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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues.	Rulemaking 12-11-005 (Filed November 8, 2012)

COMMENTS OF THE CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION ON THE PROPOSED DECISION ON REFORMS TO THE SELF-GENERATION INCENTIVE PROGRAM

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Subject Index

Table of Authorities

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Pursuant to Rule 14.3 of Rules of Practice and Procedure of the California Public Utilities Commission (Commission), the California Solar Energy Industries Association (CALSEIA) hereby submits these comments on *Proposed Decision Revising the Self-Generation Incentive Program Pursuant to Senate Bill 861, Assembly Bill 1478, and Implementing Other Changes* (PD), issued on May 16, 2016.

1. Introduction

SB 861 reauthorized the Self-Generation Incentive Program (SGIP) and required the Commission to make changes to the program. CALSEIA strongly supports the direction of the proposed changes in the PD to implement that legislation. Most importantly, making rebate funds available on a continuous basis rather than offering a tranche of funding each year, while simultaneously reducing incentives and increasing the deposit, will help make SGIP a program that developers can count on being available when interacting with customers. In order to reach that goal, CALSEIA believes changes to the rebate structure must go even farther. CALSEIA also recommends requiring the changes to be implemented sooner and clarifying the changes that will be made to the results of the February 2016 program opening.

The PD makes three changes to the SGIP rebate structure: A) It changes the basis of the rebate from the kW maximum discharge capacity of a storage system to the kWh energy storage capacity of the system; B) it reduces the initial rebate level; and C) it creates a stepped reduction of the future rebate levels. CALSEIA supports all of these changes, but recommends that the Commission go farther in the reduction of the initial rebate level, that storage capacity beyond the first two hours of capacity receive a lower rebate level than the first two hours of capacity, and that rebate reductions from one step to the next be steeper if program activity is extremely high.

2. Initial Rebate Level Should Be Lower

Making the SGIP budget available on a continuous basis is an essential change that, if implemented effectively, will ensure that the program is not so competitive that there is not a reasonable opportunity for customers to participate. A continuously available program is essential for market development. If the incentive amounts in each step are higher than necessary, however, the increased budget may still be spoken for in a matter of days, followed by the absence of available rebates. Steady activity is what the industry needs, not boom and bust.

The Staff Proposal to Modify the Self-Generation Incentive Program (Staff Proposal) recommended that the initial rebate level be "based on the degree to which the technologies support program goals and the degree to which they require support in order to be cost effective from the participant's perspective."[1] To determine the rebate level needed for storage to be cost effective for customers, the Staff Proposal considered the advertised price of the Tesla Powerwall, doubled it to account for the inverter and installation, and set a target of offsetting 40% of the installed cost. This resulted in a recommended rebate level of $1.20/W. The PD cannot use this number if it is to change the basis for the rebate to Wh, but it also does not

[1] "Staff Proposal to Modify the Self-Generation Incentive Program, Pursuant to SB 861 and the Commission's Own Motion," November 23, 2015 at 23.

explain how it arrived at the initial incentive rate of $0.50/Wh for large systems and $0.60/Wh for small systems.

CALSEIA agrees that project economics from the customer perspective should be the basis for the initial rebate level. However, our analysis of rebate reservation requests from the most recent program opening, in addition to conversations with storage companies, lead us to a lower rebate level. There were 842 reservation request for energy storage systems in the February 2016 program opening. After eliminating 10% of the most expensive systems as outside of the norm, there were 633 proposed energy storage systems sized greater than 10 kW and less than or equal to 1 MW. Assuming that all systems have two hours of storage, those systems have an average price of $1.34/Wh. This should be reduced by 10% to reflect continued cost decreases between the last program opening and the next one. That results in a price of $1.21/Wh. Because demand for rebates has been so strong, CALSEIA recommends the rebate target to be 10% less than the Staff Proposal's target of 40% of system cost. This produces a rebate level of $0.36/Wh for large systems.[2] Based on feedback from our members, CALSEIA recommends the additional incentive for systems smaller than 10 kW to be $0.05/Wh, rather than the $0.10/Wh difference in the PD. This produces an initial rebate level for smaller systems of $0.41/Wh.

