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 ENERGY STORAGE ALLIANCE ON PROPOSED DECISION REVISING THE SELF-GENERATION INCENTIVE PROGRAM PURSUANT TO SENATE BILL 861, ASSEMBLY BILL 1478, AND IMPLEMENTING OTHER CHANGES

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TABLE OF CONTENTS

I.	INTRODUCTION.	
II.		
11.	BUDGET CATEGORY REFORMS AND SIZING SHOULD FAVOR BROAD ENERGY STORAGE MARKET TRANSFORMATION WITH 75% OF FUNDS	
	ALLOCATED TO THE ENERGY STORAGE TECHNOLOGY BUCKET.	3
***	CEGA CURRORES PRODOCED BUCENTRUE DEGLON DUE RECOMMENDO	
III.	CESA SUPPORTS PROPOSED INCENTIVE DESIGN BUT RECOMMENDS CLARIFICATIONS OF THE RULES AND THE TRANSITION BETWEEN	
	STEPS	5
13.7	ELICIDII ITVI I ICTG AND BROOD AN COAL COLIOUI D'ENGLIDE CLEAN	
IV.	ELIGIBILITY LISTS AND PROGRAM GOALS SHOULD ENSURE CLEAN- ENERGY AND ENVIRONMENTAL GOALS ARE MET	7
	ENERGY AND ENVIRONMENTAL GOALS ARE WET	/
V.	LONG-DURATION PROJECTS CAN BE FAIRLY FUNDED AT THE STAFF	_
	PROPOSAL'S DECLINING INCENTIVE RATES.	7
VI.	PROGRAM RULES SHOULD DIRECT SOME DEGREE OF 'SKIN IN THE	
	GAME' AND SHOULD NEVER FULLY COVER THE COSTS OF	_
	PROJECTS.	9
VII.	CESA SUPPORTS THE PD'S PROPOSED DEVELOPER CAP	9
X / I I I	DROCD AND DUE ES CHOLE DE DROMOTE STRONG DROJECT VIA DILITY	
VIII.	PROGRAM RULES SHOULD PROMOTE STRONG PROJECT VIABILITY IN THE APPLICATION PROCESS.	10
		10
IX.	THE LOTTERY PROCESS WORKSHOP MUST ADDRESS A NUMBER OF	10
	CRITICAL FACTORS.	10
X.	CURRENT RULES FOR THE CALIFORNIA SUPPLIER ADDER SHOULD	
	BE RETAINED.	11
XI.	DECLINING INCENTIVES FOR PROJECTS OF LARGER SIZES ARE	
	APPROPRIATE	11
VII	PROGRAM RULES SHOULD GUARD AGAINST BAD ACTORS	11
AII.	TROOKAW ROLLS SHOOLD GOARD AGAINST DAD ACTORS	11
XIII.		
	UNDER NEW PROGRAM RULES.	12
XIV.	CLARIFICATIONS ARE NEEDED ON RULES FOR DC MICROGRID	
	ELIGIBLE PROGRAM COMPONENTS	13
XV.	CONCLUSION	13

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The California Energy Storage Alliance ("CESA")¹ hereby submits these comments pursuant to the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission") regarding the Proposed *Decision Revising the Self-Generation Incentive Program Pursuant to Senate Bill 861, Assembly bill 1478, and Implementing Other Changes*, issued on May 16, 2016 ("Proposed Decision").

