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PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

I.D.# 8204

ENERGY DIVISION **RESOLUTION E-4221**
January 29, 2009

PUBLIC

R E S O L U T I O N

Resolution E-4221. Pacific Gas & Electric Company (PG&E) requests approval of one contract for procurement of renewable energy resources resulting from PG&E's Power Purchase Agreement with Topaz Solar Farms, LLC.

By Advice Letter 3313-E filed on August 14, 2008.

SUMMARY

PG&E's renewable contract complies with the Renewable Portfolio Standard (RPS) procurement guidelines and is approved without modification.

PG&E filed advice letter (AL) 3313-E on August 14, 2008, which requests California Public Utilities Commission (Commission) review and approval of a renewable energy power purchase agreement (PPA) with Topaz Solar Farms LLC (Topaz), a subsidiary of OptiSolar Inc. (OptiSolar). PG&E's renewable PPA concerns a new 550 megawatt (MW) thin-film solar photovoltaic (PV) facility to be located in the Carrizo Plain of San Luis Obispo County. PG&E's execution of the PPA complies with the RPS procurement guidelines. PG&E's request for approval of the renewable resource procurement contract is granted pursuant to D.07-02-011, which approved PG&E's 2007 RPS Procurement Plan.

Generating Facility	Type	Term Years	MW Capacity	Annual Deliveries	Online Date	Project Location
Topaz Solar Farms	New Solar PV	20	550 MW	1,096 GWh	12/31/2011 to 06/30/2013 (2.5 year phase-in)	Carrizo Plain, San Luis Obispo County

Deliveries from this contract are reasonably priced and fully recoverable in rates over the life of the contract subject to Commission review of PG&E's administration of the contract. The energy acquired from the PPA will count towards PG&E's RPS requirements.

Confidential information about the contract should remain confidential

This resolution finds that certain material filed under seal pursuant to Public Utilities (Pub. Util.) Code Section 583, General Order (G.O.) 66-C, and D.06-06-066 should be kept confidential to ensure that market sensitive data does not influence the behavior of bidders in future RPS solicitations.

BACKGROUND

The RPS Program requires each utility to increase the amount of renewable energy in its portfolio. All retail sellers of electricity are required to generate 20 percent of the electricity used for retail sales from renewable sources by 2010.

The California Renewables Portfolio Standard (RPS) Program was established by Senate Bill 1078[1] and codified in California Public Utilities Code Section 399.11, et seq., which requires all retail sellers[2] of electricity, such as PG&E, to purchase a percentage of electricity from eligible renewable energy resources (ERR) by 2010

Originally, each retail seller was required to increase its total procurement from ERRs by at least 1 percent of annual retail sales per year so that 20 percent is reached, subject to the Commission's rules on flexible compliance, no later than 2017.

The State's Energy Action Plan (EAP) called for acceleration of this RPS goal to reach 20 percent by 2010 and 33 percent by 2020. The accelerated 20 percent goal was reiterated again in the Order Instituting Rulemaking (R.04-04-026) issued on April 28, 2004,[3] which encouraged the utilities to procure cost-effective renewable

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[1] http://www.energy.ca.gov/portfolio/documents/SB1078.PDF

[2] For the purposes of the RPS program, retail seller includes electrical corporations, community choice aggregators and electric service providers.

[3] http://www.cpuc.ca.gov/Published/Final_decision/36206.htm

generation in excess of their RPS annual procurement targets[4] (APTs), in order to make progress towards the goal expressed in the EAP.[5] On September 26, 2006, Governor Schwarzenegger signed Senate Bill 107, which codified the State's RPS targets to 20 percent by 2010.[6] Furthermore, on November 17, 2008, Governor Schwarzenegger issued Executive Order S-14-08, which sets the goal for energy retailers to deliver 33 percent of electrical energy from renewable resources by 2020.[7]

The Commission has established procurement guidelines for the RPS Program

The Commission has issued a series of decisions that describe the regulatory and transactional framework of the RPS program. On June 19, 2003, the Commission issued its "Order Initiating Implementation of the Senate Bill 1078 Renewable Portfolio Standard Program," D.03-06-071. The Commission also adopted standard terms and conditions for RPS power purchase agreements in D.04-06-014 as required by Pub. Util. Code Section 399.14(a)(2)(D). Instructions for evaluating offers made in response to each RPS solicitation were provided in D.04-07-029.

On June 9, 2004, the Commission adopted its Market Price Referent (MPR) methodology[8] for determining the Utility's share of the RPS seller's bid price, as defined in Pub. Util. Code Sections 399.14(a)(2)(A) and 399.15(c). On December 15, 2005, the Commission adopted D.05-12-042 which refined the MPR methodology for the 2005 RPS Solicitation.[9] Subsequent resolutions adopted MPR values for the 2005, 2006, and 2007 RPS Solicitations.[10]

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[4] APT - An LSE's APT for a given year is the amount of renewable generation an LSE must procure in order to meet the statutory requirement that it increase its total eligible renewable procurement by at least 1% of retail sales per year.