3. Rebate Step-Down Should Be Sharper If Program Activity Is Extremely High

The future cost reduction of battery production is unknown. The PD sets out a plan for stepping down the rebate level over time, but it is impossible to know at the current time whether those steps will match future cost reduction. The PD should include a mechanism for the rebate

[2] For programs supporting a steady market, CALSEIA supports erring on the side of making gradual reductions in program support, as in our positions in R.14-07-002. However, because there is not a steady storage market to disrupt and because the SGIP budget is so severely limited, CALSEIA recommends erring on the side of more limited program support.

step-down to respond to the level of program activity. CALSEIA recommends that if the budget for a rebate step is subscribed within five business days, the rebate level of the following step should be $0.08/Wh lower, rather than $0.05/Wh lower if program activity is less intense. If the decision adopts CALSEIA's recommended initial rebate level of $0.36/Wh, the range of rebate levels would be as shown in Table 1. The actual rebate steps would likely be between these two scenarios, with some step reductions being at $0.05/Wh and others being at $0.08/Wh.

Table 1. High and Low Case Rebate Levels by Step (¢/Wh)

		Step 1	Step 2	Step 3	Step 4	Step 5
Large Systems	Each step is open > 1 week	36	31	26	21	16
	Each step is open < 1 week	36	28	20	12	4
Small Systems	Each step is open > 1 week	41	36	31	26	21
	Each step is open < 1 week	41	33	25	17	9

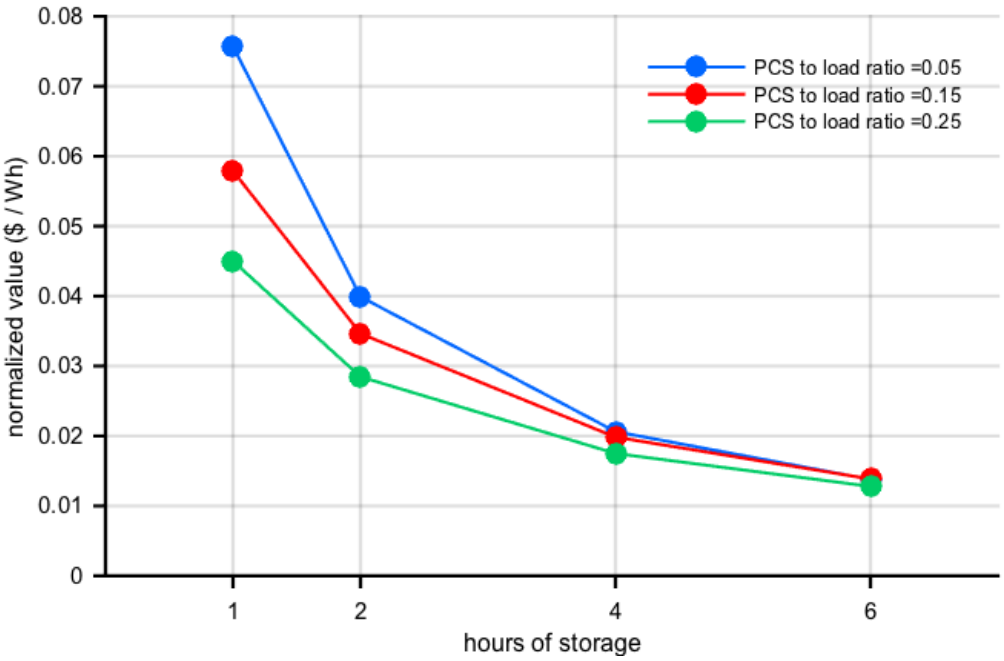
4. Longer Duration Batteries Should Receive Lower Rebate Levels

