

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



April 19, 2010

**Advice Letter 3514-E**

Jane K. Yura  
Vice President, Regulation and Rates  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B10B  
P.O. Box 770000  
San Francisco, CA 94177

**Subject: First Amendment to the Power Purchase Agreement for Procurement of Eligible Renewable Energy Resources between Topaz Solar Farms LLC and PG&E Company**

Dear Ms. Yura:

Advice Letter 3514-E is effective February 25, 2010 per Resolution E-4314.

Sincerely,

A handwritten signature in blue ink that reads "Julie A. Fitch".

Julie A. Fitch, Director  
Energy Division



August 21, 2009

**Advice 3514-E**  
(Pacific Gas and Electric Company ID U39 E)

Public Utilities Commission of the State of California

**Subject: First Amendment to the Power Purchase Agreement for Procurement of Eligible Renewable Energy Resources between Topaz Solar Farms LLC and Pacific Gas and Electric Company**

## **I. INTRODUCTION**

### **A. Purpose**

Pacific Gas and Electric Company (“PG&E”) seeks California Public Utilities Commission (“Commission” or “CPUC”) approval of an amendment (“First Amendment”) to a CPUC-approved Renewables Portfolio Standard (“RPS”) Power Purchase Agreement (“PPA”) between Topaz Solar Farms LLC (“Topaz”) and PG&E. PG&E requests that the Commission issue a resolution no later than December 17, 2009 approving the PPA as amended by the First Amendment and containing the findings as set forth in Section VI below.

### **B. Background**

The RPS-eligible PPA with Topaz resulted from PG&E’s 2007 RPS solicitation and is for a 550 megawatt (“MW”) solar photovoltaic (“PV”) facility located on the Carrizo Plain in San Luis Obispo County, California. PG&E filed the PPA for Commission approval on August 14, 2008 in Advice Letter 3313-E. The CPUC approved the PPA without modification on January 29, 2009 in Resolution (“Res.”) E-4221.

When the PPA was executed, Topaz was wholly owned by OptiSolar, Inc. (“OptiSolar”). First Solar, Inc. (“First Solar”) has since acquired Topaz and other development assets of

OptiSolar. First Solar is a manufacturer of thin film PV modules and provides Topaz with an established source of PV panels for the Project.<sup>1</sup>

In the spring of 2009, First Solar notified PG&E that Topaz, its wholly-owned subsidiary, would not be able to perform under the PPA due to Project cost increases. These increases are due to differences between OptiSolar and First Solar's Project assumptions, equipment, and operations and to overall economic conditions that differ from those existing when Topaz and PG&E executed the PPA.

After intensive negotiations, PG&E and First Solar were able to agree on the terms of an amended PPA. The First Amendment modifies the PPA pricing terms, performance assurance requirements, delivery term, and milestones. The amended PPA price is above the relevant Market Price Referent ("MPR"), but is comparable with other recent, similar RPS transactions.

Most importantly, as discussed in Confidential Appendix D, the First Amendment will improve the overall viability of this large PV Project. Given the challenges facing PG&E and California's other utilities in meeting the state's ambitious RPS goals, the First Amendment, which provides comparable prices for a viable project, is reasonable and should be approved by the Commission.

To avoid duplication, the public portion of this Advice Letter focuses on those items listed in the public section of Energy Division's advice letter template that have changed as a result of the First Amendment or due to the time that has elapsed since PG&E filed the PPA for Commission approval in August 2008. Items not addressed in this Advice Letter are listed in the table below.

<b>Energy Division Advice Letter Template – Public Section – Items Not Addressed</b>
1. Consistency with CPUC Decisions, RPS Procurement Plan; Section II.A.
2. Consistency with CPUC Decisions, RPS Solicitation; Section II.B.
3. Consistency with CPUC Decisions, LCBF Methodology and Evaluation; Section II.C. <sup>2</sup>
4. Consistency with CPUC Decisions, Interim Emissions Performance Standard; Section II.H.
5. Regulatory Process, RPS Eligibility Certification; Section V.A.

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<sup>1</sup> The term Project as used herein has the meaning set forth in the PPA as amended by the First Amendment.

<sup>2</sup> PG&E has compared the amended PPA against projects on its 2008 RPS solicitation shortlist and projects currently under negotiation, as required by Res. E-4199. The results of this comparison are addressed below and in the Confidential Appendices to this Advice Letter.

### **C. Description of the First Amendment**

As discussed above, the First Amendment addresses changed facts and circumstances relating to the development of the Project. It provides for the following modifications to the PPA:

1. An increase in the Contract Price.
2. An increase in the delivery term of the PPA from 20 to 25 years.
3. An increase in performance assurance requirements.
4. A one-year delay of on-line milestones and a similar delay of other development milestones.
5. A change in Contract Quantity from an average of 1,096 gigawatt hours (“GWh”) per year to an average of 1,066 GWh per year over the 25 year delivery term.

As discussed in Confidential Appendix D, other modifications were made to the Contract Quantity and scheduling terms and a new provision was added to facilitate future financing of the Project. Except for the modifications described above and in Confidential Appendix D, no other major provisions of the PPA have been modified or changed by the First Amendment.