[5] Most recently reaffirmed in D.06-05-039.

[6] SB 107, Chapter 464, Statutes of 2006.

[7] http://gov.ca.gov/executive-order/11072/

[8] D.04-07-015

[9] http://www.cpuc.ca.gov/word_pdf/FINAL_DECISION/52178.pdf

[10] Respectively, Resolution E-3980: http://www.cpuc.ca.gov/WORD_PDF/FINAL_RESOLUTION/55465.DOC, Resolution E-4049: http://www.cpuc.ca.gov/word_pdf/FINAL_RESOLUTION/63132.doc,

Footnote continued on next page

In D.06-10-050, as modified by D.07-03-046,[11] the Commission established methodologies to calculate each LSE's initial baseline procurement amount, annual procurement target (APT) and incremental procurement target (IPT).[12]

In D.06-10-019, the Commission implemented Pub. Util. Code 399.14(b)(2), which states that before the Commission can approve an RPS contract of less than ten years' duration, the Commission must establish "for each retail seller, minimum quantities of eligible renewable energy resources to be procured either through contracts of at least 10 years' duration (long-term contracts) or from new facilities commencing commercial operations on or after January 1, 2005." On May 3, 2007, the Commission approved D.07-05-028, which established a minimum percentage of the prior year's retail sales (0.25%) that must be procured with contracts of at least 10 years' duration or from new facilities in order for short-term contracts to be used towards RPS compliance.

Commission requires standard terms and conditions for RPS contracts

The Commission set forth standard terms and conditions (STCs) to be incorporated into RPS agreements, including bilateral contracts, in D.04-06-014 (as modified by several subsequent decisions).[13, 14] The Commission originally identified several STCs in confidential Appendix B of D.04-06-014 as non-

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Resolution E-4118:
http://www.cpuc.ca.gov/word_pdf/FINAL_RESOLUTION/73594.pdf

[11] D.06-10-050, Attachment A,
http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/61025.PDF) as modified by D.07-03-046 (http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/65833.PDF.

[12] The IPT represents the amount of RPS-eligible procurement that the LSE must purchase, in a given year, over and above the total amount the LSE was required to procure in the prior year. An LSE's IPT equals at least 1% of the previous year's total retail electrical sales, including power sold to a utility's customers from its DWR contracts.

[13] D.07-02-011 (as modified by D.07-05-057)
http://www.cpuc.ca.gov/word_pdf/FINAL_DECISION/68383.pdf

[14] D.07-11-025, Attachment A
http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/75354.PDF

modifiable. On November 16, 2007, the Commission adopted D.07-11-025, which reduced the number of non-modifiable terms from nine to four and refined the language of some of these terms in response to requests from market participants.[15] The remaining non-modifiable STCs include "CPUC Approval", "Definition of RECs and Green Attributes", "Eligibility" and "Applicable law". On April 10, 2008 the Commission adopted D.08-04-009, which compiled RPS STCs into one decision.[16] Most recently, on August 21, 2008 the Commission adopted D.08-08-028, which clarified STC #2 the "Definition of RECs and Green Attributes."[17]

Pursuant to SB 1036, above-MPR costs can now be recovered in rates

Pursuant to SB 1078 and SB 107, the California Energy Commission (CEC) was authorized to "allocate and award supplemental energy payments" to cover above-market costs[18] of long-term RPS-eligible contracts executed through a competitive solicitation.[19] The statute required that developers seeking above-market costs apply to the CEC for supplemental energy payments (SEPs).

The mechanism for awarding above-market costs to eligible renewable energy contracts negotiated through a competitive solicitation was modified by SB 1036, which became effective on January 1, 2008.[20] SB 1036 authorizes the Commission to provide above-MPR cost recovery through electric retail rates for contracts that are deemed reasonable. Above-MPR cost recovery has a 'cost limitation' equal to the amount of funds currently accrued in the CEC's New Renewable Resources Account, which had been established to collect SEP funds, plus the portion of

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[15] On February 1, 2007, PG&E and SCE jointly filed a petition for modification of D.04-06-014. On May 22, 2007, a PD was filed and served. Prior to the PD being voted on by the Commission, PG&E and SCE filed an amended petition for modification of D.04-06-014.

[16] http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/81269.PDF

[17] http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/86954.pdf

[18] "Above-market costs" refers to the portion of the contract price that is greater than the appropriate market price referent (MPR).