By changing the basis for the rebate from discharge capacity to energy storage capacity, the Commission is encouraging longer duration storage systems. This may be good for grid needs, but care should be taken not to over-subsidize the additional storage capacity. If the marginal cost of adding batteries to an energy storage system is less than the SGIP rebate and other limited revenue streams, customers will have the incentive to install longer duration storage systems even if they have no intention of using the additional capacity on a regular basis. Currently, customers can install large systems based solely on the SGIP rebate plus anticipated revenue from resource adequacy payments, even though the systems are likely to be called on far less than 260 hours per year for resource adequacy, then discharge overnight in order to comply with the minimum discharge requirement. If the Commission is going to require that systems discharge 260 hours per year, it should ensure those discharges are productive.

CALSEIA recommends basing the rebate decrease for larger systems on demand charge mitigation, which is currently the most common use case for customer-sited storage and which

involves discharging more than 260 hours per year. Geli has performed an evaluation of 50 randomly selected customers and measured the customer benefit of using storage systems of different sizes for demand charge mitigation. The results are shown in Figure 1. Using the middle scenario of a 0.15 discharge to load ratio, the value of a 4-hour system is 57% of the value of a 2-hour system, and the value of a 6-hour system is 40% of the value of a 2-hour system. CALSEIA recommends using this analysis to set the rebate level for the third and fourth hours of storage capacity at 60% of the base rebate level and the rebate level for the fifth and sixth hours of storage capacity at 40% of the base rebate level.

Figure 1. Geli Analysis of Customer Value for Demand Charge Mitigation



Because use cases and revenue streams will change over time, the Decision should give the Program Administrators the authority to change these percentages via advice letter.

5. Energy Storage Projects Should Only Receive Rebates for Up to the First 1 MW of Capacity

The PD rejects the recommendation in the Staff Proposal to allow projects to receive funding for capacity up to 5 MW, and instead maintains the current project size caps and rebate

levels. In so doing, the PD does not address the difference between generation and storage technologies. CALSEIA believes there is a need to move in the opposite direction from the Staff Proposal recommendation that would only apply to energy storage. It may well be that generation technologies need rebate funds for the second and third megawatts of capacity, but this is not necessarily true for energy storage. CALSEIA is concerned that very large storage projects will consume a high portion of available energy storage funds. We recommend retaining the current size cap and rebate levels for generation technologies, but not funding capacity for energy storage above 2 MWh (1 MW discharge capacity with two hours of storage).

Having appropriate funding caps is increasingly important to ensure a diverse deployment of projects as demand clearly outweighs supply of funding in SGIP. Due to the incredible demand within the program, it would be unfortunate to have a funding step in which two or three projects consume all of the funding in some of the utility territories. Developers should certainly be allowed to deploy larger projects, but incentives should be limited to the first 2 MWh.

6. Excessive Administrative Funding in PG&E and SCE Territories Should Be Placed into the Program for Project Deployment

According to the SGIP public database, PG&E and SCE have significant unspent administrative rollover funding.[3] These Program Administrators (PAs) should be required to place at least 50% of rollover funds into the program upon its opening. In the case of SCE, approximately $27 million is currently held in rollover administrative funds. SCE will continue to collect approximately $2 million annually under SB 861, yet it has only been spending around half that amount. Similarly, PG&E has nearly $22 million in rollover administrative funding and is authorized to collect an addition $2.5 million annually to administer the program. This, again,

[3] Self-Generation Public Database, June 6, 2016, available at: https://www.selfgenca.com/budget_public/scg.

is twice the amount that has been needed. CALSEIA believes these funds will not be needed for administration and should be used to deploy clean technologies.

7. Program Development Timeline Should Be Shorter

The PD grants the PAs 120 days to conduct workshops and file advice letters on the details of the revisions to the program. It has already been nearly two years since the legislation reauthorizing SGIP, SB 861 of 2014, was signed into law. Although the changes included in the PD are substantial and require additional consideration, waiting an additional four months is unnecessary. The PAs should be able to schedule workshops and make decisions promptly. CALSEIA recommends that the PAs be required to submit advice letters implementing the decision 60 days after the decision is final.

