PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION **RESOLUTION E-4640**
February 5, 2014

REDACTED

R E S O L U T I O N

Resolution E-4640. Pacific Gas and Electric Company request for approval of three power purchase agreements with First Solar, LLC is approved.

PROPOSED OUTCOME: This Resolution approves cost recovery for Pacific Gas and Electric Company's three power purchase agreements with First Solar, LLC.

SAFETY CONSIDERATIONS: The power purchase agreements require the seller of the generation to comply with all applicable requirements of law relating to the projects.

ESTIMATED COST: Actual costs for the power purchase agreements are confidential at this time.

By Advice Letter (AL) 4107-E filed on September 10, 2012, and AL 4107-E-A on September 5, 2013.

SUMMARY

Pacific Gas and Electric Company's (PG&E) request for approval of three power purchase agreements (PPAs) with First Solar, LLC (First Solar) is approved.

PG&E submitted AL 4107-E on September 10, 2012 seeking approval of three PPAs with First Solar. All three PPAs are for new solar photovoltaic (PV) projects located in Santa Barbara County, CA and Kern County, CA. Cumulative capacity for the three projects will be 72 megawatts (MW) and cumulative expected annual generation is 179 gigawatt hours (GWhs). The initial commercial operation date for the projects is January 1, 2019, for a term of 25 years. The projects' first point of interconnection will be within the California Independent System Operator's (CAISO) balancing authority area and will deliver both energy and capacity to PG&E making them eligible as a Product Content Category One resource as specified in Public Utilities Code Section 399.16(b)(1)(A). The PPAs resulted from PG&E's 2011 RPS Solicitation.

PG&E Submitted AL 4107-E-A on September 5, 2013 to amend two non-price terms for two of the three original PPAs filed in AL 4107-E. The first amendment allows First Solar to sell 1 percent of annual generation and green attributes from the two projects for the first ten years of the contract terms. In return for this concession, the second amendment increases the buyer curtailment option for PG&E.

Cost recovery for the three First Solar PPAs, as filed in AL 4107-E and AL 4107-E-A are approved without modifications. The price and net market value (NMV) of the PPAs are competitive relative to bids resulting from PG&E's 2011 RPS Solicitation. Furthermore, the all three projects are highly viable and expected to deliver generation relative to PG&E's compliance needs.

BACKGROUND

Overview of the Renewables Portfolio Standard (RPS) Program

The California RPS Program was established by Senate Bill (SB) 1078, and has been subsequently modified by SB 107, SB 1036 and SB 2 (1X).[1] The RPS program is codified in Public Utilities Code Sections 399.11-399.31.[2] Under SB 2 (1X), the RPS program administered by the Commission requires each retail seller to increase its total procurement of eligible renewable energy resources so that 33 percent of retail sales are served by eligible renewable energy resources no later than December 31, 2020.

Additional background information about the Commission's RPS Program, including links to relevant laws and Commission decisions, is available at

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[1] SB 1078 (Sher, Chapter 516, Statutes of 2002); SB 107 (Simitian, Chapter 464, Statutes of 2006); SB 1036 (Perata, Chapter 685, Statutes of 2007); SB 2 (1X) (Simitian, Chapter 1, Statutes of 2011, First Extraordinary Session).

[2] All further references to sections refer to Public Utilities Code unless otherwise specified.

http://www.cpuc.ca.gov/PUC/energy/Renewables/overview.htm and http://www.cpuc.ca.gov/PUC/energy/Renewables/decisions.htm.

NOTICE

Notice of Advice Letters AL 4107-E and AL 4107-E-A were made by publication in the Commission's Daily Calendar. Pacific Gas and Electric Company states that a copy of each Advice Letter was mailed and distributed in accordance with Section 3.14 of General Order 96-B.

PROTESTS

No protests were filed to PG&E's AL 4107-E and AL 4107-E-A.

DISCUSSION

Pacific Gas and Electric Company (PG&E) requests approval of three power purchase agreements (PPAs) with First Solar, LLC (First Solar).

