BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Approval of an Amendment of its Power Purchase Agreement with Fresno Cogeneration Partners, LP and for Authority to Recover the Costs of the Amended Agreement In Rates U39E	Application No. 12-12-026

PACIFIC GAS AND ELECTRIC COMPANY'S (U 39-E)
RESPONSE TO ADMINISTRATIVE LAW JUDGE'S
REQUEST FOR ADDITIONAL INFORMATION

PUBLIC VERSION
(Redaction in Response and Appendix A)

CHARLES R. MIDDLEKAUFF

Law Department
Pacific Gas and Electric Company
77 Beale Street, B30A
San Francisco, CA 94105
Telephone: (415) 973-6971
Facsimile: (415) 973-5520
E-Mail: CRMd@pge.com

Attorney for
PACIFIC GAS AND ELECTRIC COMPANY

Dated: February 21, 2013

BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Approval of an Amendment of its Power Purchase Agreement with Fresno Cogeneration Partners, LP and for Authority to Recover the Costs of the Amended Agreement In Rates U39E	Application No. 12-12-026

PACIFIC GAS AND ELECTRIC COMPANY'S (U 39-E)
RESPONSE TO ADMINISTRATIVE LAW JUDGE'S
REQUEST FOR ADDITIONAL INFORMATION

PUBLIC VERSION
(Redaction in Response and Appendix A)

Pursuant to the *Administrative Law Judge's Ruling Setting Prehearing Conference and Requesting Additional Information* issued by Administrative Law Judge ("ALJ") Dudney on February 7, 2013 ("ALJ Ruling"), Pacific Gas and Electric Company ("PG&E") provides the following additional information in response to the ALJ Ruling. Below, PG&E has included ALJ Dudney's question and information responsive to the question.

1. Justification for specific allocation of costs and risk between PG&E ratepayers and Fresno Cogeneration LP

PG&E's objective in entering into bilateral negotiations with Fresno Cogeneration Partners, LP ("Fresno Cogen") regarding the allocation of greenhouse gas ("GHG") compliance costs was to minimize costs and risks to PG&E's customers. [redacted]

SB_GT&S_0664322

[redacted][1] In order to minimize this risk, PG&E engaged in negotiations with Fresno Cogen to try to address the GHG compliance costs through a negotiated solution.

On August 2, 2011, Fresno Cogen contacted PG&E regarding the GHG compliance cost obligations and responsibilities under the existing PPA. On May 18, 2012, Fresno Cogen and PG&E entered into a Non-Disclosure Agreement on this matter. Meetings and conference calls were held on May 18th, May 25th, and May 30th. [redacted] A second Non-Disclosure Agreement was executed on November 6, 2012 and the parties met on November 6th to finalize terms of the Amendment to resolve the parties' dispute. The Amendment was executed on December 12, 2012.

[redacted] Given these facts, PG&E believes that the allocation of costs and risks included in the Amended PPA is reasonable and in the interests of PG&E's customers.

2. The information PG&E used to derive the forecast of greenhouse gas compliance costs, including a discussion of each of the underlying numerical factors mentioned in Appendix A

The GHG compliance cost for the Fresno Cogen facility was calculated based on expected dispatch from the facility for the remaining term of the Amended PPA. Forward curves

[1] *See* Application, Appendix A at pp. 10-11.

for California Carbon Allowances, power, and natural gas and cost information associated with running the facility was incorporated and used in deriving expected dispatch. The quantity of gas usage (in MMBtu) related to dispatch was then converted to an emissions quantity (in metric tons). Using the expected emissions quantity for the remaining term of the Amended PPA and applying the forward curve for California Carbon Allowances, an expected GHG compliance cost was calculated and adjusted for time value of money. Below is a discussion of the underlying numerical factors discussed in Appendix A. All forward curves discussed below were based on data available on [redacted].

- [redacted]
- [redacted]
- [redacted]
- [redacted]

3. **Additional information on the level of uncertainty in the forecast of greenhouse gas compliance costs, including each of the underlying numerical factors mentioned in Appendix A. PG&E should provide a simple sensitivity analysis of the forecast of greenhouse gas compliance costs over a reasonable range of uncertainty for each factor.**

Uncertainty in the forecast of GHG compliance costs quoted in Appendix A is primarily driven by uncertainty in the forward curves for California Carbon Allowances, power, and natural gas. In addition to the analysis presented in Appendix A (*i.e.*, the Base Case), PG&E ran four additional stress cases modeling changes to the market heat rate[2] and GHG allowance prices and calculated the resulting impact to the GHG compliance cost and the net cost to PG&E's customers. As further detailed below, the first two scenarios (High/Low Heat Rate Case) provide a sensitivity analysis around market heat rate by increasing/decreasing it by a factor of 1, which is a reasonable range given historical market heat rate volatility. The last two scenarios (High/Low GHG Price) provide a sensitivity analysis around uncertainty due to the price of carbon allowances by using the ceiling and floor prices of the CARB auctions for allowances specified as there is not yet a good estimate of price volatility for allowances. [redacted]

