

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

RESOLUTION E-4659

October 2, 2014

R E S O L U T I O N

Resolution E-4659. Pacific Gas and Electric Company (PG&E) requests modifications to the Photovoltaic Program Solicitation Power Purchase Agreement and Protocol.

PROPOSED OUTCOME:

- This Resolution approves PG&E's Photovoltaic Program pro forma power purchase agreement and protocol with modifications.

SAFETY CONSIDERATIONS:

- This Resolution approves a revised pro forma power purchase agreement and solicitation protocols that contain provisions requiring the seller to comply with all applicable requirements of law relating to the projects including those related to planning, construction, ownership, and/or operation of the projects. As a result, there are not any expected incremental safety implications associated with approval of this resolution.

ESTIMATED COST:

- There are no expected costs associated with the changes made to the Photovoltaic Program adopted by this Resolution.

By PG&E Advice Letter 4368-E filed on February 28, 2014.

SUMMARY

This Resolution implements changes to the Solar Photovoltaic Program (PV Program) year 3 Solicitation (RFO) for Pacific Gas and Electric Company (PG&E),

This Resolution approves in part, and denies in part PG&E's Advice Letter (AL) 4368-E. The approved changes shall apply only to the specific terms requested by PG&E unless stated otherwise.

Within 14 days of the effective date of this Resolution, PG&E shall file a Tier 1 AL with the Energy Division (ED) demonstrating compliance with the modifications approved in this Resolution.

BACKGROUND

In Decision (D.) 10-04-052 (PV Program Decision), the California Public Utilities Commission (Commission) adopted the PV Program with the purpose of developing a five-year PV Program for PG&E to procure up to 500 megawatts (MW) of solar PV capacity from facilities with a capacity of one to twenty MW located in PG&E's service territory. The program allowed for both the development of utility-owned generation (UOG) and the procurement of power purchase agreements (PPAs) from independent power providers (IPPs). The PV Program Decision adopted two standard form PPAs for both small (1-3 MW) and large (3-20 MW) projects participating in the PV Program. The Decision also set a compliance cost cap for PPAs procured through the PV Program to ensure that costs of the program were reasonable. Additionally, the PV Program Decision concluded, "it is reasonable to expect the adopted standard PPA to require changes over time, for example...to respond to lessons learned as the program progresses"¹ and ordered that "PG&E may propose changes to the adopted PPA by Tier 3 AL."² The PV Program Decision also ordered PG&E to implement the PV Program as set forth in the Decision and authorized PG&E to recover costs for the PPA portion of the PV program subject to Commission review of PG&E's Energy Resource Recovery Account.

On May 24, 2010, PG&E submitted AL 3674-E requesting approval of implementation and administration details for the PPA Portion of its PV Program. The Commission approved AL 3674-E via Resolution E-4368 on December 16, 2010, and adopted: (1) a competitive solicitation process, program protocols and eligibility criteria, (2) standard PPAs, and (3) annual compliance reporting requirements for PG&E's PV Program. On December 30, 2010 PG&E submitted AL 3786-E which included the modified PV PPA and protocols as required by Resolution E-4638. The modified PV PPA and protocols included in

¹ D.10-04-052, Conclusion of Law 11, page 78.

² D.10-04-052, Ordering Paragraph (OP) 20, page 84.

AL 3786-E were approved by the Commission via disposition letter on February 1, 2011.

On September 14, 2012, PG&E solicited feedback on their existing PV Program after 2 completed annual RFOs. Based on this feedback, PG&E submitted AL 4368-E requesting Commission approval to improve their PV Program by updating their PV Program pro forma PPA (PV PPA) and protocols to align with their Renewable Auction Mechanism Program (RAM) V PPA. The revised RAM V PPA and protocols were approved by the Commission in Resolution E-4655 (RAM V Resolution).

NOTICE

Notice of PG&E's AL 4368-E was made by publication in the Commission's Daily Calendar. PG&E states that copies of AL 4368-E were mailed and distributed in accordance with Section IV of General Order 96-B.

PROTESTS

No protests were filed.

DISCUSSION

The following discussion summarizes the modifications requested by PG&E in AL 4368-E.

This section is divided into two parts:

- (A) Proposed Modifications to PG&E's PV Program Pro Forma PPA and Protocols addressed in the RAM V Resolution; and
- (B) Proposed Modifications to PG&E's PV Program Pro Forma PPA and Protocols not addressed in the RAM V Resolution

A. Proposed Modifications to PG&E's PV Program Pro Forma PPA and Protocols addressed in the RAM V Resolution

PG&E requested some of the same modifications to their PV PPA that they requested for their RAM V PPA in AL 4365-E, which requested Commission approval of changes to the RAM V PPA and protocols for the fifth program year RFO. These changes were approved with modifications in Commission Resolution E-4655. Table 1 below provides a summary of PG&E's proposed changes to its PV PPA that were addressed in Resolution E-4655.