First Solar is developing three in-state thin-film solar photovoltaic (PV) projects through three wholly-owned subsidiaries. Cuyama Solar, LLC (Cuyama) is developing a 40 megawatt (MW) facility located in Cuyama, CA in Santa Barbara County with annual expected generation of 104 gigawatt hours (GWhs). Lost Hills Solar, LLC (Lost Hills) is developing a 20 MW facility located in Lost Hills, CA in Kern County with an annual expected generation of 47 GWhs. Lastly, Blackwell Solar, LLC (Blackwell) is developing a 12 MW facility in Lost Hills, CA with annual expected generation of 28 GWhs.

Both the Lost Hills and Blackwell PPAs were amended in AL 4107-E-A to accommodate the sale of up to 1% of annual generation and green attributes to third-parties for the first ten years of the contract terms in turn for increased buyer curtailment provisions. The projects have already executed 10-year agreements with the City of Roseville, CA for deliveries beginning in 2015.

All three projects are located on private agricultural land. Approximately 307 acres of irrigated crop land will be utilized by Lost Hills and Blackwell. The Cuyama project will utilize approximately 327 acres of cultivated land. All the major provisions and permits necessary to develop the three facilities have been completed or are near completion and network upgrades to interconnect the projects are projected to be completed in time for initial deliveries as stipulated in the PPAs. Furthermore, all of the major project milestones associated with the three PPAs have been achieved resulting in highly viable projects. Generation from the three projects coincides with PG&E's RPS compliance need in the latter part of Compliance period three.[3]

Table 1. Summary of First Solar PPAs with PG&E

Generating Facility	Resource Type	Capacity (MW)	Annual Forecast Generation (GWh)	Contract Term (years)	Initial Commercial Operation Date	Project Location
Cuyama	Solar PV	40	104	25	January 1, 2019	Cuyama, CA
Lost Hills	Solar PV	20	47	25	January 1, 2019	Lost Hills, CA
Blackwell	Solar PV	12	28	25	January 1, 2019	Lost Hills, CA

PG&E requested that the Commission issue a resolution for AL 4107-E, as modified in AL 4107-E-A, that contains the following findings:

1. Approves the three PPAs in their entirety, including payments to be made by PG&E pursuant to the PPAs, subject to the Commission's review of PG&E's administration of the PPAs.
2. Finds that any procurement pursuant to the three PPAs is procurement from eligible renewable energy resources 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.
3. Finds that all procurement and administrative costs, as provided by Public Utilities Code section 399.13(g), associated with the PPAs shall be recovered in rates.

[3] Compliance period three is from 2017 to 2020 as implemented in D-11-12-020 per SB 2 1X, signed by Governor Brown in April, 2011.

4. Adopts the following finding of fact and conclusion of law in support of CPUC Approval:
    a. The PPAs are consistent with PG&E's 2011 RPS procurement plan.
    b. The terms of the PPAs, 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 PPAs:
    a. The utility's costs under the PPAs shall be recovered through PG&E's Energy Resource Recovery Account.
    b. Any stranded costs that may arise from the PPAs are subject to the provisions of D.04-12-048 that authorize recovery of stranded renewables procurement costs over the life of the contract. The implementation of the D.04-12-048 stranded cost recovery mechanism is addressed in D.08-09-012.
6. Adopts the following findings with respect to resource compliance with the EPS adopted in R.06-04-009:
    a. The PPAs are not a form of covered procurement subject to the EPS, because the generating facilities have expected capacity factors of less than 60 percent and, therefore, is not baseload generation under paragraph 1(a)(ii) and 3(2)(a) of the adopted Interim EPS Rules.
7. Adopts a finding of fact and conclusion of law that deliveries from the three PPAs shall count in full toward PG&E's RPS requirements and shall be categorized as procurement under the first portfolio content category specified in Section 399.16(b)(1)(A), subject to the Commission's after-the-fact verification that all applicable criteria have been met.

Energy Division Evaluated the PPAs on the Following Grounds:

- Consistency with PG&E's 2011 RPS Procurement Plan
- Consistency with PG&E's Least-Cost Best-Fit Requirements
- RPS Portfolio Need
- Price and Value Reasonableness
- Independent Evaluator (IE) Report

- Consistency with RPS Standard Terms and Conditions
- Consistency with Portfolio Content Categories Requirements
- Consistency with Long-Term Contracting Requirement
- Procurement Review Group Participation
- Compliance with the Interim Greenhouse Gas Emissions Performance Standard

Consistency with PG&E's 2011 RPS Procurement Plan

California's RPS statute requires the Commission to direct each utility to prepare a Renewable Energy Procurement Plan (Plan) and then review and accept, modify, or reject the Plan prior to the commencement of a utility's annual RPS solicitation.[4] The Commission must then accept or reject proposed PPAs based on their consistency with the utility's approved Plan. In its 2011 RPS Procurement Plan, PG&E stated a need to procure between 800 to 1,600 GWh per year of RPS-eligible generation to address both the near-term compliance mandate established in SB2 1X and commitment to meet the goal of serving 33% of its retail sales with renewable energy by 2020.