Under the PPA as amended by the First Amendment, deliveries from up to 150 MW of capacity from the first phase of the Project are anticipated by December 31, 2012. Aggregate deliveries from up to 400 MW of capacity from the second phase of the Project are anticipated by December 31, 2013. These deliveries may contribute significantly towards PG&E’s RPS goals through the use of flexible compliance mechanisms. When completed in 2014, the Project is expected to deliver an average of 1,066 GWh per year over the PPA’s delivery term.

The table on the following page summarizes the substantive features of the PPA as amended by the First Amendment:

<b>Owner / Developer</b>	Topaz Solar Farms LLC
<b>Technology</b>	As-available, PV solar power
<b>Capacity (MW)</b>	550 MW
<b>Average Capacity Factor</b>	22%
<b>Expected Generation (GWh/Year)</b> <i>[Amended term]</i>	Average of 1,066 GWh per year
<b>Online Date (if existing, the contract delivery start date)</b> <i>[Amended term]</i>	Phasing in between December 31, 2011 and June 30, 2014. Guaranteed Commercial Operation Date for 550 MW is June 30, 2014.
<b>Contract Term (Years)</b> <i>[Amended term]</i>	25 years following the phase-in period
<b>New or Existing Facility</b>	New
<b>Location (include in/out-of-state) and Control Area (e.g., CAISO, BPA)</b>	Carrizo Plain, San Luis Obispo County, California CAISO control area
<b>Price relative to MPR</b> <i>[Amended term]</i>	Above

## II. THE PPA AS AMENDED BY THE FIRST AMENDMENT IS CONSISTENT WITH THE COMMISSION'S RPS DECISIONS AND RESOLUTIONS

### A. Compliance with Resolution E-4199

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

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

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

### 1. The Increase in the Contract Price is Justified

PG&E performed due diligence on First Solar's requested changes as PG&E and First Solar negotiated the First Amendment. As Contract Price was one of the amended terms, PG&E used the guidance provided in Res. E-4199 as a framework for evaluating the amended price. First Solar provided, and PG&E reviewed, the original Project cost assumptions developed by OptiSolar, the changes to the assumptions made by First Solar, the cash flow models associated with OptiSolar assumptions and with First Solar assumptions, and additional supporting documentation for Project costs and timelines. As more than a year has passed since the original negotiation, assumptions on requirements for items such as permitting and transmission have been refreshed with the latest information available. Confidential Appendix D contains a thorough explanation of the changes in assumptions and resulting price implications.

Based on the review of the cash flow models, supporting information provided by First Solar, and due diligence on cost assumptions, PG&E concluded that the price increase is justified.

**2. The PPA as amended by the First Amendment is competitive as compared to current market data**

The PPA as amended by the First Amendment is competitive with and would rank within the range of PV projects that were shortlisted in the 2008 RPS solicitation. Additional information on the comparison of the amended PPA against current market data is provided in the Confidential Appendices to this advice letter.

**B. PRG Participation and Feedback**

The Procurement Review Group (“PRG”) for PG&E includes representatives of the California Department of Water Resources, the Commission’s Energy Division and Division of Ratepayer Advocates, Union of Concerned Scientists, the Utility Reform Network, the California Utility Employees, and Jan Reid, as a PG&E ratepayer. PG&E informed its PRG of the terms of the First Amendment on May 15, 2009 and June 12, 2009. PG&E describes the PRG’s feedback in Confidential Appendix D.

**C. RPS Goals**

Senate Bill (“SB”) 1078 established the California RPS Program, requiring an electrical corporation to increase its use of eligible renewable energy resources to 20 percent of total retail sales no later than December 31, 2017. The legislature subsequently accelerated the RPS goal to reach 20 percent by the end of 2010. In addition, California is actively considering increasing its renewable goals beyond the current 20 percent renewable energy target. Governor Schwarzenegger’s Executive Order issued in November 2008 describes a new target for California of 33 percent renewable energy by 2020. The California Legislature is actively considering legislation increasing the overall RPS target to 33 percent. Finally, the California Air Resource Board’s Scoping Plan, adopted in December 2008, identifies an increase in the renewables target to 33 percent by 2020 as a key measure for reducing greenhouse gas emissions and meeting California’s emission reduction goals. With deliveries anticipated in 2012 and 2013, the PPA as amended by the First Amendment may contribute to PG&E’s RPS goals in 2010 through the use of flexible compliance mechanisms, and will also contribute to RPS goals in the years beyond 2010.

**D. Consistency with Adopted Standard Terms and Conditions**

PG&E has updated the Commission’s non-modifiable term for the definition of Green Attributes in the First Amendment to conform to Decision (“D.”) 08-08-028, which was issued after PG&E executed and filed the PPA for Commission approval in August 2008. Additional modifications have also been made to several of the terms designated as

modifiable in D.07-11-025 and D.08-04-009. A comparison of the modifiable terms in the PPA as amended by the First Amendment against the modifiable terms in the PPA submitted in August 2008 is provided in Confidential Appendix H.