I. INTRODUCTION.

Public Utilities Code Section 379.6 was amended on June 20, 2014, by Senate Bill 861 to revise Self-Generation Incentive Program ("SGIP") eligibility requirements, program evaluation

¹ 1 Energy Systems Inc., Adara Power, Advanced Microgrid Solutions, AES Energy Storage, Amber Kinetics, Aquion Energy, Bright Energy Storage Technologies, Brookfield, California Environmental Associates, Consolidated Edison Development, Inc., Cumulus Energy Storage, Customized Energy Solutions, Demand Energy, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, Electric Motor Werks, Inc., ElectrIQ Power, ELSYS Inc., Enphase Energy, GE Energy Storage, Geli, Gordon & Rees, Green Charge Networks, Greensmith Energy, Gridscape Solutions, Gridtential Energy, Inc., Hitachi Chemical Co., Ice Energy, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Invenergy LLC, Johnson Controls, K&L Gates, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, NEC Energy Solutions, Inc., NextEra Energy Resources, NGK Insulators, Ltd., NRG Energy LLC, OutBack Power Technologies, Parker Hannifin Corporation, Powertree Services Inc., Qnovo, Recurrent Energy, RES Americas Inc., Saft America Inc., Samsung SDI, Sharp Electronics Corporation, Skylar Capital Management, SolarCity, Sovereign Energy, Stem, SunPower Corporation, Sunrun, Swell Energy, Trina Energy Storage, Tri-Technic, UniEnergy Technologies, Wellhead Electric, Younicos. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. (http://storagealliance.org).

criteria, project-level requirements, and various program processes. The overarching intent of SB 861 was to use the ratepayer-funded SGIP to curb greenhouse gas ("GHG") emissions and other air pollutants and support technologies that increase the efficiency, reliability, and utilization of existing electric grid assets.

The Proposed Decision to revise the SGIP builds on a lengthy effort to develop the necessary record and thoughtfully consider needed reforms to the SGIP pursuant to SB 861. The Proposed Decision proposes an array of reforms to the SGIP, including re-allocating budgets, and updating incentive structures to better fit with the key environmental and grid-support goals which match with both California law and good public policy. CESA greatly appreciates this important work.

CESA finds many aspects of the Proposed Decision to be both logical and substantiated by the record and the Commission's reasoning. CESA strongly supports the funding allocation which would use key policy criteria to guide funding for technology categories. The step-down incentive structure for the energy storage technology 'bucket' will provide important market signals for customer-sited energy storage, allowing both larger and smaller energy storage system to be deployed with a clear eye towards grid needs and greenhouse gas reduction goals.

While CESA fundamentally supports the PD, CESA also recommends a number of important improvements to the Proposed Decision which should inform the Commission's final decision.

CESA's guiding principles in reviewing the Proposed Decision are to support CESA's mission while also responsibly structuring the SGIP to provide transformative and prudent incentives to many energy storage projects. CESA's positions in these comments balance the need to provide robust incentive support with longevity and stewardship goals for the SGIP, where responsible allocation of incentives at the right level and with the right controls are

paramount. CESA believes program rules should have safeguards to prevent against problematic outcomes, and recommends several specific rule changes to this effect.

II. BUDGET CATEGORY REFORMS AND SIZING SHOULD FAVOR BROAD ENERGY STORAGE MARKET TRANSFORMATION WITH 75% OF FUNDS ALLOCATED TO THE ENERGY STORAGE TECHNOLOGY BUCKET.

The Proposed Decision adjusts both the program budget categories and allocations, moving to a structure where 'Energy Storage Technologies' is a stand-alone budget category, or 'bucket', that is allocated 75% of the annual SGIP funds. This bucket structure is a logical and prudent step.

A focus on energy storage will provide critical supports for the grid, for ratepayers, and for the growing distributed energy resource industry. The nature of the grid is changing, and the role and importance of energy storage grows. To support integration of renewables and to help with emerging challenges on the grid, such as large levels of renewables at certain times of the day or year, energy storage is key. Energy storage can absorb lower cost energy while also providing services to support reliability, customer needs, etc. The energy storage industry is also in a period of growth and market change.

Self-generation technologies, meanwhile, provide a different set of services and warrant their own budget category. Consolidating these technologies into a single "energy generation" category will direct competition among these resources in ways that more clearly inform customer decisions in selecting onsite generation. A clear delineation between energy storage and energy generation technologies makes sense and provides an easy division upon which the Commission can meaningfully direct funds. CESA agrees with the Proposed Decision that there is some value in reserving funds for certain groups of technologies, and strongly urges the Commission to limit funding for technologies other than energy storage to at most 25%.

