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)

REPLY COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON ASSIGNED COMMISSION'S RULING REGARDING THE INTERCONNECTION OF ENERGY STORAGE SYSTEMS PAIRED WITH RENEWABLE GENERATORS ELIGIBLE FOR NET ENERGY METERING

Donald C. Liddell
DOUGLASS & LIDDELL
2928 2nd Avenue
San Diego, California 92103
Telephone:(619) 993-9096
Facsimile: (619) 296-4662
Email: liddell@energyattorney.com

Counsel for the
CALIFORNIA ENERGY STORAGE ALLIANCE

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The California Energy Storage Alliance ("CESA")[1] hereby submits these Reply Comments pursuant to the *Assigned Commission's Ruling Regarding the Interconnection of Energy Storage Systems Paired with Renewable Generators Eligible for Net Energy Metering*, issued on October 17 2013 ("ACR").

I. INTRODUCTION.

CESA respectfully asks that the Commission issue a final decision approving the proposal set forth in the ACR before the end of 2013. At the same time, all identified issues

[1] The California Energy Storage Alliance consists of 1 Energy Systems, A123 Systems, AES Energy Storage, Alton Energy, American Vanadium, AU Optronics, Beacon Power, Bright Energy Storage, BrightSource Energy, CALMAC, Chevron Energy Solutions, Christenson Electric Inc., Clean Energy Systems Inc., CODA Energy, Deeya Energy, Demand Energy, DN Tanks, Eagle Crest Energy, East Penn Manufacturing Co., Ecoult, Energy Cache, EnerVault, FAFCO Thermal Storage Systems, FIAMM Group, FIAMM Energy Storage Solutions, Flextronics, Foresight Renewable Systems, GE Energy Storage, Green Charge Networks, Greensmith Energy Management Systems, Growing Energy Labs, Gridtential Energy, Halotechnics, Hecate Energy LLC, Hydrogenics, Ice Energy, Innovation Core SEI, Invenergy, K&L Gates LLP, KYOCERA Solar, LightSail Energy, LG Chem Ltd., NextEra Energy Resources, OCI Company Ltd., Panasonic, Paramount Energy West, Parker Hannifin, PDE Total Energy Solutions, Powertree Services, Primus Power, RedFlow Technologies, RES Americas, S&C Electric Co., Saft America, Samsung SDI, Sharp Labs of America, Silent Power, SolarCity, Stem, Sovereign Energy Storage LLC, Sumitomo Corporation of America, TAS Energy, UniEnergy Technologies, and Xtreme Power. 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

related to net energy metering ("NEM") eligibility for energy storage paired with NEM-eligible renewables should be addressed as expeditiously as possible by the Commission with a clearly defined near term process and schedule to be included as part of the final decision. Given that certain issues involve questions of balancing policy interests related to the intersection of NEM and the Self Generation Incentive Program ("SGIP"), implicate distributed generation interconnection issues in R.11-09-011, and have an unavoidable degree of technical complexity, the Commission should not wait to suspend SGIP deadlines and clarify NEM eligibility as described in the ACR while it works with stakeholders to resolve other known issues.[2]

In their Opening Comments, several parties outlined their understanding regarding the eligible applications of energy storage under NEM. For example, Southern California Edison ("SCE") stated that the scope of the NEM exemptions proposed in the ACR should be limited to energy storage devices that have been characterized as "backup devices." CESA therefore urges the Commission to clarify which use cases of renewable-paired energy storage are within the scope of the proposal set forth in the ACR. Distinction must be drawn between energy storage devices used for: (1) emergency backup only, (2) peak shaving and demand management, and (3) combinations of use cases (1) and (2) and the addition of market services provided to the California Independent System Operator ("CAISO"). However, as a matter of statute and as a matter of policy, CESA's view is that, provided a system meets the criteria the CEC put forward in the most recent edition of its RPS Eligibility Guidebook to be considered an addition or