Table 1: Summary of Changes to PG&E’s PV Program Pro Forma PPA and Protocols addressed in Resolution E-4655

Subject of PPA Change	Source of Change in AL 4368-E	Relevant PV PPA Section(s) and/or Protocol Section(s)	Proposed Revision to PV PPA	Commission Disposition in the RAM V Resolution E-4655	Notes
(1) <i>Economic Dispatch (Buyer Curtailment)</i>	AL p. 4 (Section II.B)	PPA Section 3.1(p)	PG&E seeks to implement unlimited buyer curtailment in the PV PPA to facilitate the economic dispatch of resources.	Modified to allow a 100 hour per year cap of buyer curtailment.	This modification aligns with the 2013 RPS form PPA (2013 RPS PPA) adopted in D.13-11-024.
(2) <i>Resource Adequacy (RA) and Full Capacity Deliverability Status (FCDS)</i>	AL p.5 (Section II.C)	Protocol Section III.B.1	PG&E seeks to provide participants flexibility to offer projects as Energy Only Status (EO) or FCDS. ³	Approved	
(3) <i>Commercial Online Date (COD)</i>	AL p.6 (Section II.D)	Protocol Sections I.A, III.A.4	PG&E seeks to extend the Guaranteed Commercial Online Date (GCOD) for all projects from 18 months to 24 months after Commission approval.	N/A	This revision was approved for PG&E’s RAM program in Resolution E-4489.

³ For FCDS bids, projects are not required to be fully deliverable as of commercial operation, but must be fully deliverable by 12/31/2024.

Subject of PPA Change	Source of Change in AL 4368-E	Relevant PV PPA Section(s) and/or Protocol Section(s)	Proposed Revision to PV PPA	Commission Disposition in the RAM V Resolution E-4655	Notes
<i>(4)Regulatory Delay Extension</i>	AL p.6 (Section II.E)	Protocol Section III.B.5, PPA Section 3.9(c)	PG&E seeks to increase the time period for an extension to the GCOD for certain allowed regulatory and permitted delays to 18 months. The Small PV PPA currently allows a 6 month extension and the Large PV PPA currently allows a 12 month extension.	Rejected	The RAM V PPA only allows for a 6-month regulatory delay extension.
<i>(5)Projects with Shared Interconnection Facilities</i>	AL p.6 (Section II.F)	PPA Section 3.6	PG&E seeks to add a requirement that Sellers provide separate high-side metering and separate step-up transformers for each project.	Adopted	Term did not exist in the year 1 and 2 Small and Large PV PPAs.
<i>(6) 2013 RPS PPA Conforming Updates</i>	AL p. 7 (Section II.G)	Protocol Section V.B and throughout the PPA (particularly Sections 3 and 4)	PG&E seeks to bring the PV PPA language current with the 2013 RPS PPA approved by the Commission in D.13-11-024. The changes include updating time of delivery (TOD) factors, California Independent System Operator (CAISO) terminology and outage and reporting protocols.	Adopted	

Subject of PPA Change	Source of Change in AL 4368-E	Relevant PV PPA Section(s) and/or Protocol Section(s)	Proposed Revision to PV PPA	Commission Disposition in the RAM V Resolution E-4655	Notes
(7) <i>Interconnection</i>	AL p. 7 (Section II, H)	Protocol Section III.B.1	PG&E seeks to modify the eligibility requirement from previously requiring a submitted interconnection application for the year 1 and 2 PV program RFO to now requiring a completed phase II interconnection study.	Modified to require completed phase I interconnection study	RAM 1-4 had a phase I interconnection requirement.

Energy Division evaluated the necessity and reasonableness of these proposed changes to the PV PPA and protocols based on the following criteria:

- Consistency with the PV Program Decision, Resolution E-4489, and the RAM V Resolution.
- Consistency with other Commission decisions, rules, and policies.

(1) Economic Dispatch (Buyer Curtailment)

The Commission addressed the proposed modifications to the curtailment terms in the RAM V Resolution when PG&E requested unlimited buyer curtailment in the RAM V PPA. PG&E is requesting approval of the same modified curtailment terms in the PV PPA.

In AL 4368-E, PG&E requests to include language to allow PG&E to facilitate the economic dispatch of projects in the PV PPA for the year 3 RFO. PG&E asserts that maintaining dispatch rights is necessary so that a resource may be unrestricted in the number of hours it may be curtailed to be fully and most efficiently bid into CAISO markets.⁴ PG&E further reasons that the flexibility of unrestricted buyer curtailment provides PG&E the ability to bid its resources into

⁴ PG&E AL 4368-E, pp. 4-5.

CAISO markets without restriction to avoid or limit negative pricing and/or over-generation situations which protects customers from negative CAISO market prices.

The Commission first addressed the issue of economic curtailment in the 2011 RPS procurement plan decision, and has previously addressed this issue in the RAM Program in D.11-04-030 and the RAM V Resolution. Most recently, PG&E requested the same unlimited curtailment provisions in AL 4368-E for the RAM V PPA. In the RAM V Resolution the Commission acknowledged PG&E's need for economic curtailment provisions and the challenges of establishing such provisions, particularly given the uncertainty in forecasting future transmission and generation development, load growth, and market conditions.⁵ In the RAM V Resolution and all other prior instances, the Commission ultimately found that the record was lacking, and particularly noted in D.11-04-030 that Parties failed to present estimates of the likely locations or amounts of curtailment over the contract duration. The Commission notes that this continues to be the case.

Given PG&E's proposal for unlimited curtailment provisions in the PV PPA was recently reviewed as part of the 2013 RPS procurement plan (RPS plan) process and in the RAM V Resolution, the Commission again finds that it is reasonable for PG&E to modify their PV Program pro forma PPA economic curtailment provisions to be consistent with their 2013 RPS pro forma PPA, as approved in D.13-11-024. Accordingly, PG&E's request for unlimited buyer curtailment is denied.