CESA strongly supports the budget allocation level for the energy storage bucket of 75%, even though a good case for a higher budget level could be made. This funding allocation reflects recent and forward expectations of grid conditions and needs. The future of the grid will involve deep penetrations of renewables, and energy storage resources can reduce curtailments in support of cost-effective attainment of Renewables Portfolio Standard ("RPS") goals while mitigating ramping and uncertainty challenges facing distribution and transmission grid operators. SGIP projects can help in this regard while also augmenting customer management of energy needs and supporting more localized system operations and needs. Energy storage also will respond to future time-of-use energy spreads and can shift on-site net energy metering ("NEM") generation to support the grid in later time periods where appropriate. Tightening GHG emission reduction rules also support the use of energy storage and renewables in place of emissions-intensive generating sources. Finally, challenges with the state's reliance on natural gas may promote greater fuel diversity requirements, thus avoiding reliability challenges presented by a too-heavy reliance on a single fuel source. Aliso Canyon-related reliability concerns amply illustrate the impact of this problem. Collectively, the reasons for the case for more investment in energy storage is compelling and urgent. Some of this value was reflected in the findings in the 2015 Self-Generation Incentive Program Cost Effectiveness Study ("Cost-Effectiveness Study") where energy storage was found to have even higher societal values in the 2020 grid.²

The 75% funding allocation also reflects a reasoned look at program spending and operations. Tighter emissions requirements and minimum zero-emissions fuel blending levels will change the landscape for pure electric fuel cells, a group that historically garnered high

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² 2015 Self-Generation Incentive Program Cost Effectiveness Study, Itron, October 5, 2015, pgs. 1-9 – 1-

http://www.cpuc.ca.gov/NR/rdonlyres/A2A26928-9D12-4F28-B42E-B7C94B0DDDE6/0/20151119FINALFULLREPORT.pdf

levels of SGIP funding every year. With adjusted and more stringent requirements on these types of resources, the Commission can logically expect a different 'playing field' for technologies in the future, where allocations for energy storage should increase. To illustrate, without fuel-cells, the historical data shows energy storage would account for 80% of SGIP funds in 2015. Assessing all of these reasonable data points, a case can readily be made to set the energy storage budget allocation at 80% or higher, particularly when adopting rules that should exist multiple years into the future.

Year	2011	2012	2013	2014	2015	2016?
% of Rebates to Storage in Past	35.9%	39.2%	45%	45.9%	57.6%	??
Budgets						
Year-over-year Change		4	4.4	6.4	5.5	?
Storage % of Funds with Pure-	60%	64%	72%	74%	80%	??
Electric ruei Cells Removed						

III. CESA SUPPORTS PROPOSED INCENTIVE DESIGN BUT RECOMMENDS CLARIFICATIONS OF THE RULES AND THE TRANSITION BETWEEN STEPS

The Proposed Decision proposes a minimum SGIP funding amount specifically for small-scale projects and also directs a five-step decreasing incentive. Small-scale project incentives start at \$.60 per watt-hour while larger-scale project incentives start at \$.50 per watt-hour. These incentives decline in five steps where each step establishes incentives that are \$.05 lower than the previous step.

CESA supports this funding model for energy storage. Declining incentive structures ensure incentive levels would decrease in meaningful ways. CESA also supports the small-scale system minimum requirement which will allow for numerous small-system deployments.

Achieving high volumes of deployments will support market transformation and build industry capabilities in important ways.

Several clarifications are required on these aspects of the SGIP rules that will promote smooth program operations and will direct prudent deployments of SGIP projects.

First, CESA recommends a Commission-determined 'pause' between step-downs. This 'pause' would allow for SGIP Program Administrators ("PAs") to operate lottery processes if needed, and could allow funds from 'drop-out' projects to be re-allocated at the current incentive level they occupied. This pause should likely extend for 30 days.