8. Projects Should Be Eligible for Rebates Upon Submittal of Completed Interconnection Application Materials

The petition for modification from Powertree highlights the problem of long timelines for utility inspection and interconnection approval interfering with the ability of customers to collect expected SGIP rebates. This same problem has surfaced for interconnection of solar systems related to the transition to a net energy metering (NEM) successor tariff. If the utility takes so long to approve an interconnection application and to give a customer permission to operate a solar system that the customer misses the deadline for the expiration of the current NEM tariff, it is not fair to a customer that has done what is necessary to install a system before the deadline. The Commission has addressed this problem by defining the submittal of complete interconnection application materials, including the local government inspection and approval, as the trigger for tariff eligibility.[4] The Commission should do the same for SGIP rebate eligibility.

[4] D.14-03-041, fn 49 at 23.

9. Foregone Projects from February 2016 Program Opening Should Be Selected According to Time Stamp

The PD proposes to allow the results of the February 23, 2016 program opening to stand, considering that the offer from Stem, Inc. to cancel some of its reservation request applications makes the results of the solicitation "considerably more equitable."[5] However, this offer does not render moot the request in the petition for modification from Maas Energy Works that conditional reservation letters "be recovered if warranted by irregularities in projects' applications."[6] The memos from Energy Solutions emailed to the service list on April 19, 2016 documented that some applicants violated the terms of use of the application interface by using a POST-only technique to submit applications.

If the Commission decides to move forward for the sake of expediency, it should at least clarify that the projects that get cancelled coincide with the projects that caused the biggest problems in the program opening. Because Stem used all of the available bandwidth of the Energy Solutions server in the opening minutes, the earlier submissions should be the ones that are cancelled. Allowing the company to walk away from its least viable projects that may not have been built anyway and choose to retain its most viable projects is not fair and equitable.

10. Conclusion

CALSEIA appreciates the opportunity to offer these comments and urges the Commission to adopt the recommendations herein.

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5 PD at 54.

6 *Ibid.*

DATED at Sacramento, California, this 6th day of June, 2016,

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Appendix A. Proposed Changes to Findings of Fact and Conclusions of Law

Finding of Fact 22	It is reasonable to adjust reductions in incentives between incentive steps based on the level of program activity.
New Finding of Fact to follow Finding of Fact 24	It is reasonable to adopt a project size cap for energy storage that is lower than the project size cap for generation technologies.
Conclusion of Law 12	Modify to reflect the initial rebate of $0.36/Wh for Large Scale Energy Storage and $0.41/Wh for Small Scale Energy Storage. Clarify that these rebate amounts apply only to the first two hours of energy storage.
New Conclusion of Law to follow Conclusion of Law 12	The rebate level for energy storage capacity capable of discharging beyond two hours and less than four hours in an energy storage system should be 60% of the rebate level for the first two hours of capacity. The rebate level for energy storage capacity capable of discharging beyond four hours and less than six hours in an energy storage system should be 40% of the rebate level for the first two hours of capacity.
Conclusion of Law 19	Rebate amounts for steps other than the first step shall be $0.05/Wh lower than the preceding step if the preceding step was available for more than one week and $0.08/Wh lower than the preceding step if the preceding step was available for less than one week
Conclusion of Law 20	The following project size caps and rebate level <u>for generation technologies</u>, which are consistent with those currently in place, are adopted:
New Conclusion of Law to follow Conclusion of Law 20	SGIP rebates should only fund the first 2 MWh of storage capacity for an energy storage system that is larger than 2 MWh.
New Conclusion of Law	The Program Administrators should move at least half of the funds from their administration accounts remaining from previous years to rebate budgets.
New Conclusion of Law to follow Conclusion of Law 47	A project should be deemed to have met its project completion deadlines if it has submitted completed interconnection application materials, including final building inspection, before the deadline.