	Base Case PV Million $	High Heat Rate PV Million $	Low Heat Rate PV Million $	High GHG Price PV Million $	Low GHG Price PV Million $
Expected Value of Carbon Dioxide Costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Value of Capacity Price Reduction (Offset)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Net Cost to PG&E's Customers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
% Change in Carbon Dioxide Costs Relative to Base Case	N/A	[redacted]	[redacted]	[redacted]	[redacted]
% Change in Net Cost to PG&E's Customers Relative to Base Case	N/A	[redacted]	[redacted]	[redacted]	[redacted]

1) <u>High Heat Rate Case:</u> [redacted]

2 [redacted]

SB_GT&S_0664325

2) Low Heat Rate Case: [redacted]

3) High GHG Price Case: [redacted]

4) Low GHG Price Case: [redacted]

4. A public version of Appendix A that redacts only those specific details that PG&E believes must be held confidential

A redacted version of Appendix A to PG&E's Application is attached to this response to the ALJ Ruling as Public Appendix A. PG&E has redacted from Appendix A the portions of the Appendix that it believes need to remain confidential consistent with Decision 06-06-066 and General Order 66-C.

5. A description of how this application is or is not consistent with Public Utilities Code Section 451, including the safety considerations therein. Also, enumerate the statutes and other authorities that govern the safe and reliable operation of the facility by Fresno Cogeneration, LP

Public Utilities Code Section 451 requires that all charges demanded or received by a public utility are just and reasonable. PG&E has demonstrated in its Application and the response to the ALJ Ruling that the Amended PPA is just and reasonable and in the interest of PG&E's customers.

Section 451 also provides that "[e]very public utility shall furnish and maintain such adequate, efficient, just and reasonable service, instrumentalities, equipment, and facilities . . . as are necessary to promote safety, health, comfort, and convenience of its patrons, employees, and the public." In this case, PG&E does not own or operate the Fresno Cogen facility and thus it cannot directly control the safe operation of the plant. However, the PPA does include several contractual requirements regarding Fresno Cogen's safe operation of its facility. Specifically, the PPA[3] includes the following provisions:

> **A-4.1 Facility Operation and Maintenance:** Seller shall operate and maintain the Facility according to <u>prudent electrical practices</u>, applicable laws, orders, rules, and tariffs and shall provide such reactive power support as may be reasonably required by PG&E to maintain system voltage level and power factor.[4]
>
> **<u>Prudent electrical practices</u> (Definition)**: Those practices, methods, applicable codes and acts engaged in or approved by a significant portion of the electric power industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time a decision is made, that could have been expected to accomplish a desired result at a reasonable cost consistent with good business practices, reliability, safety, efficiency and expedition. <u>Prudent electrical practices</u> are not intended to be limited to the optimum practices, methods or acts to the exclusion of others, but rather those practices, methods and acts generally accepted or approved by a significant portion of the electric power industry in the relevant region, during the relevant time period, as described in the immediately preceding sentence.

[3] Because these provisions are included in the existing PPA, which was executed in May 2006, they are no longer confidential. *See* D.06-06-066, Appendix 1 at p. 15, Item VII.B (contract terms are confidential from three years from date contract states deliveries to begin). New terms and conditions added to the Amended PPA will remain confidential for thre e years after the Amended PPA is approved by the Commission.

[4] Underlined terms in the PPA are defined terms.

A-l 1 Liability: Dedication

> (b) Each Party shall be responsible for protecting its facilities from possible damage by reason of electrical disturbances or faults caused by the operation, faulty operation, or non-operation of the other Party's facilities, and such other Party shall not be liable for any such damages so caused.

Section A-4.1 requires Fresno Cogen to operate consistent with prudent electrical practices, which is a defined term in the Amended PPA. Prudent electrical practices encompass a number of elements, including safety. Section A-11 requires Fresno Cogen to operate its facility in a way to protect it from electrical disturbances or faults, which could create a safety risk at the facility.