#### **E. Minimum Quantity**

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

The PPA as amended by the First Amendment is a long-term contract and thus counts toward PG&E's contracting obligation under D.07-05-028. Because the PPA was executed in 2008, PG&E counted the contract volume under the PPA toward its 2008 minimum quantity obligation. PG&E will continue to count the PPA as amended by the First Amendment toward its 2008 obligation, but will decrease the contract quantity from 1,096 GWh to 1,066 GWh to reflect the contract quantity as amended by the First Amendment. PG&E is still in compliance with its 2008 minimum quantity requirement.

#### **F. Interim Emissions Performance Standard**

In D.07-01-039, the Commission adopted an Emissions Performance Standard ("EPS"), which applies to contracts for a term of five or more years for the purchase of baseload generation with an annualized plant capacity factor of at least 60 percent. The PPA as amended by the First Amendment is not a form of covered procurement subject to the EPS because the generating facility has a forecast annualized capacity factor of less than 60 percent and therefore does not constitute baseload generation as defined by statute and the Adopted Interim EPS Rules. Notification of compliance with D.07-01-039 is provided through this Advice Letter, which has been served on the service list in the RPS rulemaking, R.08-08-009.

#### **G. MPR and AMFs**

The actual price under the First Amendment is confidential, market sensitive information. Since the First Amendment involves an increase in the Contract Price, it is appropriate to compare the amended price with the most recently approved market price referent ("MPR") and the Time of Delivery ("TOD") factors associated with that solicitation

year,<sup>3</sup> which are the 2008 MPR established in Resolution E-4214 on December 18, 2008 and PG&E's 2008 TOD factors. The First Amendment price is above the applicable 2008 MPR.

As the PPA is a long-term contract for a bundled renewable energy product from a new facility that was selected through PG&E's competitive solicitation, the PPA is consistent with SB 1036 and is eligible for above-market funds ("AMFs"). Because the change in contract price and milestones under the First Amendment modifies the Project's AMFs calculation, PG&E has submitted revised AMFs information in Confidential Appendix D.

### **III. PROJECT DEVELOPMENT STATUS**

#### **A. Site Control**

Topaz has site control. Project siting and Topaz's control over the site are discussed in Confidential Appendix D.

#### **B. Resource and/or Availability of Fuel**

The Project's primary fuel is sunlight. The Project does not require a supplemental gas powered electrical generation facility as backup.

Further information regarding fuel availability is provided in Confidential Appendix D.

#### **C. Transmission**

Topaz will interconnect to PG&E's Morro Bay – Midway 230 kV transmission line. Further discussions regarding transmission are included in Confidential Appendix D.

#### **D. Technology Type and Level of Technology Maturity**

Topaz will use First Solar's high efficiency, thin-film PV panels, combined with a modular PV array system that will also be manufactured by First Solar. These panel/array systems, known as "modules," are currently deployed in free-field, commercial rooftop, and residential rooftop solar power applications worldwide. The PV

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

panel technology has been in commercial use for over a decade and can be found in multiple utility-scale installations throughout the United States.

### **E. Permitting**

The following table summarizes key, non-confidential permits, agreements and licenses PG&E is currently aware of that may be necessary for the construction and operation of the generation facility. Permitting and leases are further addressed in Confidential Appendix D.

<b>Permit and Lease Table</b>		
<b>Name of Permit or lease required</b>	<b>Public or Private</b>	<b>Agency</b>
Land Use Agreement	Private	
Clean Water Act Section 404	Public	U.S. Environmental Protection Agency
Exempt Wholesale Generator	Public	Federal Energy Regulatory Commission
Market Based Rates Filing	Public	Federal Energy Regulatory Commission
Endangered/Threatened Species Take Authorization	Public	U.S. Fish and Wildlife Service
Permit to Encroach upon a State Highway Approach	Public	CalTrans
Construction Stormwater General and NPDES 1200C'	Public	California Central Coast Regional Water Quality Control Board
Section 401 Clean Water Act Certification	Public	California Central Coast Regional Water Quality Control Board
Streambed Alteration Agreement	Public	California Department of Fish and Game
Section 2081 Endangered/Threatened Species Take Authorization	Public	California Department of Fish and Game
Historical Preservation and Cultural Review	Public	State Historic Preservation Officer
Conditional Use Permit – Solar Energy Facility	Public	San Luis Obispo County Planning Department and Planning Commission
County Road Encroachment Permit	Public	San Luis Obispo County Department of Public Works

## **F. Developer Experience**

Topaz is a wholly-owned subsidiary of First Solar, which will manufacture the PV panels for the Project. First Solar is a well-capitalized public company, with 2008 revenues of over \$1.2 billion. Having produced 60 MW of systems in 2006, 206 MW in 2007, and 504 MW in 2008, First Solar claims to be the largest thin film solar module manufacturer in the world. First Solar has supplied panels to, constructed, and operated several utility-scale PV plants, including Sempra's 10 MW El Dorado plant in Nevada.

The Project's vertical integration, combined with First Solar's development experience, allows the Project more cost certainty and better control over production timelines.

## **G. Financing Plan**

The PPA will be PPA-financed. Additional information is provided in Confidential Appendix D.

## **H. Production Tax Credit/Investment Tax Credit**

According to Topaz, the Project will make use of the Federal Investment Tax Credit ("ITC") for solar renewable energy facilities. Further details are addressed in Confidential Appendix D.