The three First Solar PPAs are consistent with PG&E's 2011 RPS Procurement Plan because they satisfy the need to procure RPS-eligible resources to meet its 33% compliance requirement by 2020.

<u>The three First Solar PPAs are consistent with PG&E's 2011 RPS Procurement Plan.</u>

Consistency with PG&E's Least-Cost Best-Fit Requirements (LCBF)

PG&E's approved LCBF process for ranking RPS-eligible bids consists of four primary criteria: 1) market valuation, 2) portfolio fit, 3) project viability, 4) RPS goals, and 5) transmission adder. PG&E evaluated the three First Solar PPAs utilizing its LCBF process and finds that the PPAs rank favorably based on its five primary criteria.

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[4] § 399.13.

Energy Division assessed the use of PG&E's LCBF process when selecting the three First Solar PPAs and finds that PG&E adequately adhered to its Commission approved methodology.

RPS Portfolio Need

The California RPS Program was established by Senate Bill (SB) 1078 and has been recently modified by SB 2 (1X), which became effective on December 10, 2011. SB 2 (1X) made significant changes to the RPS Program.[5] SB2 (1X) established new RPS procurement targets such that retail sellers must procure "…from January 1, 2011 to December 31, 2013…an average of 20 percent of retail sales…25 percent of retail sales by December 31, 2016, and 33 percent of retail sales by December 31, 2020."[6]

As discussed in the redacted version of AL 4107-E on September 10, 2012, PG&E existing RPS-eligible portfolio is expected to provide enough generation to meet its needs in Compliance period one and expects to significantly exceed the RPS procurement targets in Compliance Period 2. The three First Solar projects are contracted to begin deliveries on January 1, 2019 which coincides with PG&E's need for RPS-eligible resources near the end of Compliance period three.

The three First Solar PPAs meet the RPS compliance needs of PG&E beginning in Compliance period three.

Price Reasonableness and Value

The three First Solar PPAs resulted from PG&E's 2011 RPS Solicitation. Therefore, the proper cohorts to benchmark the PPAs against are bids resulting from the 2011 RPS Solicitation. PG&E shortlisted the three First Solar PPAs in adherence to its Commission approved LCBF methodology which includes an assessment of the PPA price and net market value (NMV) relative to competing bids. Energy Division evaluated the three First Solar PPAs for price

[5] The Commission opened Rulemaking (R.) 11-05-005 (May 5, 2011) to implement the new RPS law.

[6] *See* § 399.15(b)(2)(B), SB 2 (1X).

reasonableness and value by comparing the PPAs to competing bids from PG&E's 2011 RPS Solicitation and finds that the PPAs are competitive.

See Confidential Appendix A for a discussion on prices reasonableness and value.

Independent Evaluator (IE) Report

The IE for the three First Solar PPAs was Arroyo Consulting. The IE evaluated both the original PPAs when filed with AL 4640-E and the amended and restated (A&R) PPAs when filed with AL 4640-E-A. The IE believes that the three First Solar PPAs merit approval based on portfolio need, project viability, price reasonableness and value, and the fairness of the amended terms in the A&R PPAs to both the developer and ratepayers.

Consistent with D.06-05-039 and D.09-06-050, an independent evaluator oversaw PG&E's negotiations with First Solar and believes the three PPAs merit approval.

Consistency with RPS Standard Terms and Conditions

The Commission adopted a set of standard terms and conditions (STCs) required in RPS contracts, four of which are considered "non-modifiable." The STCs were compiled in D.08-04-009 and subsequently amended in D.08-08-028. More recently in D.10-03-021, as modified by D.11-01-025, the Commission further refined these STCs.

The three First Solar PPAs include the Commission-adopted RPS "non-modifiable" standard terms and conditions, as set forth in D.08-04-009, D.08-08-028, and D.10-03-021, as modified by D.11-01-025.