(2) Resource Adequacy and Full Capacity Deliverability Status

In AL 4368-E, PG&E requests approval to revise the PV PPA to allow participants the option of submitting offers as either EO or FCDS.⁶ Additionally, PG&E proposes to require FCDS bids that result in executed PPAs to be fully

⁵ Resolution E-4655, p. 16.

⁶ Projects bidding as FCDS must acquire a FCDS finding through the interconnection process. Participation in the annual deliverability assessment is not allowed for projects bidding FCDS. PG&E's proposal will allow approximately 10 years from PPA execution until FCDS obligations must be met, which recognizes that CAISO interconnection studies often indicate network upgrades for full delivery that require up to 12 years.

deliverable by December 31, 2024. PG&E asserts this proposed modification will give PV Program participants the flexibility to offer projects with the highest relative customer value based on the evaluation process' assessment of EO and FCDS projects.

The Commission agrees with PG&E that it is reasonable to allow participants the flexibility to bid projects as either EO or FCDS. The RAM II, III, and IV PPAs provided participants the flexibility to offer projects as either EO or FCDS. Additionally, the RAM V Resolution adopted the change in date of the requirement to achieve FCDS from 12/31/2021 to 12/31/2024. PG&E's proposed modification will allow participants the flexibility to submit offers with the highest overall value based on system RA needs. Therefore, the Commission finds that PG&E's requested modifications to allow both EO and FCDS bids in the year 3 PV Program RFO and modify the date by which projects must achieve FCDS are reasonable.

(3) Commercial Online Date

In AL 4368-E, PG&E requests approval to modify the GCOD for the PV PPA to twenty four months after Commission approval instead of the current eighteen months. In AL 4368-E, PG&E asserts that allowing projects twenty four months to reach COD will enhance the likelihood that approved projects meet the COD timeframe while also allowing projects procured through the year 3 PV Program RFO to better align with PG&E's renewable net short (RNS) need.⁷ This would also align the PV PPA with the RAM V PPA.

The PV Program Decision originally adopted a GCOD deadline of 18 months for the PV PPA.⁸ D.10-12-048 also adopted a GCOD deadline of eighteen months for the RAM I PPA.⁹ Resolution E-4489 then extended the RAM II PPA's GCOD deadline from eighteen months to twenty-four months after Commission approval.¹⁰ In Resolution E-4489, the Commission found clear evidence demonstrating that it would improve the RAM program to extend the deadline

⁷ PG&E AL 4368-E, p. 6.

⁸ D.10-04-052, p.8.

⁹ D.10-12-048, § 9.2.1.2, p. 51.

¹⁰ Resolution E-4489, OP 5, p. 19.

by an additional six months.¹¹ In maintaining consistency with the RAM V PPA, the Commission finds that PG&E's requested modification to extend the PV Program PPA's GCOD to twenty four months after Commission approval is reasonable.

(4) Regulatory Delay Extension

In AL 4368-E, PG&E requests approval to modify the regulatory delay extension for the PV PPA to eighteen months instead of the current six months for the Small PV PPA and twelve months for the Large PV PPA. In AL 4368-E, PG&E asserts that regulatory delays exceeding twelve months may occur due to transmission upgrade delays outside a seller's control, which may jeopardize a seller's ability to meet its contractual obligations. Additionally, PG&E claims this extension should not result in PG&E selecting projects with longer construction times since PG&E proposes to only select projects in the PV Program Year 3 RFO with a phase II interconnection study that indicates necessary network upgrades can be completed within 24 months.¹²

The Commission acknowledges PG&E's request, but declines to adopt it at this time in an effort to promote the execution of PPAs with projects that can achieve commercial operation quickly. Additionally, PG&E provides no evidence that an extension of the regulatory delay time period is needed or would benefit the PV program. As such, the Commission finds that PG&E has not provided sufficient evidence to justify extending the time period for extensions due to regulatory delay. Accordingly, the Commission denies PG&E's request to modify the regulatory delay extension time period from twelve months to eighteen months.

The Commission adopted a regulatory delay extension of six months for the small PV PPA and twelve months for the large PV PPA.¹³ The RAM V PPA has a regulatory delay extension of six months.¹⁴ As part of the Commission's effort to align the year 3 PV PPA with the RAM V PPA to streamline the PV Program

¹¹ *Id* at 18.

¹² PG&E AL 4368-E, p. 6.

¹³ See § 3.9.A.II of the large PV PPA and § 5.3 of the small PV PPA at http://www.pge.com/nots/rates/tariffs/tm2/pdf/ELEC_3786-E.pdf.

¹⁴ D.10-12-048, § 9.2.1.2, p. 51.

year 3 procurement process, the Commission modifies the PV Program PPA's regulatory delay extension to six months for both small and large PV projects.

(5) Projects with Shared Interconnection Facilities

In AL 4365-E, PG&E requests the addition of a requirement that sellers provide separate high-side metering and separate step-up transformers for each project. PG&E asserts that the modification ensures that sellers are not breaking up or subdividing larger projects in order to participate in the PV Program, and that the interconnection study costs are not allocated across multiple projects.¹⁵

The Commission agrees that PG&E's proposed modifications add assurances against subdividing projects for the PV program. PG&E's proposed revisions regarding shared interconnection facilities are reasonable.