Wait-lists for step downs should be established, when necessary, so that funds from project drop outs can flow to wait-listed parties in the 'active' incentive step. While wait-lists can require administration from PAs, a clear lottery process with predictable outcomes should make wait-lists a clearly regulated process requiring very minimal or no judgment, eliminating controversy.

Clear rules are needed regarding the management of incentives across step downs. First, progress into a lower step down for large-scale projects should be allowed, even if funds for small-scale projects remain in the 'active' step. PAs can be expected to reasonably manage this aspect of having multiple 'active' steps. Developers should not, however, receive awards for incentives in non-active steps until those step downs are opened. This approach would limit situations where a developer inappropriately 'runs through' the funding all the way through step five. Instead, the modest 'pause' between steps should ensure competition for incentives in each step. The Commission's final decision should clarify these rules sufficiently to guide PA's actions and SGIP participant expectations.

During any pause, the Commission may wish to consider incentive re-calibration. This should only occur through Commission action. Absent Commission action, the SGIP should function as directed in the final decision.

Finally, rules should accommodate the reallocation of funds to more active participant pools where appropriate, but only when stagnation of funds is evident. CESA recommends a twelve-month lag before funds are re-allocated, and also supports the use of PA-directed Advice Letters to seek Commission approval for re-allocations, if recommended by the PAs.

IV. <u>ELIGIBILITY LISTS AND PROGRAM GOALS SHOULD ENSURE CLEAN-ENERGY AND ENVIRONMENTAL GOALS ARE MET.</u>

The Commission and Legislature's GHG emission reduction goals should be well-represented in the SGIP's eligibility lists. The tightening GHG Emissions Factors must be adhered to in technology eligibility decisions in order for the SGIP to meet its goals. CESA therefore supports stringent requirements on the blending of zero-emissions fuel for gas-fueled projects.

CESA supports the PD's listed Program Goals because these goals accurately and reasonably respond to legislative directives as to the intent of SGIP and reflect sound Commission reasoning. With respect to the "safe and commercially available goal," CESA recommends the PD allow for situations where applicable Nationally Recognized Testing Laboratory ("NRTL") standard adoption takes longer than expected. CESA thus supports the provision to allow working toward availability goals while the NRTL process is underway.

V. <u>LONG-DURATION PROJECTS CAN BE FAIRLY FUNDED AT THE STAFF</u> PROPOSAL'S DECLINING INCENTIVE RATES.

The Staff Proposal recommended that longer duration projects be eligible but that incentives for longer-duration projects should, overall, be lower. To accomplish this, the Staff

Proposal recommended a declining incentive structure to reasonably recognize the declining marginal costs expected to exist with several aspects of project development and construction of longer-duration and larger projects. CESA recommends the Commission adopt the declining rate structure developed in the Energy Division Staff Proposal to Modify the Self-Generation Incentive Program Pursuant to SB 861 and the Commission's Own Motion ("Staff Proposal"), which CESA has supported. The declining rate structure, adjusted for the "per Watt-hour" incentive (vs the previously developed "per kW" incentive) should step down at the following rates:

- Hours 0-2 in duration receive 100% incentive
- Hours 2-4 in duration, if applicable, receive 67% of the incentive
- Hours 4-6 in duration, where applicable, receive 33% of the incentive.

This declining incentive structure seems reasonable and can still make a material difference for CESA's long-duration energy storage technology. The Staff Proposal's declining incentives balance between the need to support long-duration technologies and projects in a technology and business-model agnostic way while limiting incentives so that larger project durations are not unreasonably funded.

Importantly, long-duration projects can provide numerous grid benefits and can align closely with grid needs. Current Resource Adequacy ("RA") rules require four-hours of energy capability, and Flexible RA Category 1 directs six hours of energy. Linking SGIP the duration rules for SGIP incentives to these levels fits logically with grid-support goals.

