered Energy. Green Attributes price is negotiated (accepted bid) price.

To bid:

Submit attached bid form via email to Marie Fontenot (myf3@pge.com) and Christina Yagjian (cmy3@pge.com) cc'ing our Independent Evaluator, Lewis Hashimoto (arroyosecoconsulting@gmail.com) no later than 5:00 PM PPT December 2, 2015.

Thank you for your consideration of this Electronic Solicitation.

This correspondence is for discussion purposes only. It is not an offer to buy or sell.

Any agreements between the parties are subject to PG&E senior management approval and the prior execution of definitive documents.

# Appendix H (Public)

# E-Solicitation Bid Form

# Exelon Generation Company

Separate EEI Confirm governs the transaction

**PG&E will schedule the CAISO Inter-Scheduling Coordinator Trade (IST)**

**Delivery Period:** 2016

**Products:** PCC1 Non-bankable

| | | **Payment Index** |
|---|---|---|
| **Delivery Locations:** | NP15 | CAISO DAM LMP |

**Bidder Name:** ______________________________

| Offer # | Product | Delivery Location | Payment Index | Premium/Discount (+/-) to Index ($/MWh) | Bid Quantity | Comments |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |

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

AT&T
Albion Power Company
Alcantar & Kahl LLP
Anderson & Poole
Atlas ReFuel
BART
Barkovich & Yap, Inc.
Bartle Wells Associates
Braun Blaising McLaughlin & Smith, P.C.
Braun Blaising McLaughlin, P.C.
CENERGY POWER
CPUC
California Cotton Ginners & Growers Assn
California Energy Commission
California Public Utilities Commission
California State Association of Counties
Calpine
Casner, Steve
Center for Biological Diversity
City of Palo Alto
City of San Jose
Clean Power
Clean Power Research
Coast Economic Consulting
Commercial Energy
Cool Earth Solar, Inc.
County of Tehama - Department of Public Works
Crossborder Energy
Davis Wright Tremaine LLP
Day Carter Murphy
Defense Energy Support Center

Dept of General Services
Division of Ratepayer Advocates
Don Pickett & Associates, Inc.
Douglass & Liddell
Downey & Brand
Ellison Schneider & Harris LLP
Evaluation + Strategy for Social Innovation
G. A. Krause & Assoc.
GenOn Energy Inc.
GenOn Energy, Inc.
Goodin, MacBride, Squeri, Schlotz & Ritchie
Green Power Institute
Hanna & Morton
International Power Technology
Intestate Gas Services, Inc.
Kelly Group
Ken Bohn Consulting
Leviton Manufacturing Co., Inc.
Linde
Los Angeles County Integrated Waste Management Task Force
Los Angeles Dept of Water & Power
MRW & Associates
Manatt Phelps Phillips
Marin Energy Authority
McKenna Long & Aldridge LLP
McKenzie & Associates
Modesto Irrigation District
Morgan Stanley
NLine Energy, Inc.
NRG Solar
Nexant, Inc.

ORA
Office of Ratepayer Advocates
OnGrid Solar
Pacific Gas and Electric Company
Praxair
Regulatory & Cogeneration Service, Inc.
SCD Energy Solutions
SCE
SDG&E and SoCalGas
SPURR
San Francisco Water Power and Sewer
Seattle City Light
Sempra Energy (Socal Gas)
Sempra Utilities
SoCalGas
Southern California Edison Company
Spark Energy
Sun Light & Power
Sunshine Design
Tecogen, Inc.
Tiger Natural Gas, Inc.
TransCanada
Troutman Sanders LLP
Utility Cost Management
Utility Power Solutions
Utility Specialists
Verizon
Water and Energy Consulting
Wellhead Electric Company
Western Manufactured Housing Communities Association (WMA)
YEP Energy