(6) 2013 RPS Form PPA Conforming Updates

In AL 4365-E, PG&E requests to bring its PV PPA language in alignment with the 2013 RPS PPA approved by the Commission in D.13-11-024. This proposed change would include updating TOD factors, CAISO terminology, and outage and reporting protocols. PG&E asserts it must update its PPA language regularly due to RPS market changes, including changes to CAISO operating, scheduling rules, and tariffs.

Given PG&E's 2013 RPS PPA revisions were recently reviewed as part of the 2013 RPS plan process, the Commission finds that it is reasonable for PG&E to bring the PV PPA language current with the 2013 RPS Form PPA approved by the Commission in D.13-11-024.

(7) Interconnection

In AL 4365-E, PG&E requests to modify the interconnection eligibility requirement for the PV Program Year 3 RFO from the previous requirement of a submitted interconnection application to the proposed requirement of a completed Phase II interconnection study. PG&E asserts that the modification is reasonable for the same reasons that the Commission adopted a Phase II study requirement for bids in the 2013 RPS RFO - the requirement would provide more certainty regarding transmission cost and timing and minimize failure risk.

¹⁵ PG&E AL 4368-E, p. 7.

PG&E also states that the phase II requirement is even more applicable for the PV Program RFO since the GCODs are more near-term and there is an even greater need for certainty regarding timing of network upgrades.

As noted in the RAM Resolution, the PV program already has several screens in place to minimize project failure and there is no evidence at this time that a modification of the interconnection requirement is necessary.¹⁶ The Commission re-affirms its disposition in the RAM V Resolution and finds that there is no evidence at this time to modify the PV program interconnection requirement. As such, the Commission finds that PG&E has not provided sufficient evidence to justify modifying the interconnection requirement to requiring projects to have a completed Phase II interconnection study. Accordingly, the Commission denies PG&E's request to require that projects have a completed Phase II study to participate in the PV Program. However, to maintain consistency with the RAM V PPA, the Commission modifies the PV Program interconnection requirement to require projects to have a completed Phase I interconnection study to participate in the PV Program.

B. Proposed Modifications to PG&E's PV Program Pro Forma PPA and Protocols not addressed in the RAM V Resolution

PG&E requested additional changes to the PV PPA and Protocols that were not addressed in the RAM V Resolution. PG&E asserts these proposed modifications will have the following benefits: 1) streamline and simplify the PV Program year 3 RFO process for RFO participants; 2) provide for easier RFO administration; and 3) simplify the Commission's review of the resulting PPAs from the PV Program year 3 RFO. A summary of PG&E's proposed changes to the PV Program PPA and Protocols that were not addressed in the RAM V Resolution can be seen in Table 2.

¹⁶In the RAM V Resolution, Clean Coalition filed a protest arguing that there is no need for the proposed interconnection modification because bidders are already required to demonstrate their project's ability to come online within the GCOD requirement. Clean Coalition also argues that the proposal is contrary to an efficient functioning interconnection study process and unlikely to have significant benefit due to the majority of applicants already having completed Phase II studies.

Table 2: Proposed Changes to PG&E’s PV Program PPA and Protocols not addressed in the RAM V Resolution

Subject of Modification	Source of Change in AL 4368-E	Relevant PV PPA Section(s) and/or Protocol Section(s)	Proposed Revision to PV Program PPA	Notes
<i>(1) Size eligibility requirement</i>	AL p. 4 (Section II.A)	PPA Title page, PPA Cover Sheet, Section B9(ix)	Allows for a single form PV PPA for small projects and large projects participating in the PV program.	Program years 1 and 2 of the PV Program had separate PPAs for small projects and large projects.
<i>(2) Location Eligibility Requirement</i>	AL p.4 (Section II.A)	PPA Title Page	Requires eligible projects to be located within PG&E’s service territory.	
<i>(3) Evaluation Criteria</i>	AL p.7 (Section II,I)	Protocol Section IV	PG&E seeks to adopt the bid evaluation ranking process used in RAM V for use in the year 3 PV program RFO.	The current PV Program evaluation methodology ranks offers solely based on their post-TOD cost. The proposed evaluation methodology will enable PG&E to consider transmission costs in addition to the relative value of projects bidding in as FCDS versus those bidding in as EO.
<i>(4) Guaranteed energy production</i>	AL p. 4 (Section II.A)	PPA Section 3.1(e)(i)	Projects sized less than 3 MW do not have a guaranteed energy production.	The Small PV PPA did not subject projects less than 3 MW to a guaranteed energy production.

<p>(5) <i>Development Security and Delivery Term Security</i></p>	<p>AL p. 4 (Section II.A)</p>	<p>PPA Cover Sheet, Section E; PPA Sections 8.4(a)(i), 8.4(a)(ii)</p>	<p>Maintains the lower project development security and delivery term security amounts adopted in the PV program plus the provision that projects sized less than 3 MW do not have to post delivery term security.</p>	<p>Small PV PPA did not require projects sized less than 3 MW to post delivery term security.</p>
<p>(6) <i>Aggregation of Projects</i></p>	<p>AL p. 4 (Section II.A)</p>	<p>PPA Sections 1.5, 1.194, 1.229, 3.6</p>	<p>Allows small projects to aggregate their capacity to meet the minimum eligibility threshold in the PV Program RFO.</p>	

Energy Division evaluated the necessity and reasonableness of these proposed changes to the PV PPA and protocols based on the following criteria:

- Consistency with the PV Program Decision, Resolution E-4368, and the RAM V Resolution.
- Consistency with other Commission decisions, rules, and policies.