[2] TURN appears to suggest in its Opening Comments that the Commission should seek input from the Energy Division and E3 as to whether there is sufficient data to estimate output for different locations and system characteristics before issuing a final decision based on the ACR. If the Commission is unclear on whether sufficient data currently exists, it could instead (i) direct the Energy Division and E3 to gather more data in the future or (ii) stipulate that, if insufficient data exists, stakeholders should use the most reasonably accurate estimations possible. SDG&E asserts in its Opening Comments that the Commission should develop a standard contract or tariff as directed under AB 327 prior to making any amendments to the existing structure and a new NEM proceeding. CESA strongly opposes both recommendations as dilatory and unreasonable under the demonstrable need for swift action by the Commission.

enhancement, the exemptions from certain costs and charges pursuant to section 2827 of the Public Utilities Code should control.

To aid in an orderly analysis of how issues should relate to specific applications, CESA provides the table below indicating which recommended CESA policies should apply to each of these use cases:

	Renewable-Paired Energy Storage Use Case Affected		
CESA Position (further explained in following sections)	1) Emergency Backup Only	2) #1 + Peak Shaving/Demand Management	3) #1+#2 + Market Services to the CAISO
a) NEM Eligibility should not be limited to renewable generation paired with energy storage resources that *solely* provide emergency backup power	**X**		
b) Exemptions from interconnection application fees, supplemental review costs, and distribution upgrade expenses are statutory requirements that cannot be waived by the commission	**X**	**X**	**X**
c) Eligible renewables paired with energy storage resources should be allowed to charge from the grid	**X**	**X**	**X**
d) Sizing limitation should *not* be limited to lesser of the NEM-eligible generator capacity or the on-site customer maximum demand	**X**	**X**	**X**

II. NEM ELIGIBILITY SHOULD NOT BE LIMITED TO RENEWABLE GENERATION PAIRED WITH ENERGY STORAGE RESOURCES THAT SOLELY PROVIDE EMERGENCY BACKUP POWER.

CESA strongly disagrees with SCE's suggestion that energy storage resources providing backup power should be the only resource class eligible for NEM exemptions. Such a restriction would confine program eligibility to resources that are explicitly ineligible for SGIP benefits

pursuant to sec. 4.2.5 of the SGIP Eligibility Handbook, which states that "Back-Up systems that are only intended for emergency purposes" are ineligible for participation in the SGIP. Indeed, the Commission has historically encouraged energy storage paired with renewables under SGIP. So while renewable generation paired with energy storage resources that only provide backup power should be eligible for NEM exemptions, the exemptions themselves should explicitly not be limited to such resources. It would also seem contrary to California's interests in advancing use of energy storage to limit the applicability of a supportive policy like NEM to systems that are only capable of providing back-up services. Storage has the potential to play an integral role in integrating and enhancing the value of renewable resources and supporting the grid, as illustrated by the use cases described in the table above. NEM exemptions for additional use cases of renewable-paired storage can help facilitate the near term deployment of storage devices which will offer a multiplicity of capabilities for all ratepayers. Facilitating deployment of energy storage will also meet state objectives pursuant to AB 2514 and D. 13-10-010. The strict operational limitations SCE proposes to impose as condition of being eligible for the NEM exemptions should be rejected.[3] If concerns with regard to back-feeding from energy storage exist, then the Commission should establish methods for estimating or monitoring energy storage operations to overcome any program impasse, rather than disqualifying energy storage devices that may also perform other services. However, thus far, and consistent with the comments of the Office of Ratepayer Advocates, no party has offered any evidence or rationale to suggest that existing interconnection rules and requirements are insufficient to ensure that energy storage devices are interconnected in a safe and reliable manner.

[3] SCE Opening Comments pg. 8. A number of these impose specific operational limits that unnecessarily and inappropriately infringe on customer choice and, if adopted would undermine the ability of energy storage to provide additional services that have been identified as of central interest to the Commission.

III. EXEMPTIONS FROM INTERCONNECTION APPLICATION FEES, SUPPLEMENTAL REVIEW COSTS, AND DISTRIBUTION UPGRADE EXPENSES ARE STATUTORY REQUIREMENTS THAT CANNOT BE WAIVED BY THE COMMISSION.