[19] Pub. Util. Code 399.15(d)

[20] Chapter 685, Statutes of 2007 (SB 1036)

funds that would have been collected through January 1, 2012. In addition, pursuant to SB 1036, Pub. Util. Code § 399.15(d)(2) provides that:

> "The above-market costs of a contract selected by an electrical corporation may be counted toward the cost limitation if all of the following conditions are satisfied:
>
> (A) The contract has been approved by the commission and was selected through a competitive solicitation pursuant to the requirements of subdivision(d) of Section 399.14.
>
> (B) The contract covers a duration of no less than 10 years.
>
> (C) The contracted project is a new or repowered facility commencing commercial operations on or after January 1, 2005.
>
> (D) No purchases of renewable energy credits may be eligible for consideration as an above-market cost.
>
> (E) The above-market costs of a contract do not include any indirect expenses including imbalance energy charges, sale of excess energy, decreased generation from existing resources, or transmission upgrades."

The CEC and the Commission are currently working collaboratively to implement SB 1036, which has an effective date of January 1, 2008.

PG&E's Procurement Review Group participated in review of the contract

In D.02-08-071, the Commission required each utility to establish a "Procurement Review Group" (PRG) whose members, subject to an appropriate non-disclosure agreement, would have the right to consult with the utilities and review the details of:

1. Overall transitional procurement strategy;
2. Proposed procurement processes including, but not limited to, RFO; and
3. Proposed procurement contracts before any of the contracts are submitted to the Commission for expedited review.

The PRG for PG&E consists of: California Department of Water Resources (DWR), the Commission's Energy Division, Union of Concerned Scientists (UCS), Division of Ratepayer Advocates (DRA), Coalition of California Utility Employees (CUE) and The Utility Reform Network (TURN).

PG&E informed its PRG of the Topaz project on several occasions. The first briefing occurred on September 21, 2007. PG&E provided additional briefings on November 30, 2007, January 9, 2008, and March 14, 2008. These presentations included a general overview of the negotiated terms and conditions, rationale for selection, and assessment of the PPA's price.

None of the PRG members objected to PG&E's execution of the PPA. Although Energy Division is a member of the PRG, it reserved its conclusions for review and recommendation on the contracts to the resolution process.

The Commission has established requirements for participation of an Independent Evaluator

In D.06-05-039, the Commission required each IOU to employ an independent evaluator (IE) for RPS solicitations. The IE's role is to ensure that the solicitation process is undertaken in a fair, consistent, unbiased, and objective manner. The oversight of an IE during the IOUs' procurement process should increase the likelihood that the best resources are selected and acquired consistent with the solicitation guidelines. The IE also provides additional oversight during contract negotiations.

PG&E requests Commission approval of new renewable energy contracts

On August 14, 2008, PG&E filed AL 3313-E requesting Commission approval of a new renewable procurement contract with Topaz. The PPA results from PG&E's 2007 RPS Solicitation. The Commission's approval of the PPA will authorize PG&E to accept future delivery of incremental renewable generation.

PG&E requests that the Commission issue a resolution containing the findings necessary for "CPUC Approval" as defined in Appendix A of D.04-06-014. In addition, PG&E requests that the Commission issue a resolution that finds the following:

1. Pursuant to the PPA, subject to the Commission's review of PG&E's administration of the PPA.
2. Finds that any procurement pursuant to the PPA is procurement from an eligible renewable energy resource for purposes of determining PG&E's compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California Renewables

Portfolio Standard (Public Utilities Code Section 399.11 et seq.) ("RPS"), Decision ("D.") 03-06-071 and D.06-10-050, or other applicable law.

3. Finds that all procurement and administrative costs, as provided by Public Utilities Code section 399.14(g), associated with the PPA shall be recovered in rates.

4. Adopts the following finding of fact and conclusion of law in support of CPUC Approval:

    a. The PPA is consistent with PG&E's approved 2007 RPS procurement plan.

    b. The terms of the PPA, including the price of delivered energy, are reasonable.

5. Adopts the following finding of fact and conclusion of law in support of cost recovery for the PPA:

    a. The utility's cost of procurement under the PPA shall be recovered through PG&E's Energy Resource Recovery Account.

    b. Any stranded costs that may arise from the PPA are subject to the provisions of D.04-12-048 that authorize recovery of stranded renewables procurement costs over the life of the contract. The implementation of the D.04-12-048 stranded cost recovery mechanism is being addressed in Rulemaking ("R.") 06-02-013.

6. Adopts the following findings with respect to resource compliance with the Emissions Performance Standard ("EPS") adopted in R.06-04-009:

    a. The PPA is not a covered procurement subject to the EPS because the generating facility has a forecast annualized capacity factor of less than 60% and therefore is not baseload generation under paragraphs 1(a)(ii) and 3(2)(a) of the Adopted Interim EPS Rules.

NOTICE

Notice of AL 3313-E was made by publication in the Commission's Daily Calendar. PG&E states that a copy of the Advice Letter was mailed and distributed in accordance with Section IV of General Order 96-B.

PROTESTS

Advice Letter 3313-E was not protested. On September 3, 2008, TURN filed a timely confidential response with the Commission.

PG&E filed timely reply comments with the Commission on September 10, 2008.

DISCUSSION

The following table summarizes the substantive features of the PPA. See confidential Appendix C for a detailed discussion of contract terms and conditions.