(1) Size Eligibility Requirement

In the previous PV Program year 1 and 2 RFOs, there was a separate PPA for small projects and large projects participating in PG&E’s PV Program. In AL 4368-E, PG&E requests Commission approval of a single PV PPA (combined PV PPA) for both the small projects and large projects participating in PG&E’s PV Program year 3 RFO.

This modification to the PV Program PPA would allow PG&E to efficiently manage the PV Program RFO and would streamline the PV Program RFO process for all parties involved. Additionally, it would allow PG&E to align a single combined PV PPA with the RAM V PPA and administer the respective modifications approved in this Resolution. In maintaining consistency with the proposed, revised PV PPA, the Commission finds that PG&E’s requested modification to consolidate the small and large PV PPA into a single, combined PV PPA is reasonable.

(2) Location Eligibility Requirement

In AL 4368-E, PG&E requests Commission approval of the requirement that projects participating in the PV Program year 3 RFO must be located within PG&E's service territory. The PV Program Decision adopted the PV Program to develop up to 500 MWs of solar PV facilities sized 1-20 MW in PG&E's service territory.¹⁷ That said, the Commission finds that PG&E's requested requirement that all projects participating in the PV Program year 3 RFO be located in PG&E's service territory is consistent with D.10-04-052 and is reasonable.

(3) Evaluation Criteria

The PV Program evaluation methodology for the PV Program year 1 and 2 RFOs ranked bids solely based on their post-TOD cost. In AL 4368-E, PG&E requests Commission approval to change their evaluation methodology to rank offers based on their levelized product cost per megawatt hour. This is the same bid evaluation and ranking process PG&E's uses in the RAM program.¹⁸

PG&E's proposed ranking methodology would first rank bids based on their post-TOD cost then add the estimated transmission network upgrade costs from the most recent interconnection study or interconnection agreement.¹⁹ PG&E asserts this would allow PG&E to fully assess the relative value of projects bidding as FCDS against competing projects bidding as EO in the PV Program year 3 RFO.

In Resolution 4489-E, the Commission approved PG&E's use of the levelized cost evaluation methodology for the RAM Program. To align the PV Program PPA and protocols with the RAM V PPA and protocols, the Commission finds that PG&E's request to rank projects bidding into the PV Program year 3 RFO based on their levelized product cost per megawatt hour is reasonable.

¹⁷ D.10-04-052, p. 2.

¹⁸ Resolution E-4489, p. 14 states, "The IOUs shall rank bids using the following formula: bid price + ratepayer funded transmission upgrade costs (network upgrade costs and deliverability upgrade costs) - resource adequacy benefits."

¹⁹ For EO projects, PG&E would only consider reliability network upgrade costs. For FCDS projects, PG&E would consider the reliability and deliverability network upgrade costs as well as the RA benefits. The methodology would also use PG&E's Commission-authorized after-tax weighted average cost of capital of 7%.

(4) Guaranteed Energy Production

In the previous PV Program year 1 and 2 RFOs, the Small PV PPA did not subject projects less than 3 MW to a guaranteed energy production. In AL 4368-E, PG&E requests Commission approval of a combined PV PPA that maintains the provision that projects sized less than 3 MW are not subject to guaranteed energy production provisions.²⁰

Guaranteed energy production provisions were adopted for the RAM PPA in Resolution E-4414.²¹ However, 1-3 MW projects are not eligible for the RAM program. The Commission most recently addressed the issue of guaranteed energy production provisions for RPS projects sized 1-3 MW in the Renewable Market Adjusting Tariff (Re-MAT) program, a feed-in tariff available to renewable generators up to 3 MW in size.²² On June 24, 2013, PG&E filed AL 4246-E which contained its revised standard Re-MAT PPA. The Commission approved AL 4246-E on July 23, 2013 and adopted PG&E's Re-MAT PPA, which contains explicit guaranteed energy production provisions for projects sized 1-3 MW.²³ As part of the Commission's effort to streamline RPS procurement and maintain consistency across the Commission's RPS procurement programs, the Commission denies PG&E's request that the PV PPA maintain the provision that projects sized less than 3 MW are not subject to guaranteed energy production provisions and The Commission modifies the PV PPA so that PV projects with a capacity of 1-3 MW are subject to the same guaranteed energy production provisions as PV projects participating in the Re-MAT program.

²⁰ Section 3.1(e)(ii) of the PV PPA defines Guaranteed Energy Production.

²¹ PG&E's Compliance AL 3905-E which includes the RAM PPA's guaranteed energy production provisions can be seen at:

http://www.cpuc.ca.gov/NR/rdonlyres/F92907EF-C0A5-40BB-B996-15E9CBCCEE7/0/PGELEC_3905E.pdf

²² For more information on Re-MAT see:

<http://www.cpuc.ca.gov/PUC/energy/Renewables/hot/feedintariffs.htm>

²³ See PG&E's Renewable Market Adjusting Tariff Pro Forma PPA § 13.1.

(5) Development Security and Delivery Term Security

In AL 4368-E, PG&E requests Commission approval of a combined PV PPA that maintains the lower project development security amounts from the PV Program year 1 and 2 RFO for both small and large projects. Additionally, PG&E requests approval of a combined PV PPA that maintains the provision that small projects do not have to post a delivery term security.