## **I. Equipment Procurement**

As discussed above, equipment procurement will be vertically integrated, with Topaz obtaining the Project's PV modules from its parent, First Solar. Further details are included in Confidential Appendix D.

## **IV. CONTINGENCIES AND PROJECT MILESTONES**

As explained above, the First Amendment delays on-line and other contract milestone dates by approximately one year. These milestones are further discussed in Confidential Appendix D.

## **V. REGULATORY PROCESS**

### **A. Requested Effective Date**

PG&E requests that the Commission issue a resolution approving this advice filing no later than **December 17, 2009**. Justification for this date is provided in Confidential Appendix D.

### **B. Earmarking**

PG&E intends to earmark deliveries received from the PPA as amended by the First Amendment toward meeting its RPS obligations or goals, as needed, but reserves the right to update its earmarking strategy for this contract.

### **C. Request for Confidential Treatment**

In support of this Advice Letter, PG&E submits the following confidential information in the manner directed by the August 22, 2006 Administrative Law Judge's Ruling Clarifying Interim Procedures for Complying with D.06-06-066 and D.08-04-023 to demonstrate the confidentiality of the material and to invoke the protection of confidential utility information provided under either the terms of the IOU Matrix, Appendix 1 of D.06-06-066 and Appendix C of D.08-04-023, or General Order 66-C. A separate Declaration Seeking Confidential Treatment regarding the confidential information is filed concurrently herewith.

### **Confidential Attachments:**

**Appendix A – Overview of 2004 – 2008 Solicitation Bids**

**Appendix B – 2008 Bid Evaluations**

**Appendix C – Independent Evaluator Report (Confidential)**

**Appendix D – Contract Terms and Conditions Explained**

**Appendix E – Project Viability**

**Appendix F – Project's Contribution Toward RPS Goals**

**Appendix G – First Amendment to Power Purchase Agreement**

**Appendix H – Standard Terms and Conditions Comparison – Modifiables****Public Attachment:****Appendix I –Independent Evaluator Report (Public)****VI. REQUEST FOR COMMISSION APPROVAL**

PG&E requests that the Commission issue a resolution no later than **December 17, 2009** that:

1. Approves the PPA as amended by the First Amendment in its entirety, subject to the Commission's review of PG&E's administration of the PPA as amended by the First Amendment.
2. Approves all contracted-for payments to be made by PG&E for the purchase of renewable energy generated by the Project.
3. Finds that any procurement pursuant to the PPA as amended by the First Amendment is procurement from an eligible renewable energy resource for purposes of determining PG&E's compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California RPS (Public Utilities Code Section 399.11 et seq.), D.03-06-071 and D.06-10-050, or other applicable law.
4. Finds that PG&E's contracted-for procurement of renewable energy generated by the Project is procurement from an eligible renewable energy resource for purposes of determining PG&E's compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California RPS (Public Utilities Code Section 399.11 et seq.), D.03-06-071 and D.06-10-050, or other applicable law.
5. Finds that all procurement and administrative costs, as provided by Public Utilities Code section 399.14(g), associated with PG&E's contracted-for purchase of renewable energy generated by the Project shall be recovered in rates.
6. Adopts the following conclusions of law in support of CPUC Approval:

- a. The terms of the PPA as amended by the First Amendment, including the price of delivered energy, are reasonable.
  - b. PG&E's entry into the PPA as amended by the First Amendment is reasonable.
7. Adopts the following finding of fact and conclusion of law in support of cost recovery:
  - a. The utility's contracted-for costs for the purchase of renewable energy generated by the Project shall be recovered through PG&E's Energy Resource Recovery Account.
  - b. Any stranded costs that may arise from PG&E's contracted-for purchase of renewable energy generated by the Project are subject to the provisions of D.04-12-048 that authorize recovery of stranded renewables procurement costs over the life of the applicable contract. The implementation of the D.04-12-048 stranded cost recovery mechanism is addressed in D.08-09-012.
8. Adopts the following finding with respect to resource compliance with the EPS adopted in R.06-04-009:
  - a. The PPA as amended by the First Amendment is not a covered procurement subject to the EPS because the generating facility has a forecast annualized capacity factor of less than 60 percent and therefore does not constitute baseload generation as defined by statute and the Adopted Interim EPS Rules.

**Protests:**

Anyone wishing to protest this filing may do so by sending a letter by **September 10, 2009**, which is **20** days from the date of this filing. The protest must state the grounds upon which it is based, including such items as financial and service impact, and should be submitted expeditiously. Protests should be mailed to:

CPUC Energy Division  
Attention: Tariff Unit, 4<sup>th</sup> Floor  
505 Van Ness Avenue

San Francisco, California 94102

Facsimile: (415) 703-2200

E-mail: mas@cpuc.ca.gov and jnj@cpuc.ca.gov

Copies should also be mailed to the attention of the Director, Energy Division, Room 4005 and Honesto Gatchalian, Energy Division, at the address shown above.

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

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

Facsimile: (415) 973-7226

E-Mail: PGETariffs@pge.com

**Effective Date:**

PG&E requests that the Commission issue a resolution approving this advice filing no later than **December 17, 2009**.