In addition to these contractual provisions, the Commission's General Order ("GO") 167 applies to Fresno Cogen as a power plant operator in California. The purpose of GO 167 is to "implement and enforce standards for the maintenance and operation of electric generating facilities and power plants so as to maintain and protect the public health and safety of California residents and businesses, to ensure that electric generating facilities are effectively and appropriately maintained and efficiently operated, and to ensure electrical service reliability and adequacy."[5] There are a number of reporting and operations and maintenance requirements in GO 167 that impact the safe operation of the facility. Finally, Fresno Cogen's operation of the

///

///

///

---

[5] GO 167, Section 1.0.

facility is subject to California Occupational Health and Safety ("OSHA") regulations and applicable safety requirements in the Fresno Cogen facility permits. PG&E does not have copies of these permits.

Respectfully submitted,

By: *__/s/ Charles R. Middlekauff__*
CHARLES R. MIDDLEKAUFF

Law Department
Pacific Gas and Electric Company
77 Beale Street, B30A
San Francisco, CA 94105
Telephone: (415) 973-6971
Facsimile: (415) 973-5520
E-Mail: CRMd@pge.com

Attorney for
PACIFIC GAS AND ELECTRIC COMPANY

Dated: February 21, 2013

Appendix A

Redacted Version of Appendix A to Application

(Public Version)

I. OVERVIEW OF AMENDMENT

A. Deal Structure

The Amendment provides that Pacific Gas and Electric Company ("PG&E") will compensate Fresno Cogeneration Partners LP ("Fresno Cogen") towards Fresno Cogen's cost of compliance with Assembly Bill ("AB") 32 associated with carbon dioxide emissions resulting from PG&E's dispatch of the Fresno Cogen facility ("Facility") under the Amended and Restated Power Purchase Agreement ("Amended PPA") between PG&E and Fresno Cogen. [redacted] In exchange for this compensation, PG&E will receive a reduction in the Amended PPA monthly capacity payment to Fresno Cogen for the remainder of the Amended PPA term. [redacted]

B. GHG Compliance Costs

PG&E's compensation to Fresno Cogen is calculated using a formula that calculates an emission quantity which reflects the carbon dioxide emissions associated with PG&E's dispatch of Fresno Cogen's Facility. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

C. Capacity Price Reduction

PG&E's monthly capacity payment to Fresno Cogen will be reduced by [redacted]

[redacted]

II. DETAILED DESCRIPTION OF AMENDMENT PROVISIONS

Note: Capitalized terms have the meanings provided by Amendment or the PPA, unless otherwise noted.

Term/Condition	Details
[redacted]	[redacted]
[redacted]	[redacted]

SB_GT&S_0664333

Term/Condition	Details
[redacted]	[redacted] [redacted] [redacted] [redacted]
[redacted]	[redacted] [redacted]
[redacted]	[redacted] [redacted] [redacted] [redacted]

Term/Condition	Details
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Term/Condition	Details
[redacted]	[redacted]

III. ANALYSIS OF CAPACITY PRICE REDUCTION BENEFITS RELATIVE TO GHG COMPLIANCE COSTS

A. Forward Price Curves Are Used to Estimate the Cost of the Amendment

PG&E analyzed the expected cost of GHG compliance for the Facility using the latest market-based forward curves for California Carbon Allowances, power, and gas that are developed and used by PG&E for quantitative analysis including contract valuation.[1] To calculate the Facility's expected cost of GHG compliance, PG&E estimated its energy gross margins as well as expected amount of gas usage.[2] Based on the expected amount of gas use, the amount of carbon dioxide ("CO_2") emissions was calculated.[3] Assuming that PG&E incorporates the cost of emissions resulting from the gas burn in its daily economic bid of the Facility into the California Independent System Operator ("CAISO") markets, the Facility is expected to have an annual capacity factor of approximately [redacted]ich yields an approximately [redacted] of CO_2 per year.[4] Using PG&E's forward curve for Carbon Allowances, this

1 [redacted]

2 This is using the same methodology that PG&E used in the 2008 Long Term Request for Offers and all bilateral contract negotiations involving dispatchable resources.

3 [redacted]

4 [redacted]

amount of CO_2 emissions is estimated to cost [redacted] in present value for the remaining seven (7) years of the Amended PPA. The present value of the capacity price reduction that PG&E will receive over the contract term above is a benefit of [redacted]. [redacted] This [redacted] is illustrated in the Table below.

[redacted] GHG Compliance Cost Exposure [redacted]
[redacted] for Remaining Years of Contract Term

	$ in Present Value	$/kw-yr levelized
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

B. Economic Benefits for PG&E's Customers Have Been Achieved Through Negotiation

[redacted]

[redacted]

C. **PG&E Avoids Potential Liability for 100% of Fresno Cogen's GHG Costs**

The capacity price reduction negotiated by PG&E is reasonable [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]