As part of PG&E's effort to adopt a combined PV PPA for the PV Program Year 3 RFO, the Commission recognizes the need to maintain existing provisions from the year 1 and 2 PV PPAs. The year 1 and 2 PV PPA's development security and delivery term security terms and conditions were approved by the Commission on December 30, 2010 via a disposition letter approving PG&E AL 3786-E.²⁴ As such, the Commission finds PG&E's request to maintain the PV PPA's performance assurance amounts for project development security and delivery term security with the amounts required in program years 1 and 2 of the PV PPA RFO is reasonable.

(6) Aggregation of Projects

In AL 4368-E, PG&E requests Commission approval to allow aggregation of smaller PV projects to meet the minimum 1 MW PV program capacity requirement.²⁵

In Resolution E-4368, The Commission found it reasonable to allow participants to aggregate multiple facilities with a minimum capacity of 500 kW in order to meet or exceed the 1 MW program eligibility threshold, provided the aggregated project interconnects within a single p-node.²⁶ The Commission re-affirms this finding and approves PG&E's request to allow aggregation of smaller PV projects to meet the minimum 1 MW capacity requirement.

²⁴ See http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_3786-E.pdf.

²⁵ Each individual facility must be at least 500 kW, owned by a single participant, and all the facilities must share a single CAISO resource ID. The aggregated facilities must be capable of responding to single electronic signal from the CAISO or PG&E for the purposes of scheduling or dispatch.

²⁶ Resolution E-4368, Finding 9, p. 28.

PUBLIC SAFETY

California Public Utilities Code § 451 requires that every public utility maintain adequate, efficient, just, and reasonable service; instrumentalities; equipment; and facilities to ensure the safety, health, and comfort of the public. This Resolution approves a revised PV PPA and protocols that contain provisions requiring the seller to comply with all applicable requirements of law relating to the projects including those related to planning, construction, ownership, and/or operation of the projects. As a result, there are not any expected incremental safety implications associated with approval of this Resolution.

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.

The 30-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments on August 26, 2014 and comments were received from PG&E on September 18, 2014

The Commission considered comments which focused on factual, legal, or technical errors and made appropriate changes to the draft resolution.

PG&E recommends that the Commission approve PV PPA language that allows PG&E economic dispatch rights and unlimited buyer curtailment.

PG&E recommends that the Commission approve unlimited buyer curtailment in the PV PPA for four reasons: 1) the ability to economically dispatch PV PPAs mitigates downward trends of pricing in the CAISO market; 2) economic dispatch rights will enhance system reliability and improve the CAISO's ability to avoid overgeneration situations; 3) economic dispatch rights will reduce the frequency of paying others to take California's excess generation and customers will benefit from avoiding PG&E paying negative market prices; and 4) PG&E's economic dispatch rights provisions treat sellers fairly by compensating them for the curtailed production. PG&E also noted that the RAM V PPA approved a 100 hour per year curtailment cap, not a 250 hour per year curtailment cap as stated in Draft Resolution E-4659.

As stated above, this resolution denies PG&E's request for economic dispatch rights and unlimited buyer curtailment. However, the Commission

acknowledges the analysis in PG&E's comments and recognizes the potential benefits of allowing PG&E economic dispatch rights. That said, a Resolution is not the appropriate vehicle for addressing such a substantive change to the wholesale electricity market. The Commission plans on addressing the issue of economic curtailment in a future Commission Decision and maintains its finding to deny PG&E's request for unlimited buyer curtailment. Additionally, the Commission modifies the curtailment cap for the PV PPA to a 100 hour per year cap as part of the Commission's effort to align the RAM V PPA with the year 3 RFO PV PPA.

PG&E states that the Commission may want to align the GEP Provisions for Small and Large PV Projects

PG&E states that the Commission may wish to modify the small PV PPA's 170% GEP provision to match the large PV PPA's 160% GEP provision in order to maintain the PV Program's original intent of easing the participation of smaller projects.

As stated above, the Commission's goal is to streamline RPS procurement and maintain consistency across the Commission's RPS procurement programs. This resolution finds that small PV projects with a capacity of 1-3 MW are subject to the same GEP provisions as PV projects participating in the Re-MAT program.

FINDINGS AND CONCLUSIONS

1. It is reasonable for PG&E to modify their Photovoltaic Program pro forma power purchase agreement economic curtailment provisions to be consistent with their 2013 Renewables Portfolio Standard pro forma power purchase agreement, as approved in D.13-11-024.
2. PG&E's request for unlimited buyer curtailment is denied.
3. PG&E's requested modifications to allow both energy only and full capacity delivery status bids in the year three Photovoltaic Program Solicitation and to modify the date by which projects must achieve full capacity delivery status are reasonable.
4. PG&E's requested modification to extend the Photovoltaic Program power purchase agreement's guaranteed commercial online date to twenty four months after Commission approval is reasonable.
5. PG&E has not provided sufficient evidence to justify extending the time period for extensions due to regulatory delay.