**Notice:**

In accordance with General Order 96-B, Section IV, a copy of this Advice Letter excluding the confidential appendices is being sent electronically and via U.S. mail to parties shown on the attached list and the service lists for R.08-08-009, R.06-02-012 and R.08-02-007. Address changes should be directed to San Heng at (415) 973-2640. Advice letter filings can also be accessed electronically at <http://www.pge.com/tariffs>.

*Brian K. Cherry (sc)*

Brian K. Cherry  
Vice President - Regulatory Relations

cc: Service List for R.08-08-009

Service List for R.06-02-012  
Service List for R.08-02-007  
Paul Douglas – Energy Division  
Sean Simon – Energy Division

#### Attachments

#### **Limited Access to Confidential Material:**

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

#### **Confidential Attachments:**

**Appendix A – Overview of 2004 – 2008 Solicitation Bids**

**Appendix B – 2008 Bid Evaluations**

**Appendix C – Independent Evaluator Report (Confidential)**

**Appendix D – Contract Terms and Conditions Explained**

**Appendix E – Project Viability**

**Appendix F – Project’s Contribution Toward RPS Goals**

**Appendix G – First Amendment to Power Purchase Agreement**

**Appendix H – Standard Terms and Conditions Comparison – Modifiables**

#### **Public Attachment:**

**Appendix I – Independent Evaluator Report (Public)**

# CALIFORNIA PUBLIC UTILITIES COMMISSION

## ADVICE LETTER FILING SUMMARY ENERGY UTILITY

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

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

Utility type:

ELC       GAS  
 PLC       HEAT     WATER

Contact Person: David Poster and Sally Cuaresma

Phone #: (415) 973-1082; (415) 973-5012

E-mail: DXPU@pge.com; A2C7@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) #: **3514-E**

Tier: **[3]**

Subject of AL: **First Amendment to the Power Purchase Agreement for Procurement of Eligible Renewable Energy Resources between Topaz Solar Farms, LLC and Pacific Gas and Electric Company**

Keywords (choose from CPUC listing): Contracts; Agreements

AL filing type:  Monthly  Quarterly  Annual  One-Time  Other \_\_\_\_\_

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

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

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

Confidential information will be made available to those who have executed a nondisclosure agreement: All members of PG&E's Procurement Review Group who have signed nondisclosure agreement will receive the confidential information.

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: Neha Patel, (415) 973-6095

Resolution Required?  Yes  No

Requested effective date: **December 17, 2009**

No. of tariff sheets: N/A

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

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

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

Tariff schedules affected:

Service affected and changes proposed:

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

**CPUC, Energy Division**  
**Tariff Files, Room 4005**  
**DMS Branch**  
**505 Van Ness Ave., San Francisco, CA 94102**  
**jn@cpuc.ca.gov and mas@cpuc.ca.gov**

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

**DECLARATION OF NEHA R. PATEL  
SEEKING CONFIDENTIAL TREATMENT  
FOR CERTAIN DATA AND INFORMATION CONTAINED IN  
ADVICE LETTER 3514-E  
(PACIFIC GAS AND ELECTRIC COMPANY - U 39 E)**

I, Neha R. Patel, declare:

1. I am presently employed by Pacific Gas and Electric Company (“PG&E”), and have been an employee at PG&E since 2008. My current title is Principal within PG&E’s Energy Procurement organization. In this position, my responsibilities include negotiating PG&E’s Renewable Portfolio Standard Program power purchase agreements with counterparties in the business of producing electric energy. In carrying out these responsibilities, I have acquired knowledge of such sellers in general and, based on my experience in dealing with facility owners and operators, I am familiar with the types of data and information about their operations that such owners and operators consider confidential and proprietary.

2. Based on my knowledge and experience, and in accordance with Decision (“D.”) 08-04-023 and the August 22, 2006 the “Administrative Law Judge’s Ruling Clarifying Interim Procedures for Complying with Decision 06-06-066,” I make this declaration seeking confidential treatment of Appendices A, B, C, D, E, F, G, and H to Advice Letter 3514-E submitted on a August 21, 2009. By this Advice Letter, PG&E is seeking the Commission’s approval of an amendment to a power purchase agreement that PG&E has executed with Topaz Solar Farms, LLC.

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

that should be protected under General Order 66-C. The matrix also specifies the category or categories in the IOU Matrix to which the data and information corresponds, and why confidential protection is justified. Finally, the matrix specifies that: (1) PG&E is complying with the limitations specified in the IOU Matrix for that type of data or information; (2) the information is not already public; and (3) the data cannot be aggregated, redacted, summarized or otherwise protected in a way that allows partial disclosure. By this reference, I am incorporating into this declaration all of the explanatory text in the attached matrix that is pertinent to this filing.

I declare under penalty of perjury, under the laws of the State of California, that to the best of my knowledge the foregoing is true and correct. Executed on August 20, 2009 at San Francisco, California.