Consistency with Portfolio Content Category Requirements

In D.11-12-052, the Commission defined and implemented portfolio content categories for the RPS program and authorized the Director of Energy Division to require the investor-owned utilities to provide information regarding the proposed contract's portfolio content category classification in each advice letter seeking Commission approval of an RPS contract. The purpose of the information is to allow the Commission to evaluate the claimed portfolio content category of the proposed RPS PPA and the risks and value to ratepayers if the proposed PPA ultimately results in renewable energy credits in another portfolio content category.

In ALs 4107-E and 4107-E-A, PG&E claims that the product procured pursuant to the three First Solar PPAs will be classified as Portfolio Content Category 1. To support its claim, PG&E asserts that the three First Solar PPAs require First Solar to provide both the energy and renewable energy certificates associated with generation from the three PPAs. PG&E also states in the AL that the facilities will interconnect within the CAISO District transmission system, a California balancing authority area.

Consistent with D.11-12-052, PG&E provided information in ALs 4107-E and 4107-E-A regarding the expected portfolio content category classification of the renewable energy credits to be procured pursuant to the three First Solar PPAs.

In this resolution, the Commission makes no determination regarding the three First Solar PPAs' portfolio content category classification. The RPS contract evaluation process is separate from the RPS compliance and portfolio content category classification process, which requires consideration of several factors based on various showings in a compliance filing. Thus, making a portfolio content category classification determination in this resolution regarding the procurement considered herein is not appropriate. PG&E should incorporate the procurement resulting from the three First Solar PPAs and all applicable supporting documentation to demonstrate portfolio content category classification in the appropriate compliance showing(s) consistent with all applicable RPS program rules.

Consistency with Long-Term Contracting Requirement

In D.12-06-038, the Commission established a long-term contracting requirement that must be met in order for retail sellers to count RPS procurement from contracts less than 10 years in duration for compliance with the RPS program.[7] In order for the procurement from any short-term contract(s) signed after June 1, 2010 to count for RPS compliance, the retail seller must execute long-term contract(s) in the same compliance period in which the short-term contract(s) is signed. The volume of expected generation in the long-term contract(s) must be sufficient to cover the volume of generation from the short-term contract(s).[8]

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7 For the purposes of the long-term contracting requirement, contracts of less than 10 years duration are considered "short-term" contracts. (D.12-06-038).

8 Pursuant to D.12-06-038, the methodology setting the long-term contracting requirement is: 0.25% of Total Retail Sales in 2010 for the first compliance period; 0.25% of Total Retail Sales in

Footnote continued on next page

Because the three First Solar PPAs are considered greater than 10 years in length, the PPA may be construed as counting toward the minimum quantity requirements that the Commission established in D.12-06-038.

Procurement Review Group Participation

The Procurement Review Group (PRG) process was initially established in D.02-08-071 to review and assess the details of the investor-owned utilities' overall procurement strategy, solicitations, specific proposed procurement contracts and other procurement processes prior to submitting filings to the Commission as a mechanism for procurement review by non-market participants.

According to PG&E, participants in its PRG included representatives from the Commission's Energy and Legal Divisions, the Division of Ratepayer Advocates, The Utility Reform Network, California Utility Employees, the Union of Concerned Scientists, California Department of Water Resources, and Jan Reid as a PG&E ratepayer. The three First Solar PPAs were presented to the PRG as a potential contract for execution on June 19, 2012.

Pursuant to D.02-08-071, PG&E complied with the Commission's rules for involving the Procurement Review Group.

Compliance with the Interim Greenhouse Gas Emissions Performance Standard (EPS)

California Public Utilities Code Sections 8340 and 8341 require the Commission to consider emissions associated with new long-term (five years or greater) PPAs procured on behalf of California ratepayers.

D.07-01-039 adopted an interim EPS that establishes an emission rate for obligated facilities at levels no greater than the greenhouse gas (GHG) emissions of a combined-cycle gas turbine power plant. The EPS applies to all energy PPAs for baseload generation that are at least five years in duration.[9] Generating

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2011-2013 for the second compliance period; and 0.25% of Total Retail Sales in 2014-2016 for the third compliance period.