Generating Facility	Type	Term Years	MW Capacity	Annual Deliveries	Online Date	Project Location
Topaz Solar Farms	New Solar PV	20	550 MW	1,096 GWh	12/31/2011 to 06/30/2013 (2.5 year phase-in)	Carrizo Plain, San Luis Obispo County

Topaz represents a new solar PV facility located in Carrizo Plain. Topaz's parent corporation, OptiSolar Inc, is a vertically integrated company that will manufacture the thin-film PV panels. This structure allows Topaz to access low-cost solar panels. OptiSolar's PV panels are amorphous silicon, which is a proven thin-film technology. Although OptiSolar has not yet developed a project, by the time Topaz begins construction, OptiSolar will have gained extensive project development experience through construction of solar PV projects in Ontario, Canada.

Approval of Topaz is consistent with the State's objective of supporting renewable technologies, and will ensure California continues to increase its supply of least-cost best-fit renewable resources.

Energy Division has reviewed the proposed PPA on multiple grounds:

- Consistency with PG&E's Commission adopted 2007 RPS Procurement Plan
- Consistency of PG&E's RPS bid evaluation process with Least-Cost Best-Fit (LCBF) decision
- Consistency with RPS Standard Terms and Conditions (STC)

- Project Viability
- Reasonableness of the all-in levelized PPA price

PPA is consistent with PG&E's Commission adopted 2007 RPS Plan

California's RPS statute requires that the Commission review the results of a renewable energy resource solicitation submitted for approval by a utility.[21] PG&E's 2007 RPS procurement plan (Plan) was approved by D.07-02-011 on February 15, 2007.[22] Pursuant to statute, PG&E's Plan includes an assessment of supply and demand to determine the optimal mix of renewable generation resources, consideration of flexible compliance mechanisms established by the Commission, and a bid solicitation protocol setting forth the need for renewable generation of various operational characteristics.[23]

PPA is consistent with identified resource needs

The stated goal of PG&E's 2007 RPS Solicitation Plan was to procure approximately 1-2 percent of PG&E's retail sales volume or between 750 and 1,500 GWh per year with delivery terms of 10, 15, or 20 years. Participants could submit offers for four specific products – as-available, baseload, peaking, and dispatchable resources. If approved, the 550 MW facility is expected to deliver 1,096 GWh per year of as-available electricity, or approximately 1.2 percent of PG&E's total retail sales.

PPA selection is consistent with RPS Solicitation Protocol

The IE has verified that the PPA is consistent with PG&E's RPS Plan because it was achieved through PG&E's adherence to its Solicitation Protocol:

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[21] Pub. Util. Code, Section §399.14

[22] http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/78817.pdf

[23] Pub. Util. Code, Section §399.14(a)(3)

1. PG&E generally followed the RPS Solicitation schedule set forth in its Solicitation Protocol.
2. PG&E used the approved bid solicitation protocol and forms of power purchase agreements. Consistent with the published schedule, the solicitation commenced on March 12, 2007, and bids were received until May 31, 2007. All of the accepted bids conformed to the RPS protocol; that is, they offered power from eligible renewable energy resources, they were submitted using the standard forms, they executed the bid protocol and confidentiality agreements, and they posted the required bid deposit.
3. The Topaz bid was evaluated and scored in the manner prescribed in the Solicitation Protocol. In particular, evaluation of the offer price took into account PG&E's published Time of Delivery factors and imputed the potential cost of transmission adders. PG&E scored the offers pursuant to a methodology that attributed the proper weight to market valuation, portfolio fit, credit and other non-price factors described in the Solicitation Protocol.
4. The Topaz bid was ranked according to the protocols, and was placed on PG&E's "Short List" and presented to PG&E's PRG on June 29, 2007.[24] PG&E notified short-listed bidders and PG&E negotiations with short-listed bidders began once they submitted the required bid deposit. The interim results of negotiations were presented to the PRG on several occasions between September 2007 and July 2008.

Bid evaluation process is consistent with Least-Cost Best-Fit (LCBF) decision

The LCBF decision directs the utilities to use certain criteria in their bid ranking.[25] The decision offers guidance regarding the process by which the utility ranks bids in order to select or "shortlist" the bids with which it will commence serious negotiations. Much of the bid ranking criteria described in the LCBF decision is incorporated in PG&E's Solicitation Protocol and is discussed below. The IE oversaw the process and concluded in its report that the protocol was followed and the process was conducted fairly.

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[24] On July 30, 2007, PG&E submitted its 2007 RPS shortlist report to the service list for R.06-05-027 and confidential workpapers to Energy Division staff.