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Neha R. Patel

PACIFIC GAS AND ELECTRIC COMPANY Advice Letter 3514-E August 21, 2009		IDENTIFICATION OF CONFIDENTIAL INFORMATION PER DECISION 06-06-066 AND DECISION 08-04-023		PG&E's Justification for Confidential Treatment		Length of Time
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 and Appendix C to D.08-04-023 (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)	
1 Document: Advice Letter 3514-E	Y	Item VIII A) Bid information and B) Specific quantitative analysis involved in scoring and evaluation of participating bids.	Y	Y	Y	For information covered under Item VIII A), remain confidential until after final contracts submitted to CPUC for approval  For information covered under Item VIII B), remain confidential for three years after winning bidders selected
2 Appendix A	Y	Item VIII A) Bid information and B) Specific quantitative analysis involved in scoring and evaluation of participating bids.	Y	Y	Y	For information covered under Item VIII A), remain confidential until after final contracts submitted to CPUC for approval  For information covered under Item VIII B), remain confidential for three years after winning bidders selected
3 Appendix B	Y	Item VIII A) Bid information and B) Specific quantitative analysis involved in scoring and evaluation of participating bids.	Y	Y	Y	For information covered under Item VIII A), remain confidential until after final contracts submitted to CPUC for approval  For information covered under Item VIII B), remain confidential for three years after winning bidders selected
4 Appendix C	Y	Item VIII A) Bid information and B) Specific quantitative analysis involved in scoring and evaluation of participating bids. Item VII F) Renewable Resource Contracts under RPS program - Contracts with SEPs. Item VII (un-numbered category following VII G) Score sheets, analyses, evaluations of proposed RPS projects. General Order 66-C.	Y	Y	Y	This Appendix contains bid information and bid evaluations from the 2007 and 2008 solicitations, discusses, analyzes and evaluates the Project, the terms of the PPA and the terms of the First Amendment, includes terms of other RPS power purchase agreements, and contains confidential and proprietary information of the counterparty. Disclosure of this information would provide valuable market sensitive information to competitors. Since negotiations are still in progress with bidders from the 2005, 2006, 2007, and 2008 solicitations and with other counterparties, this information should remain confidential. Release of this information would be damaging to negotiations. Furthermore, the counterparty to the PPA as amended by the First Amendment has an expectation that the terms of the PPA and First Amendment will remain confidential pursuant to confidentiality provisions in the PPA as amended by the First Amendment. I am informed and believe that General Order 66-C provides a basis for confidential treatment. General Order 66-C includes in its category of records not open to public inspection "Information obtained in confidence from other than a business regulated by this Commission where the disclosure would be against the public interest." (Paragraph 2.8). It is in the public interest to treat such information as confidential because if such information were made public, it would put the counterparty at a business disadvantage, could create a disincentive to do business with PG&E and other regulated utilities, and could have a damaging effect on current and future negotiations with other counterparties.

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 and Appendix C to D.08-04-023 (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
4 Appendix D	Y	Item VII F) Renewable Resource Contracts under RPS program - Contracts with SEPs. Item VII (un-numbered category following VII G) Score sheets, analyses, evaluations of proposed RPS projects. General Order 66-C.	Y	Y	Y	This Appendix discusses, analyzes and evaluates the Project, the terms of the PPA and the terms of the First Amendment, and contains confidential and proprietary information of the counterparty. Disclosure of this information would provide valuable market sensitive information to competitors. Since negotiations are still in progress with bidders from the 2005, 2006, 2007, and 2008 solicitations and with other counterparties, this information should remain confidential. Release of this information would be damaging to negotiations. Furthermore, the counterparty to the PPA as amended by the First Amendment has an expectation that the terms of the PPA and First Amendment will remain confidential pursuant to confidentiality provisions in the PPA as amended by the First Amendment. I am informed and believe that General Order 66-C provides a basis for confidential treatment. General Order 66-C includes in its category of records not open to public inspection "Information obtained in confidence from other than a business regulated by this Commission where the disclosure would be against the public interest." (Paragraph 2.8). It is in the public interest to treat such information as confidential because if such information were made public, it would put the counterparty at a business disadvantage, could create a disincentive to do business with PG&E and other regulated utilities, and could have a damaging effect on current and future negotiations with other counterparties.	For information covered under Item VII F) and Item VII (un-numbered category following VII G), remain confidential for three years after the commercial operation date  For information covered by General Order 66-C, remain confidential
5 Appendix E	Y	Item VII (un-numbered category following VII G) Score sheets, analyses, evaluations of proposed RPS projects.	Y	Y	Y		Remain confidential for three years after the commercial operation date
6 Appendix F	Y	Item VII (un-numbered category following VII G) Score sheets, analyses, evaluations of proposed RPS projects. Item VI B) Utility Bundled Net Open Position for Energy (MWh).	Y	Y	Y	This Appendix contains information that, if disclosed, would provide valuable market sensitive information to competitors and allow them to see PG&E's remaining RPS net open energy position. Since negotiations are still in progress with bidders from the 2005, 2006, 2007, and 2008 solicitations and with other counterparties, this information should remain confidential for three years.	Remain confidential for three years
7 Appendix G	Y	Item VII F) Renewable Resource Contracts under RPS program - Contracts with SEPs.	Y	Y	Y	This Appendix contains the First Amendment. Disclosure of the First Amendment would provide valuable market sensitive information to competitors. Since negotiations are still in progress with bidders from the 2005, 2006, 2007 and 2008 solicitations, this information should remain confidential. Release of this information would be damaging to negotiations. Furthermore, the counterparty to the PPA as amended by the First Amendment has an expectation that the terms of the First Amendment will remain confidential pursuant to confidentiality provisions in the PPA as amended by the First Amendment.	Remain confidential for three years after the commercial operation date
8 Appendix H	Y	Item VII F) Renewable Resource Contracts under RPS program - Contracts with SEPs.	Y	Y	Y	This Appendix contains certain terms of the First Amendment. Disclosure of certain terms of the First Amendment would provide valuable market sensitive information to competitors. Since negotiations are still in progress with bidders from the 2005, 2006, 2007 and 2008 solicitations and with other counterparties, this information should remain confidential. Release of this information would be damaging to negotiations. Furthermore, the counterparty to the PPA as amended by the First Amendment has an expectation that the terms of the First Amendment will remain confidential pursuant to confidentiality provisions in the PPA as amended by the First Amendment.	Remain confidential for three years after the commercial operation date