Finally, CESA recommends the Commission allow longer-duration projects to participate, while still only offering incentives for a maximum of six-hours of energy capability. Some energy storage technologies and customer needs may demand very-long duration projects, ranging from eight to 12 hours in duration. The SGIP can support these projects by making them

eligible for SGIP incentives but capping the incentives to only apply to the first six hours of energy capability.

VI. PROGRAM RULES SHOULD DIRECT SOME DEGREE OF 'SKIN IN THE GAME' AND SHOULD NEVER FULLY COVER THE COSTS OF PROJECTS.

Proper stewardship of SGIP funds requires rules whereby projects are never fully funded without some investment from the host-customer or developer. Historically, rules requiring a 40% minimum customer investment attempted to achieve this outcome. While CESA understands that these rules were difficult to enforce, monitor, and effectuate in meaningful ways, the program nevertheless may benefit from ways to achieve the intent of these controls.

While CESA strongly supports the appropriate use of multiple revenue streams to justify the cost of implementing energy storage, in designing new SGIP rules consideration of other incentives and programs should be considered to make sure that no project is deployed for 'free'. This would be an unintended outcome that would not be beneficial for ratepayers, the SGIP program or the energy storage industry. Customer investments can prevent trivial or wasteful installations. Customer investment requirements and rules can also create more competitive pricing for SGIP projects because project developers must seek to lower costs for customers. In cases where system costs are fully covered, inappropriate project pricing can occur. For example, if a small and large project can both be eligible for a combination of incentives; developers may have incentives to recommend the larger project even if the incremental benefits are small. Such inappropriate outcomes should be avoided so that SGIP funds flow to as many viable and useful projects as possible.

VII. CESA SUPPORTS THE PD'S PROPOSED DEVELOPER CAP.

CESA supports the PD's recommendation that any one developer be limited to receiving a maximum of 20% of available funding. Caps provide important safeguards against excessive

concentrations of SGIP funds to single developers. Caps can help ensure broad market transformation broadening the allocations of incentives, ensuring multiple groups develop projects and gain industry experience.

VIII. PROGRAM RULES SHOULD PROMOTE STRONG PROJECT VIABILITY IN THE APPLICATION PROCESS.

CESA supports the proposed rule to increase the deposit requirement from 1% to 5%. CESA previously recommended rules requiring submittal of this deposit within two weeks of the notification of an SGIP reservation – requiring deposits early in the application process can guard against applications for truly unviable projects. These steps alone should incent only the most viable projects to pursue SGIP funding.

IX. THE LOTTERY PROCESS WORKSHOP MUST ADDRESS A NUMBER OF CRITICAL FACTORS.

The Proposed Decision proposes a lottery process be developed to manage the award of SGIP funds to projects in cases where project applications in a single day exceed the available funds in a particular step, or in the program in general. CESA supports development of a well-managed, reasonable, and fair lottery system. CESA also supports the use of a workshop to develop the lottery criteria, protocols, and processes.

Importantly, the lottery criteria for selection should be clear and practicable. The lottery should focus on viability factors so that reasonably viable projects are selected. Reasonably, project-viability requirements should discourage inappropriate 'queue-clogging'. The requirement for application deposits for in-lottery projects will ensure that, in general, more viable projects enter into the lottery.

CESA also recommends the proposed workshop address issues regarding treatment of applicants who persistently submit 'queue-clogging' projects, and who have very poorly

executed project follow-through, *e.g.* where particular developers have known extremely high and persistent drop-out rates. Finally, the lottery should address how funds from drop-outs (unconsummated projects) are addressed.

X. <u>CURRENT RULES FOR THE CALIFORNIA SUPPLIER ADDER SHOULD BE</u> <u>RETAINED.</u>

The Proposed Decision requires developers and SGIP providers to seek a new qualification for receiving the 20% California Supplier Adder. CESA understands the well-intended purpose of this proposed requirement, but instead recommends that the current California Supplier Adder rules be retained. CESA believes the proposed new process would be complicated and may be difficult to administer. The current process, by contrast, is known to be workable. The complexity of the new proposed process would likely add financing risk to SGIP projects that can be mitigated by retaining the old rules.