6. PG&E's request to modify the regulatory delay extension time period from twelve months to eighteen months is denied.
7. The Commission modifies the Photovoltaic Program power purchase agreement's regulatory delay extension to six months for both small and large photovoltaic projects.
8. PG&E's proposed revisions regarding shared interconnection facilities are reasonable.
9. It is reasonable for PG&E to bring the Photovoltaic Program power purchase agreement language current with the 2013 Renewables Portfolio Standard Form power purchase agreement approved by the Commission in D.13-11-024.
10. PG&E has not provided sufficient evidence to justify modifying the interconnection requirement to requiring projects to have a completed Phase II interconnection study.
11. PG&E's request to require that projects have a completed Phase II interconnection study to participate in the Photovoltaic Program is denied.
12. The Photovoltaic Program interconnection requirement is modified to require projects to have a completed Phase I interconnection study to participate in the Photovoltaic Program.
13. PG&E's requested modification to consolidate the small and large Photovoltaic Program power purchase agreement into a single, combined Photovoltaic Program power purchase agreement is reasonable.
14. PG&E's requested requirement that all projects participating in the Photovoltaic Program year 3 Solicitation be located in PG&E's service territory is consistent with D.10-04-052 and reasonable.
15. PG&E's request to rank projects bidding into the Photovoltaic Program year 3 Solicitation based on their levelized product cost per megawatt hour is reasonable.
16. PG&E's request that the Photovoltaic Program power purchase agreements maintain the provision that projects sized less than 3 megawatts are not subject to guaranteed energy production provisions is denied.
17. The Commission modifies the Photovoltaic Program power purchase agreement's so that photovoltaic projects with a capacity of one to three

megawatts are subject to the same guaranteed energy production provisions as photovoltaic projects participating in the Renewable Market Adjusting Tariff Program.

18. PG&E's request to maintain the Photovoltaic Program power purchase agreement's performance assurance amounts for project development security and delivery term security with the amounts required in program years 1 and 2 of the Photovoltaic Program is reasonable.
19. PG&E's request to allow aggregation of smaller Photovoltaic Program projects to meet the minimum one megawatt capacity requirement is reasonable.

THEREFORE IT IS ORDERED THAT:

1. Pacific Gas and Electric Company shall modify Section III.B.1 of its Photovoltaic Program protocol such that participants may offer projects as energy only status or full capacity deliverability status.
2. Pacific Gas and Electric Company shall modify Section III.B.5 of its Photovoltaic Program protocol and Section 3.9(c) of its Photovoltaic Program pro forma power purchase agreement such that the regulatory delay extension is six months for all photovoltaic projects.
3. Pacific Gas and Electric Company shall modify Sections I.A and III.A.4 of its Photovoltaic Program protocol such that the guaranteed commercial online date is twenty four (24) months after Commission approval.
4. Pacific Gas and Electric Company shall modify Section 3.6 of its Photovoltaic Program pro forma power purchase agreement to require Sellers to provide separate high-side metering and separate step-up transformers for each Project.
5. Pacific Gas and Electric Company shall modify Section III.B.1 of the Photovoltaic Program protocol such that the interconnection eligibility requirement is a Phase I interconnection study.

6. Pacific Gas and Electric Company shall modify its Photovoltaic Program pro forma power purchase agreement such that the terms are consistent with its 2013 RPS pro forma power purchase agreement as approved in D.13-11-024.
7. Pacific Gas and Electric Company shall modify Section 3.1(e)(i) of its Photovoltaic Program pro forma power purchase agreement such that photovoltaic projects sized less than 3 megawatts are subject to the same guaranteed energy production provisions that are in PG&E's Renewable Market Adjusting Tariff pro forma power purchase agreement.
8. Pacific Gas and Electric Company shall modify Section 8.4(a)(i) and 8.4(a)(ii) of its Photovoltaic Program pro forma power purchase agreement such that it maintains the project development security and delivery term security amounts adopted in the Photovoltaic Program and the provision that projects sized less than 3 MW do not have to post delivery term security.
9. PG&E is authorized to allow a single Photovoltaic Program pro forma power purchase agreement for both small and large projects participating in the Photovoltaic Program.
10. Pacific Gas and Electric Company shall modify Section IV of the Photovoltaic Program protocol such that projects are evaluated based on their levelized product cost per megawatt hour.
11. PG&E is authorized to allow small projects to aggregate their output to meet the minimum eligibility capacity threshold in the Photovoltaic Program Solicitation.
12. PG&E is authorized to include the economic curtailment provisions that were found reasonable in Resolution E-4655 in Section 3.1(p) of the Renewable Auction Mechanism Program power purchase agreement.
13. Within 14 days of the effective date of this Resolution, Pacific Gas and Electric Company shall file a Tier 1 advice letter with the Energy Division demonstrating compliance with this Resolution.

14. Pacific Gas and Electric Company's advice letter 4368-E is approved with modifications.

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 October 2, 2014; the following Commissioners voting favorably thereon:

/s/ Paul Clanon
PAUL CLANON
Executive Director

MICHAEL R. PEEVEY
President
MICHEL PETER FLORIO
CATHERINE J.K. SANDOVAL
CARLA J. PETERMAN
MICHAEL PICKER
Commissioners

Appendix A

Matrix of Proposed Changes between PG&E's
Proposed Program Year 3 PV PPA and PG&E's
February 2014 Proposed RAM V PPA