PG&E, SDG&E, and TURN assert in their Opening Comments that NEM exemptions should expire on December 31, 2015; PG&E and TURN add that the Commission could prolong the Public Resources Code Section 2827 exemptions beyond 2015 if it chooses. Similarly, SCE asserts that the Commission should review actual interconnections by all NEM customers by December 31, 2015, and decide whether the NEM exemptions should be ended, extended, or otherwise modified. CESA disagrees categorically with each of these assertions: none are supported in statute, and this proceeding is not the appropriate venue to consider any sunsetting a statutorily mandated exemption. Temporary exemptions would essentially place a deferred cost on NEM customer-generators with energy storage additions, which would re-create the very condition that the exemptions are intended to avoid[4].

TURN states that the Commission's administration of the NEM program is not controlled by the California Energy Commission's ("CEC's") Renewables Portfolio Standard Eligibility Guidebook interpretation of Section 2827 because Section 25741 (b)(1) of the Public Resource Code does not include the phrase "add any additions or enhancements." CESA respectfully disagrees with this interpretation of how the two code sections are meant to interact for the following reasons:

- PG&E proposal to only apply the exemption to residential system would be a policy call and basically ignores the statutory requirements which do not distinguish between customer class.

[4] Conversely, suggested timelines for the SGIP deadline extensions range from 14 days to 180 days in various parties' comments. PG&E, for example, recommends that SGIP deadline extensions should be for 60 days from the reservation expiration date. CESA opposes these brief timelines, which are insufficient to provide customer-generators the opportunity to apply and integrate projects. CESA thus recommends a 120 day SGIP deadline extension.

- Because the exemptions are statutorily mandated, the ACR's proposed date after which the exemption may no longer apply (if the Commission takes action), along with all party proposals that suggest setting December 31, 2015 as a sunset date or otherwise allowing the exemption to end while 2827 is in force would violate the statute.
- This would also serve as a basis for rejecting SDG&E's proposal to essentially conduct a proceeding to assess whether storage should be considered a NEM-eligible technology.

Significant consultation took place between the CEC and the CPUC on this issue expressly because of the expectation that the changes would have implications on the NEM program related to this. Because the exemptions are statutorily mandated, the ACR's proposed date after which the exemption may no longer apply (if the Commission takes action), along with all party comments that suggest setting December 31, 2015 as a sunset date or otherwise allowing the exemption to end while Public Resources Code Section 2827 is in force would violate the statute. This is also a firm basis for rejecting SDG&E's proposal to essentially conduct a proceeding to assess whether storage should be considered a NEM-eligible technology. While CESA may not oppose a proceeding to assess whether stand-alone energy storage should be provided the same protections as provided under NEM, for co-located systems that meet the CEC's definitions of additions or enhancements, this issue has already been decided by the CEC.

IV. SGIP DEADLINE EXTENSIONS SHOULD APPLY TO ALL SGIP-ELIGIBLE CUSTOMERS.

The proposed SGIP deadline extension allows for beneficial energy storage policy to be installed at multiple sites, and is a major factor in decision-making for customer-generators at multiple levels. PG&E has suggested that the Commission should limit SGIP deadline extensions to residential customers. PG&E's argument is based on two misleading claims: first, that interconnection costs are a smaller portion of the overall project costs for non-residential

customers; and second, that potential impacts on the distribution grid are much more likely with larger storage systems. Regardless of customer class or storage size, interconnection costs are a limiting factor in deploying renewables paired with energy storage. For larger systems, interconnection costs are often greater. Regardless, impacts on the distribution grid are not called out as a deciding factor anywhere in statute or Commission precedent, so they should not be contemplated as a further constraint on NEM eligibility.