XI. <u>DECLINING INCENTIVES FOR PROJECTS OF LARGER SIZES ARE APPROPRIATE.</u>

The Proposed Decision proposes a declining incentive structure whereby projects of large size are eligible for decreasing incentive levels. This funding allocation reduces the incentives such that projects with declining marginal costs do not receive declining incentives. CESA supports these rules and believes they are appropriately technology and business-model neutral. CESA further recommends these declining incentives fit with the Proposed Decision's proposed time-based incentives in a clear manner. Additionally, criteria to evaluate project size and duration will be needed in the lottery.

XII. PROGRAM RULES SHOULD GUARD AGAINST BAD ACTORS.

SGIP is an important program that provides crucial funding for energy storage projects seeking to expand and transform the industry while offering numerous benefits. Going forward

SGIP rules should prohibit and prevent inappropriate use of SGIP as well as inappropriate forms of participation in the application process. The Commission should establish clear and enforceable codes of conduct and performance expectations going forward, and violators should be suspended from the program. For example, the inappropriate submittal of duplicate applications as a strategy for receiving SGIP awards should not be allowed. CESA believes these kinds of new program rules can respond effectively to the competitive application process, but expects application levels to remain high.

XIII. <u>EXCESS PROGRAM ADMINISTRATIVE FUNDS SHOULD BE DISBURSED UNDER NEW PROGRAM RULES.</u>

In cases where the PAs have accumulated excess management funds, the Commission should direct that these funds be added to active steps of the program and be used for SGIP reservations. CESA notes that PG&E and SCE have what could be considered excessive roll over funding3 (PG&E ~\$21M and SCE has ~\$26M), indicating excess funds exist. With limited funding in SGIP for projects, it seems appropriate for utilities with excessive administrative to roll over funds into the program. An examination of the annual spending in SCE's territory indicates less than \$1M spent per year, yet SCE receives roughly \$2M annually. SCE should roll-over at least 50% of the \$26M into the program upon opening. In this example, SCE would still have a sizable roll-over amount of ~\$13M in addition to the current authorization of roughly ~\$2M per year. Nearly the same calculation can be done for PG&E, and therefore, PG&E should also roll over at least 50% of its roll-over funding into the program or roughly \$10M. To retain excessive roll over funds when the program has such a severe shortage of funding is likely inappropriate. These funds should be used to deploy clean technology projects.

³ Self-Generation Public Data Base, 6.6.16, https://www.selfgenca.com/budget_public/scg

XIV. <u>CLARIFICATIONS ARE NEEDED ON RULES FOR DC MICROGRID</u> ELIGIBLE PROGRAM COMPONENTS.

CESA agrees that only the generation and storage components of a DC micro-grid should be eligible, however CESA recommends greater clarity on which wiring and controls should be excluded. For instance, a DC-DC converter used to control battery charging is nearly identical in construction to a transformerless inverter performing the same function, with the exception being that the latter has a sinusoidal output. It would not seem reasonable that the wires and controller connected to an energy storage device would be eligible if the output was AC, but not if DC. CESA agrees with SCE that the SGIP should "not provide incentives for load resources, such as lighting and appliances," and thus recommends that the Commission's final decision clarify that the controls and wiring components for load resources would not be eligible.⁴

XV. <u>CONCLUSION.</u>

CESA thanks the Commission for the opportunity to submit these comments on the Proposed Decision.

Respectfully submitted,

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CALIFORNIA ENERGY STORAGE ALLIANCE

June 6, 2016

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⁴ Southern California Edison Company's Opening Comments on Assigned Commissioner's Ruling Requesting Comments on Senate Bill 861 Compliance and Review of Self-Generation Incentive Program, filed May 22, 2015, p. 6.