[9] "Baseload generation" is electricity generation at a power plant "designed and intended to provide electricity at an annualized plant capacity factor of at least 60%." Pub. Util. Code § 8340(a).

facilities using certain renewable resources, including geothermal energy, are deemed compliant with the EPS.[10]

The three First Solar PPAs do not provide baseload generation and therefore the Emissions Performance Standard does not apply to these PPAs.

Safety Considerations

The PPAs between PG&E and First Solar requires the seller of the generation to comply with all applicable requirements of law relating to the projects including those related to planning, construction, ownership, decommissioning and/or operation of the projects. PG&E is also obligated to comply with Public Utilities Code Section 451 which states in part, "Every public utility shall furnish and maintain such adequate, efficient, just and reasonable service, instrumentalities, equipment, and facilities… as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public."

The three solar PPAs have language requiring compliance with all applicable laws relating to the projects.

Confidential Information

The Commission, in implementing Pub. Util. Code § 454.5(g), has determined in D.06-06-066, as modified by D.07-05-032, that certain material submitted to the Commission as confidential should be kept confidential to ensure that market sensitive data does not influence the behavior of bidders in future RPS solicitations. D.06-06-066 adopted a time limit on the confidentiality of specific terms in RPS contracts. Such information, such as price, is confidential for three years from the date the contract states that energy deliveries begin, except contracts between IOUs and their affiliates, which are public.

The confidential appendices, marked "[REDACTED]" in the public copy of this resolution, as well as the confidential portions of the advice letter, should remain confidential at this time.

[10] D.07-01-039, Attachment 7, p. 4.

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 or waived upon the stipulation of all parties in the proceeding. No parties protested AL 4107-E or AL 4107-E-A. Therefore, the 30-day comment period for the draft of this resolution is waived.

FINDINGS AND CONCLUSIONS

1. Senate Bill 2 (1X) (Simitian, 2011) imposed significant changes on the RPS Program, including setting new RPS compliance targets through 2020 and beyond.
2. The three First Solar PPAs are consistent with PG&E's 2011 RPS Procurement Plan.
3. Energy Division assessed the use of PG&E's LCBF process when selecting the three First Solar PPAs and finds that PG&E adequately adhered to its Commission approved methodology.
4. The three First Solar PPAs meet the RPS compliance needs of PG&E beginning in Compliance period three.
5. Energy Division evaluated the three First Solar PPAs for price reasonableness and value by comparing the PPAs to competing bids from PG&E's 2011 RPS Solicitation and finds that the PPAs are competitive.
6. Consistent with D.06-05-039 and D.09-06-050, an independent evaluator oversaw PG&E's negotiations with First Solar and believes the three PPAs merit approval.
7. The three First Solar PPAs include the Commission-adopted RPS "non-modifiable" standard terms and conditions, as set forth in D.08-04-009, D.08-08-028, and D.10-03-021, as modified by D.11-01-025.
8. Consistent with D.11-12-052, PG&E provided information in ALs 4107-E and 4107-E-A regarding the expected portfolio content category classification of the renewable energy credits to be procured pursuant to the three First Solar PPAs.

9. Because the three First Solar PPAs are considered greater than 10 years in length, the PPA may be construed as counting toward the minimum quantity requirements that the Commission established in D.12-06-038.
10. Pursuant to D.02-08-071, PG&E complied with the Commission's rules for involving the Procurement Review Group.
11. The three First Solar PPAs do not provide baseload generation and therefore the Emissions Performance Standard does not apply to these PPAs.
12. The three solar PPAs have language requiring compliance with all applicable laws relating to the projects.
13. The confidential appendices, marked "[REDACTED]" in the public copy of this resolution, as well as the confidential portions of the advice letter, should remain confidential at this time.
14. Cost recovery for the three First Solar PPAs, as filed in AL 4107-E and AL 4107-E-A are approved without modifications.
15. Advice Letter 4107-E, as modified by Advice Letter 4107-E-A, requesting approval of three PPAs with First Solar should be approved.

THEREFORE IT IS ORDERED THAT:

1. Pacific Gas and Electric Company's power purchase agreement with First Solar, LLC filed in Advice Letter 4107-E, and modified by Advice Letter 4107-E-A, is approved.

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 February 5, 2014; the following Commissioners voting favorably thereon:

PAUL CLANON
Executive Director

Confidential Appendix A

Price Reasonableness and Value

[REDACTED]