## **Appendix I**

### **Public Independent Evaluator Report**

***Report of the Independent Evaluator***  
***Amendment to the Power Purchase and Sale Agreement***  
***Between Pacific Gas and Electric***  
***And***  
***Topaz Solar Farms LLC***

**Public Version**  
**August 19, 2009**

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**Report of the Independent Evaluator  
Amendment to the Power Purchase and Sale Agreement between Pacific Gas and  
Electric and Topaz Solar Farms LLC**

**Introduction**

Pacific Gas & Electric Company (PG&E) and Topaz Solar Farms LLC (Topaz) reached an agreement on the First Amendment to the Power Purchase and Sale Agreement Between Topaz Solar Farms LLC and Pacific Gas and Electric Company originally entered into by the parties and approved by the Commission on January 29, 2009 by Resolution E-4221. Under the amended agreement, Topaz would sell the renewable energy from the Sellers approximately 550 MW photovoltaic facility to PG&E for a term of 25 years.<sup>1</sup>

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

The Resolution also requires the developer to provide the Commission and IE with cash flow models, both the original reflecting the price in the original contract and the latest version, for projects that are re-filed with the Commission for approval of a price amendment if the new contract price is above the MPR and the contract is eligible for AMFs.<sup>2</sup> The confidential project-specific IE report must, at a minimum, include its evaluation of the new price based on the project's market valuation as compared to the bids in the IOU's most recent solicitation, a review of the cash flow model and an evaluation of the change in model inputs. An IE's conclusions must not be based on whether the developer's rate of return is reasonable, but rather whether the change in model inputs are reasonable and justify the price change.<sup>3</sup>

Merrimack Energy, as Independent Evaluator for PG&E's 2007 RPS RFO, prepared an IE Report on the project in August 2008 suggesting that the PPA merited Commission approval. Merrimack Energy has reviewed the amendment and detailed financial

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<sup>1</sup> The delivery term of 25 years is classified as a non-standard delivery term. The original contract was a 20 year contract. In addition, the project will be phased-in over four time periods. The project will be phased-in over several years, reaching full contract capacity and COD by June 30, 2014...

<sup>2</sup> The MPR for 2008 for a 25 year contract term beginning in 2012 is \$125.09/MWh, increasing to \$132.90/MWh for contracts beginning in 2014.

<sup>3</sup> Public Utilities Commission of the State of California, Resolution E-4199, March 12, 2009 (pages 26-28).

proforma provided by First Solar, the project developer, and has prepared this report with our observations and assessment. This report addresses the following issues:

1. A description of the contract amendment and the negotiation process associated with the amendment;
2. An evaluation of the amended price contained in the contract relative to the price of similar short listed projects and contracts from the 2008 RPS solicitation;
3. A review of the cash flow model including a description of the model, information regarding changes in model inputs, changes in capital and operating costs, and a discussion of any other revisions to costs or operating parameters that could influence project economics;
4. A reasonableness assessment of the capital and operating costs based on the cost of other projects or studies for comparable technologies.

Because addressing the above-listed issues involves confidential project information, Merrimack Energy has also prepared a confidential version of this report that contains a detailed discussion regarding these issues.

## **Background**

The project is a 550 MW thin-film solar photovoltaic (PV) facility to be located in the Carrizo Plain of San Luis Obispo County. The output from the facility was originally expected to average 1,096 gigawatt hours (GWh) per year, and allowed for the phase-in of the capacity through the original guaranteed commercial operation date of the full capacity by June 30, 2013. The term of the contract was originally 20 years from the date when full capacity is achieved.

PG&E filed Advice Letter 3313-E on August 14, 2008 which requested California Public Utility Commission (Commission) approval of the Power Purchase Agreement (PPA). On January 29, 2009 in Resolution E-4221, the Commission concluded the PPA was reasonable and should be approved.

Shortly after approval of the PPA, the generation assets of OptiSolar were sold to First Solar. OptiSolar, including the Topaz project, became a wholly-owned subsidiary of First Solar, Inc. on April 3, 2009. In the spring of 2009, First Solar notified PG&E that Topaz would not be able to perform under the PPA due to project cost increases.

As the basis for the amendment, First Solar represented that the facts and circumstances relating to the development of the project, as well as the facts and circumstances relating to the solar energy industry in general, have changed in many respects since the execution of the PPA. The updated cost for Topaz according to First Solar are based on First Solar's module cost, as demonstrated by over 1,000 MW of module production to date, years of performance data from First Solar's modules, First Solar's extensive utility-

scale PV plant construction experience, and First Solar's project finance capability. The Topaz costs have also been updated to reflect current expectations about development and financing costs.