[25] D.04-07-029

Market Valuation

In its "mark-to-market analysis," PG&E compares the present value of the bidder's payment stream with the present value of the product's market value to determine the benefit (positive or negative) from the procurement of the resource, irrespective of PG&E's portfolio. A product's benefits are the market value of the energy, capacity, and ancillary services. PG&E evaluates the bid price and indirect costs, such as debt equivalence, and the costs to the utility transmission system caused by interconnection of the resource to the grid or integration of the generation into the system-wide electrical supply. The benefit/cost analysis yields a Net Market Value; a $/MWh comparison of the value of generation from a proposed contract and PG&E's forward curve, i.e., its proxy for firm system energy.

Portfolio Fit

Portfolio fit considers how well an offer variation's features match PG&E's portfolio needs, with special consideration of project online and generation profile. This analysis includes the anticipated transaction costs involved in any energy remarketing (i.e., the bid-ask spread) if the contract adds to PG&E's net long position. The project produces most of its energy during PG&E's Super-Peak Period where resources are most needed and it has a relatively high predictability for an "as available resource." For these reasons, PG&E states that the PPA is a good fit for its portfolio needs.

Consideration of Transmission Adders and Integration Costs

The RPS statute requires the "least cost, best fit" eligible renewable resources be procured. Under the RPS program, the potential customer cost to accept energy deliveries from a particular project must be considered when determining a project's value for bid ranking purposes. The transmission ranking cost report (TRCR),[26] for short-listing purposes only, assigns the additional costs associated with deliveries from a project, absent transmission upgrades.

PG&E's 2007 TRCR identified the remaining available transmission capacity and upgrade costs for PG&E substations at which renewable resources are expected to interconnect. PG&E determined the TRCR cluster at which each short-listed project would interconnect to the transmission grid. Consistent with Commission

[26] Submitted to the CPUC on August 22, 2005

decisions, based on the potential transmission congestion, the associated proxy transmission network upgrades and the associated capital costs that may be needed to accommodate delivery at this cluster, PG&E assigned a transmission adder to each offer for evaluation.

Qualitative Factors

PG&E considered qualitative factors as required by D.04-07-029 and D.07-02-011 when evaluating the PPA. Approval of the PPA will add to the diversity of technologies in PG&E's renewables portfolio.

Consistency with Adopted Standard Terms and Conditions

The proposed PPA conforms to the Commission's decisions requiring STCs for RPS contracts.

"May Not be Modified" Terms

The PPA does not deviate from the non-modifiable terms and conditions.

"May be Modified" Terms

During the course of negotiations, the parties identified a need to modify some of the modifiable standard terms in order to reach agreement. The changes were based upon mutual agreement reached during negotiations.

Contract Price is Reasonable and recoverable in rates

The levelized contract price is greater than the 2007 MPR,[27] but the project's contract price is reasonable when compared to other bids PG&E received through its 2007 RPS solicitation. Specifically, the proposed project ranked favorably relative to other solar PV bids and PG&E believes Topaz made a sufficient showing of the project's viability. PG&E's decision to shortlist Topaz did not prevent PG&E from shortlisting any other project with a higher viability assessment. Confidential Appendix D includes a detailed discussion of the PPA's pricing terms and Confidential Appendix A includes analysis on project viability of shortlisted and rejected bids.

Project is Eligible for Above Market Funds

[27] See Resolution E-4118

Topaz meets the eligibility criteria for Above Market Funds (AMFs) established in SB 1036:

- Contract was selected through a competitive solicitation
- Contract covers a duration of greater than 10 years
- Project is a new facility commencing commercial operations on or after January 1, 2005.

This project is eligible for AMFs, and PG&E has sufficient AMFs to meet the needs of this project. See Confidential Appendix D, Table 2.

Project Development status

PG&E believes the project is viable. The Commission is aware, however, that the project may face some project viability risks. More specifically, Topaz may face financing risks, due to the magnitude of the project size in light of the current credit crisis, which is affecting all large-scale renewable energy projects. Although the project does not need new transmission lines, Topaz has not yet completed the California Independent System Operator (CAISO) network and interconnection studies for the project's full capacity, which adds uncertainty to the cost and need for transmission network upgrades. On the other hand, the project has positive attributes, such as full site-control, a proven PV solar technology, and a site with good solar insolation.[28] Thus, the risks are somewhat mitigated, and on balance, the project is viable.

<u>Project Milestones</u>

The PPA identifies the agreed upon project milestones, including the construction start date and commercial operation date. OptiSolar will build Topaz in three phases over 2.5 years from December 31, 2010 to June 30, 2013. OptiSolar anticipates deliveries of the first 150 MW by December 31, 2011. The second phase guarantees construction of 250 MW by December 31, 2012. The remaining 150 MW will be built by June 30, 2013. PG&E will receive and pay for deliveries during the phase-in periods. The contract term extends 20 years following the phase-in period for a total term of 22.5 years. PG&E believes that the Seller's project development plan allows all milestones to be achieved.

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[28] The measure of solar energy per unit of surface area per unit of time.