V. ELIGIBLE RENEWABLES PAIRED WITH ENERGY STORAGE RESOURCES SHOULD BE ALLOWED TO CHARGE FROM THE GRID.

PG&E and SDG&E state that energy storage devices that are charged in any capacity using non-renewable generation or energy from the grid should not be eligible for NEM. CESA opposes this limitation. As an initial matter, there is nothing in the CEC's RPS Eligibility Guidebook that would justify narrowing the scope of configurations that would qualify as an addition or enhancement, and therefore subject to NEM protections, in this manner. Specifically in the case of directly connected storage, nothing in the CEC guidebook can be reasonably interpreted to suggest that a storage device must be incapable of being charged from non-renewable sources including from the grid. As other parties have noted, if energy storage resources are charging from on-site renewable generation while a customer is also utilizing grid energy, it may be impossible to distinguish electrons from the renewable generation from those coming from the grid. Extra inflows of power to charge an energy storage device do not compromise the SGIP program – it simply serves as an extra source of load at the customer's site.

The SGIP program, in its current and historic structure sets precedent for this. When the SGIP was first modified to include energy storage (dating to November 2008 by D.08-11-044)

storage was intended to be 'paired' with a companion SGIP eligible generator. In no cases historically was the storage device ever to be *solely* charged from that companion device to be eligible for SGIP incentives. The current SGIP program has two categories of how energy storage is used – when paired with renewables and when not paired with renewables. Consistent with historic treatment of energy storage in the SGIP, in the paired with renewable energy case, the energy storage device must still be able to be partially charged from the grid for optimal benefits to ratepayers. For example, a battery discharging to reduce peaks created by intermittent solar generation would be operated very similarly to a standalone battery discharged to reduce operationally-driven peaks. There is no difference in the operation of that energy storage device in either use case. Also, the storage device would not back feed the grid in either case – it will simply be discharged to level demand to the grid in a financially optimal way. Accordingly, energy storage paired with renewables should not be disqualified from NEM cost exemptions because they either (a) potentially or occasionally take in power from the grid or (b) are unable to demonstrate that their power solely comes from behind-the-meter resources.

VI. SIZING LIMITATIONS SHOULD NOT BE BASED ON THE LESSER OF THE NEM-ELIGIBLE GENERATOR CAPACITY OR THE ON-SITE CUSTOMER MAXIMUM DEMAND.

Several parties suggest in their Opening Comments that there should be size limits for paired storage devices to be eligible for NEM, mainly justified by concerns about energy arbitrage. CESA opposes PG&E's recommendation that the energy storage system be sized based on the maximum customer load or the maximum generation of the NEM-eligible customer-generator. Customer-generators may expand on-site load over time (*i.e.* expanding facilities, adding appliances, or integrating electric vehicles) and/or expand NEM-eligible generation. Under use cases 1 and 2, above, size limits would prevent the installation of energy

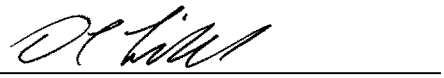
storage devices that could meet future on-site needs, whether through planned or potential expansion of generation or load. Given the potential costs advantages of upfront installation of larger on-site generation versus postponed expansion of smaller ones, this could reduce the ability of customer-generators to install reasonable resource sizes in the future. The extra capacity would also not be wasted in the interim: the energy storage device could simply provide a smaller capacity for longer duration. Reasonable and commercially available energy storage control systems could limit resource discharge so as to not back-feed onto the grid; use of this equipment would be a far superior solution to sizing limits for preventing back-feeding.

Finally, under use case 3, above, the nature of CAISO services would make larger energy storage resources beneficial to the overall grid. As is recognized in the Energy Storage Rulemaking, energy storage resources can provide a number of grid services (i.e. black start and frequency regulation), and often do so at higher performance levels than conventional resources. Because such services can be very cost effectively provided from distributed, aggregated behind the meter resources, CESA recommends that the Commission explicitly recognize this use case as another justification for why energy storage systems should not be limited to either the maximum peak demand or the companion NEM eligible generator. Rather, consistent with its opening comments, CESA recommends that the sizing any cap for energy storage should be a ratio of not more than 12:1 in terms of maximum discharge power to maximum renewable generator power when paired with NEM eligible generation.

VII. CONCLUSION.

CESA thanks the Commission for the opportunity to submit these reply comments, and urges the Commission to expeditiously issue a final decision based on the proposal set forth in the ACR.

Respectfully submitted,



Donald C. Liddell
DOUGLASS & LIDDELL

Counsel for the
CALIFORNIA ENERGY STORAGE ALLIANCE

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