First Solar supplied PG&E and Merrimack Energy with cash flow models of the project with the OptiSolar assumptions and First Solar assumptions, with an explanation of the changes in input assumptions.

### **Summary of the Project**

As a result of the acquisition of OptiSolar's assets by First Solar, the equipment for the project will change to First Solar's modules and associated equipment. First Solar has extensive experience in the production, operations and financing of solar projects, with over 1,000 MW of solar modules in operation. First Solar is currently the largest manufacturer of thin film solar modules, having expanded manufacturing capacity to 735 MW in 2008, and with additional plants under construction which will bring module manufacturing capacity to 1,186 MW by 2010. First Solar has been announced as the first PV manufacturer to produce modules at less than \$1/watt.

According to First Solar, "the Topaz project involves the installation of the modular PV array system consisting of modules, supports, inverters and other electrical equipment, including foundations and an underground cabling system. The module and balance of system costs are based upon the First Solar construction cost roadmap expected in 2012 and 2013."

### **Conclusions**

With regard to the cost side of the equation, the First Solar option includes increases relative to the OptiSolar project option. First Solar indicates that its vast experience with recent projects leads the firm to more accurately estimate the actual cost of developing and operating a project relative to OptiSolar which has limited actual project experience. First Solar, therefore, has attempted to justify such increases based on its own project experience and recent events unfolding with other projects adjacent to the Topaz project.

Merrimack Energy has conducted analysis associated with the cost of the Topaz project relative to other actual similar projects selected by PG&E for its short list from the 2008 RPS RFO. The results illustrate that the price of the project is generally competitive with projects which are either currently on the short list or have secured a contract.

With regard to comparison of the cost components of the project relative to benchmark options, Merrimack Energy has attempted to assess whether the costs are reasonable based on other studies or projects. The results illustrate that the capital cost of the First Solar Topaz option is within a zone of reasonableness when considering the lowest capital cost options for similar solar PV technologies.

PG&E was able to mitigate contract risk during contract negotiations through increases in performance assurance requirements.

While we are always concerned about an increase in product prices and the ultimate impact on PG&E's customers, it appears that the cost increases reflected in First Solar's proformas are plausible and can be explained. While some of the increases are attributed to the different project structure and cost estimates based on pre-commercial technology underlying the OptiSolar option relative to the more practical experience of First Solar, other cost increases appear to be attributed to increased costs.

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

Alcantar & Kahl	Day Carter Murphy	Norris & Wong Associates
Ameresco	Defense Energy Support Center	North Coast SolarResources
Anderson & Poole	Department of Water Resources	Northern California Power Association
Arizona Public Service Company	Department of the Army	Occidental Energy Marketing, Inc.
BART	Dept of General Services	OnGrid Solar
BP Energy Company	Division of Business Advisory Services	Praxair
Barkovich & Yap, Inc.	Douglas & Liddell	R. W. Beck & Associates
Bartle Wells Associates	Douglass & Liddell	RCS, Inc.
C & H Sugar Co.	Downey & Brand	Recon Research
CA Bldg Industry Association	Duke Energy	SCD Energy Solutions
CAISO	Dutcher, John	SCE
CLECA Law Office	Ellison Schneider & Harris LLP	SMUD
CSC Energy Services	FPL Energy Project Management, Inc.	SPURR
California Cotton Ginners & Growers Assn	Foster Farms	Santa Fe Jets
California Energy Commission	G. A. Krause & Assoc.	Seattle City Light
California League of Food Processors	GLJ Publications	Sempra Utilities
California Public Utilities Commission	Goodin, MacBride, Squeri, Schlotz & Ritchie	Sierra Pacific Power Company
Calpine	Green Power Institute	Silicon Valley Power
Cameron McKenna	Hanna & Morton	Southern California Edison Company
Cardinal Cogen	Hitachi	Sunshine Design
Casner, Steve	International Power Technology	Sutherland, Asbill & Brennan
Chamberlain, Eric	Intestate Gas Services, Inc.	Tabors Caramanis & Associates
Chevron Company	Los Angeles Dept of Water & Power	Tecogen, Inc.
Chris, King	Luce, Forward, Hamilton & Scripps LLP	Tiger Natural Gas, Inc.
City of Glendale	MBMC, Inc.	Tioga Energy
City of Palo Alto	MRW & Associates	TransCanada
City of San Jose	Manatt Phelps Phillips	Turlock Irrigation District
Clean Energy Fuels	Matthew V. Brady & Associates	U S Borax, Inc.
Coast Economic Consulting	McKenzie & Associates	United Cogen
Commerce Energy	Merced Irrigation District	Utility Cost Management
Commercial Energy	Mirant	Utility Specialists
Consumer Federation of California	Modesto Irrigation District	Verizon
Crossborder Energy	Morgan Stanley	Wellhead Electric Company
Davis Wright Tremain LLP	Morrison & Foerster	Western Manufactured Housing Communities Association (WMA)
	New United Motor Mfg., Inc.	eMeter Corporation