Developer Experience

Topaz is a subsidiary of OptiSolar. OptiSolar has contracts to supply twenty-one 10 MW projects in Ontario, Canada, for a total of 210 MW. The first project in Canada, the Sarnia Solar Farm, began construction October 2008 and is expected to begin deliveries in March 2009. [29] OptiSolar does have a pilot project of 100 kW in California, but the Sarnia project is OptiSolar's first commercial-scale project. OptiSolar's team has been responsible for over three hundred patents and billions of dollars in energy financing, with an extensive and varied background in the technology & energy sectors, and particular expertise in the alternative energy market.

Transmission upgrades

Topaz is not dependent on construction of a new transmission line and will interconnect at the Midway-Morro Bay 230 kV line.[30] The project requires construction of a new substation.

The CAISO will be studying the project in two portions since the project has two CAISO queue positions.[31] Last year, the CAISO initiated the generator interconnection process reform (GIPR) to improve queue management of multiple generating facilities. In order to clear the backlog of generating facilities in the queue waiting for CAISO study, the CAISO has grouped projects in the queue into different study groups. The first portion of this project is in the serial study group, and the CAISO has already completed the feasibility and system impact studies for this portion. The second portion is in the transition cluster study group, and the feasibility and system impact studies are not expected until the third quarter of 2009. This poses a potential risk to the project since it uncertain what type of upgrades the project may require. While this is a potential risk, the project is not dependent on a new transmission line, which helps mitigate the transmission risk.

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[29] http://www.optisolarfarms.ca/sarniaproject.htm and personal communication with OptiSolar staff (October 31, 2008)

[30] http://www.slocounty.ca.gov/Assets/PL/Optisolar-Topaz+Solar+Farm/Documents/Application+Submittal/01+Topaz+CUP-SLO+Cover+Letter.pdf

[31] http://www.ferc.gov/EventCalendar/Files/20080926190145-ER08-960-001.pdf

Financeability of resource

PG&E believes that Topaz has a reasonable likelihood of being financed and developed as required by the PPA, and will be available to deliver energy by the guaranteed commercial operation date. PG&E states that OptiSolar is well capitalized and that initial financing conversations have begun.

Given the current credit crisis, new renewable energy projects face financing risk. In order to utilize the 30% federal investment tax credit (ITC), OptiSolar must partner with a tax equity provider. The tax equity market has shrunk as a result of the current recession and may negatively impact a renewable energy project developer's ability to use the ITC.[32]

Sponsor's creditworthiness

PG&E evaluated the company's profile and credit-related information provided by Topaz as part of its bid. Based on those materials, PG&E determined that Topaz possesses the necessary financing, development, and operational skills to develop the project and meet the obligations of the PPA. PG&E also noted that the project's solar PV panels will be manufactured by Topaz's parent company, OptiSolar. Consistent with PG&E's 2007 RPS Solicitation protocol, PG&E will require performance assurance from Topaz in order to secure Topaz's development and performance obligations under the PPA.

Technology and Equipment Availability

Topaz will use amorphous thin film PV, which is a proven technology. The project has a capacity factor of 23%. OptiSolar uses a proprietary manufacturing process, but the resulting product is similar to existing amorphous panels installed commercially today. While amorphous thin film PV is a proven technology, thin film PV has mostly been used for solar rooftop installations rather than utility scale project development. Furthermore, thin film PV has never been demonstrated or manufactured on a scale close to Topaz. The largest

[32] "Downturn to hurt energy projects," Financial Times, December 8, 2008, http://www.ft.com/cms/s/0/49ad8896-c4c8-11dd-8124-000077b07658.html

operating thin film PV project is First Solar's project for 40 MW in Germany, which is more than ten times smaller than Topaz.[33] The largest solar PV project is a 60 MW project in Spain.[34] Topaz is the world's largest planned PV power plant.

OptiSolar intends to manufacture the solar panels for Topaz and therefore, project development requires significant new manufacturing capacity. OptiSolar currently has a small manufacturing facility and is currently constructing a larger manufacturing facility in McClellan, California. The McClennan facility has a planned capacity of 600 MW per year by 2010 and the first 20 MW of production was constructed in November.[35]

Site Control/Permitting

Topaz has secured site control. The project footprint is approximately 6,200 acres and is located on privately-owned, previously-disturbed, agricultural land.[36] Topaz has submitted the conditional use permit to San Luis Obispo County in July 2008; the permitting process is typically 12-18 months. The county will also be evaluating the SunPower application for a 250 MW project in the Carrizo Plain. The CEC is currently evaluating a 177 MW solar thermal project application with Ausra, which is also in the same area. Thus, San Luis Obispo County will have to evaluate cumulative impacts of Topaz and these other projects.

Resource Quality

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[33] http://thoughtsonglobalwarming.blogspot.com/2008/06/worlds-largest-thin-film-solar-farm.html [accessed on December 18, 2008]

[34] http://www.pvresources.com/en/top50pv.php

[35] Personal communication with OptiSolar, October 31, 2008; http://www.pv-tech.org/chip_shots/_a/thin-film_solar_pv_enigma_optisolar_peeks_out_from_behind_the_curtain [accessed on December 18, 2008].