Begin Appendix A

Section	Change (Redline)	Summary
Cover Sheet, Section B(ix)	The nameplate capacity of the Project (must be greater <u>no less</u> than 31 MW and less <u>no more</u> than or equal to 20 MW):	Maintains the ability of PV Projects sized in the 1 MW to less than 3 MW range to participate in the RFO.
Cover Sheet, Section E	<ul style="list-style-type: none"> • <u>Project Development Security</u> (provide dollar amount) Dollar Amount: \$ _____ • Cash, or • Letter of Credit • <u>Delivery Term Security</u> (provide dollar amount) Dollar Amount: \$ _____ • Cash, or Letter of Credit <p><u>Delivery Term Security is not applicable to photovoltaic offers less than 3 MW.</u></p>	
1.5	<u>“Aggregated Project” means two or more facilities located on one or more contiguous or non-contiguous sites, where (a) each facility is composed of units that are under common ownership of the Seller and (b) each facility has a nameplate capacity of no less than 500 kW; provided that, all the facilities comprising the Aggregated Project share a single CAISO resource ID (that is, are deemed to deliver to the same PNode) and can all respond to a single electronic scheduling or dispatch order from either PG&E or the CAISO.</u>	Maintains the ability of small projects to aggregate their output to meet the minimum size threshold in the RFO.
1.194	1.193 “Project” means all of the Unit(s) and the Site at which the generating facility is located and the other assets, tangible and intangible, that compose the generation facility, including the assets used to connect the Unit(s) to the Interconnection Point, as more particularly described in the Cover Sheet. <u>For the purposes of this Agreement, all references to “Project” shall mean the “Aggregated Project” when applied to an Aggregated Project.</u>	
1.229	1.228 “Site” means the location of the Project as described in the Cover Sheet. <u>For the purposes of this Agreement, all references to “Site” shall mean “Sites” when applied to an</u>	

Section	Change (Redline)	Summary
	<u>Aggregated Project.</u>	
3.1(e)(i)	<i>[Use the following bracketed language for As-Available Product delivered by all facilities <u>except for PV Projects with Contract Capacity less than 3 MW]</u></i>	Maintains the provision that projects sized less than 3 MW do not have a guaranteed energy production.
3.6	<p>3.6 All output from the Project <u>or, in the case of an Aggregated Project, all output from each Site making up the Aggregated Project,</u> must be delivered through a single CAISO revenue meter located on the high-voltage side of the Project's final step-up transformer (which must be dedicated solely to the Project) nearest to the Interconnection Point that exclusively measures output for the Project described herein. All Delivered Energy purchased under this Agreement must be measured by the Project's CAISO revenue meter to be eligible for payment under this Agreement. Seller shall bear all costs relating to all metering equipment installed to accommodate the Project. In addition, Seller hereby agrees to provide all meter data to Buyer in a form acceptable to Buyer, and consents to Buyer obtaining from the CAISO the CAISO meter data applicable to the Project and all inspection, testing and calibration data and reports. Seller shall grant Buyer the right to retrieve the meter reads from the CAISO Operational Meter Analysis and Reporting (OMAR) web and/or directly from the CAISO meter(s) at the Project site. If the CAISO makes any adjustment to any CAISO meter data for a given time period, Seller agrees that it shall submit revised monthly invoices, pursuant to Section 6.2, covering the entire applicable time period in order to conform fully such adjustments to the meter data. Seller shall submit any such revised invoice no later than thirty (30) days from the date on which the CAISO provides to Seller such binding adjustment to the meter data.</p>	
8.4(a)(i)	(i) Project Development Security pursuant to this	Maintains the lower Project Development Security

Section	Change (Redline)	Summary
	<p>Section 8.4(a)(i) in the amount of \$60/kW amounts and by the due dates set forth in Sections 8.4(a)(i)(A), (B) and (C) below, as applicable for As-Available resources, or \$90/kW for Baseload resources multiplied by the capacity of the Project as reflected in Section B of the Cover Sheet, within five (5) Business Days following the Effective Date of this Agreement until Seller posts Delivery Term Security pursuant to Section 8.4(a)(ii) below with Buyer:</p> <p style="text-align: center;">(A) for</p> <p><u>Projects with a Contract Capacity of less than three (3) MW, \$20/kW within thirty (30) days following the Effective Date; or</u></p> <p style="text-align: center;">(B) for</p> <p><u>Projects with a Contract Capacity of three (3) to less than ten (10) MW, \$15/kW upon the Execution Date, increasing to \$20/kW within thirty (30) days following the Effective Date; or</u></p> <p><u>(C) for Projects with a Contract Capacity of ten (10) to twenty (20) MW, \$15/kW upon the Execution date, increasing to \$35/kW within thirty (30) days following the Effective Date.</u></p>	<p>amounts adopted in the PV PPA program.</p>
8.4(a)(ii)	<p>(ii) Delivery Term Security pursuant to this Section 8.4(a)(ii) in the amount of five percent (5%) <u>six months</u> of expected total Project revenues <u>in the first applicable Contract Year</u> from the date required pursuant to Section 3.1(c)(i) as a condition precedent to the Initial Energy Delivery Date until the end of the Term; provided that, with Buyer's consent, Seller may elect to apply the Project Development Security posted pursuant to Section 8.4(a)(i) toward the Delivery Term Security posted pursuant to this Section 8.4(a)(ii). <u>Photovoltaic Projects with Contract Capacities less than three (3) MW are not required to post Delivery Term Security.</u></p>	<p>Maintains the lower Delivery Term Security amounts adopted in the PV PPA program, plus the provision that projects sized less than 3 MW do not have to post Delivery Term Security.</p>

End Appendix A