[36] http://www.optisolar.com/PDF/OptiSolarTopazSolarFarm_CUP_App_Summary_0708.pdf [accessed on December 18, 2008]

Carrizo Plain is in a suitable location for a solar PV project since the area has high solar radiation and good topography. The area in which the project is being developed has high solar radiation for energy production.

Investment Tax Credit (ITC)

Topaz is eligible for the 30% ITC. On October 3, 2008, President Bush signed the Emergency Economic Stabilization Act of 2008, House Resolution (H.R.) 1424 (2008), which extended the investment tax credit (ITC) for eight years.[37] .

Project Viability

Based on the information above, we find that PG&E has made a sufficient showing that Topaz is a viable project. We believe the project is viable for the following reasons: OptiSolar has begun construction of the manufacturing facility in addition to an existing facility, the project is using a proven solar thin-film PV technology, is located in an area with a good solar resource, has full site-control, and does not require new transmission lines.

Commission has adopted minimum quotas for long-term RPS contracting

On May 3, 2007, the Commission approved D.07-05-028[38] which established a minimum percentage of the prior year's retail sales that must be contracted with contracts of at least 10 years' duration or from new facilities commencing commercial operations on or after January 1, 2005. As a new, long-term contract, deliveries from this project will contribute to PG&E's minimum quota requirement.

Response to TURN's comments

TURN articulated one caveat to approving Topaz: TURN would like the Commission to ensure that there are sufficient AMFs available to cover the above-MPR costs.

In addition, TURN expressed a strong preference for contractual provisions requiring or providing an incentive for in-state manufacturing. TURN

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[37] http://thomas.loc.gov/cgi-bin/bdquery/z?d110:H.R.1424:http://thomas.loc.gov/cgi-bin/bdquery/z?d110:H.R.1424: (Last visited October 6, 2008)

[38] http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/67490.PDF

recommends that the Commission evaluate the potential for contract modification to require in-state manufacturing.

Lastly, TURN urges the Commission to evaluate future requests for price escalation rigorously and with great skepticism since in TURN's view, all parties should have been well aware of the escalation of material and engineering costs.

In PG&E's response to TURN's comments, PG&E states that TURN's comments may be addressed through long-term RPS procurement policies, but approval of the OptiSolar PPA should be based on established Commission standards, and that the PPA should be approved as submitted.

As stated above, the Commission has ensured that PG&E has sufficient AMFs to meet the needs of Topaz. As for in-state manufacturing, OptiSolar has already begun construction of its solar PV manufacturing facility in California. As a result, contractual provisions or incentives for in-state manufacturing are not necessary for this contract. Lastly, the Commission has rigorous requirements on whether or not a price amendment is considered.[39] A Commission approved project requesting a price amendment will only be considered if the request is filed with extensive documentation, such as balance of plant, cash flow models and detailed documentation (from manufacturer and/or developer) clearly showing the reason for the price increase. Additionally, the project with its revised price will be compared with bids in the recent RPS solicitation.

Confidential information about the contract should remain confidential

Certain contract details were filed by PG&E under confidential seal. Energy Division recommends that certain material filed under seal pursuant to Public Utilities (Pub. Util.) Code Section 583 and General Order (G.O.) 66-C, and considered for possible disclosure, should be kept confidential to ensure that market sensitive data does not influence the behavior of bidders in future RPS solicitations.

[39] See Resolution E-4150 and E-4176.

COMMENTS

Public Utilities Code section 311(g)(1) provides that this resolution must be served on all parties and subject to at least 30 days public review and comment prior to a vote of the Commission. Section 311(g)(2) provides that this 30-day period may be reduced nor waived upon the stipulation of all parties in the proceeding.

The 30-day comment period for the draft of this resolution was neither waived or reduced. Accordingly, this draft resolution was mailed to parties for comments, and will be placed on the Commission's agenda no earlier than 30 days from today.

FINDINGS

1. PG&E filed Advice Letter (AL) 3313-E on August 14, 2008 requesting Commission review and approval of a renewable energy resource power purchase agreements (PPA) with Topaz Solar Farms LLC.
2. The RPS Program requires each utility, including PG&E, to increase the amount of renewable energy in its portfolio to 20 percent by 2010, increasing by a minimum of one percent per year.
3. November 17, 2008, Governor Schwarzenegger issued Executive Order S-14-08, which sets a target for energy retailers to deliver 33 percent of electrical energy from renewable resources by 2020.
4. The PPA is consistent with PG&E's approved 2007 RPS procurement plan.
5. D.04-06-014 and D.07-11-025 set forth standard terms and conditions to be incorporated into each RPS PPA. Those terms were compiled and published by D.08-04-009.
6. The PPA includes the Commission adopted RPS Standard Terms and Conditions deemed "non-modifiable".
7. Any stranded costs that may arise from the PPA are subject to the provisions of D.08-09-012 that authorize recovery of stranded renewables procurement costs over the life of the contract.
8. D.06-05-039 requires participation of an independent evaluator (IE) in RPS solicitations.
9. The Commission requires each utility to establish a Procurement Review Group (PRG) to review the utilities' interim procurement needs and strategy, proposed procurement process, and selected contracts.

10. Procurement pursuant to the PPA is procurement from an eligible renewable energy resource for purposes of determining PG&E's compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California Renewables Portfolio Standard (Public Utilities Code Section 399.11 et seq.) ("RPS"), Decision ("D.") 03-06-071 and D.06-10-050, or other applicable law.
11. The payments made under these PPA between PG&E and Topaz Solar Farms LLC is reasonable and in the public interest; accordingly, the payments to be made by PG&E are fully recoverable in rates over the life of the project, subject to Commission review of PG&E's administration of the PPA.
12. Certain material filed under seal pursuant to Public Utilities (Pub. Util.) Code Section 583 and General Order (G.O.) 66-C, and considered for possible disclosure, should not be disclosed. Accordingly, the confidential appendices, marked "**[REDACTED]**" in the redacted copy, should not be made public upon Commission approval of this resolution.
13. The PPA is reasonable and should be approved.
14. The payments made under the PPA, including all renewable procurement and administrative costs identified in Section 399.14(g) shall be recovered in rates.
15. AL 3313-E should be approved effective today.

THEREFORE IT IS ORDERED:

1. AL 3313-E is approved without modification.
2. This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on January 29, 2009; the following Commissioners voting favorably thereon:

____
Paul Clanon
Executive Director

Confidential Appendix A

Overview of 2004 – 2007 Solicitation Bids

[REDACTED]

Confidential Appendix B

Ranking of 2007 Bids

[REDACTED]

Confidential Appendix C

Contract Summary

[REDACTED]

Confidential Appendix D

Contract Price

[REDACTED]

Confidential Appendix E

Project Viability Matrix

[REDACTED]

<u>Confidential Appendix F</u>

Independent Evaluator Report

[REDACTED]

Confidential Appendix G

Contribution to RPS Goals

[REDACTED]

STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Governor*

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE

SAN FRANCISCO, CA 94102-3298

December 22, 2008

I.D # 8204

Draft Resolution E-4221

January 29, 2009 Commission Meeting

TO: PARTIES TO DRAFT RESOLUTION E-4221

Enclosed is draft Resolution E-4221 of the Energy Division addressing SCE's advice letter 3313-E. The Resolution addresses the Topaz Solar Farms LLC power purchase agreement. Resolution E-4221 will be on the agenda at the January 29, 2009 Commission meeting. The Commission may then vote on this Resolution or it may postpone a vote until later.

When the Commission votes on a draft Resolution, it may adopt all or part of it as written, amend, modify or set it aside and prepare a different Resolution. Only when the Commission acts does the Resolution become binding on the parties.

Parties may submit comments on the draft Resolution no later than **January 12, 2009.**

An original and two copies of the comments, with a certificate of service, should be submitted to:

Honesto Gatchalian

Energy Division

California Public Utilities Commission

505 Van Ness Avenue

San Francisco, CA 94102

fax: 415-703-2200

email: jnj@cpuc.ca.gov

An electronic copy of the comments should be submitted to:

Jaclyn Marks
Energy Division
jm3@cpuc.ca.gov

Those submitting comments and reply comments must serve a copy of their comments on 1) the entire service list attached to the draft Resolution, 2) all Commissioners, and 3) the Director of the Energy Division.

Comments may be submitted electronically.

Comments shall be limited to five pages in length plus a subject index listing the recommended changes to the draft Resolution, a table of authorities and an appendix setting forth the proposed findings and ordering paragraphs.

Comments shall focus on factual, legal or technical errors in the proposed draft Resolution. Comments that merely reargue positions taken in the advice letter or protests will be accorded no weight and are not to be submitted.

Reply comments shall be served to parties and Energy Division no later than **January 19, 2009** and may also be submitted electronically.

Late submitted comments or reply comments will not be considered.

Judith C. Iklé
Program/Branch Manager
Procurement, Renewables & Climate Strategy Branch
Energy Division

1.1 Enclosures:

Certificate of Service
Service List: R.08-08-009, R.06-02-012

CERTIFICATE OF SERVICE

I certify that I have by mail this day served a true copy of Draft Resolution E-4221 on all parties in these filings or their attorneys as shown on the attached list.

Dated December 22, 2008 at San Francisco, California.

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Jaclyn Marks

NOTICE

Parties should notify the Energy Division, Public Utilities Commission, 505 Van Ness Avenue, Room 4002 San Francisco, CA 94102, of any change of address to ensure that they continue to receive documents. You must indicate the Resolution number on the service list on which your name appears.