BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop a Successor to Existing Net Energy Metering Tariffs Pursuant to Public Utilities Code Section 2827.1, and to Address Other Issues Related to Net Energy Metering.	Rulemaking 14-07-002 (Filed July 10, 2014)

RESPONSE OF THE CALIFORNIA ENERGY STORAGE ALLIANCE TO PETITION OF THE CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION FOR MODIFICATION OF D.14-05-033 TO ALLOW DC-COUPLED SOLAR PLUS STORAGE SYSTEMS

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In accordance with Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), the California Energy Storage Alliance ("CESA") [1] hereby submits this response on the *Petition of the California Solar Energy Industries Association for Modification of D.14-05-033 to Allow DC-Coupled Solar Plus Storage Systems*, filed by the California Solar Energy Industries Association ("CALSEIA") on September 1, 2017 ("Petition").

I. INTRODUCTION.

CESA appreciates the Commission's work to allow energy storage systems to be paired with Net Energy Metering ("NEM") generators to enhance their output, through adoption of

[1] 8minutenergy Renewables, Able Grid Energy Solutions, Adara Power, Advanced Microgrid Solutions, AES Energy Storage, AltaGas Services, Amber Kinetics, American Honda Motor Company, Inc., Bright Energy Storage Technologies, BrightSource Energy, Brookfield, California Environmental Associates, Consolidated Edison Development, Inc., Customized Energy Solutions, Demand Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, EDF Renewable Energy, ElectrIQ Power, eMotorWerks, Inc., Energport, Energy Storage Systems Inc., GAF, Geli, Green Charge Networks, Greensmith Energy, Gridscape Solutions, Gridtential Energy, Inc., Hitachi Chemical Co., IE Softworks, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Johnson Controls, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, Magnum CAES, Mercedes-Benz Energy, National Grid, NEC Energy Solutions, Inc., NextEra Energy Resources, NEXTracker, NGK Insulators, Ltd., NICE America Research, NRG Energy, Inc., Ormat Technologies, OutBack Power Technologies, Parker Hannifin Corporation, Qnovo, Recurrent Energy, RES Americas Inc., Sempra Renewables, Sharp Electronics Corporation, SolarCity, Southwest Generation, Sovereign Energy, Stem, STOREME, Inc., Sunrun, Swell Energy, Viridity Energy, Wellhead Electric, and Younicos. The views expressed in this Response are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. (http://storagealliance.org).

metering options and sizing limitations for paired energy storage systems in D.14-05-033. As California transitions toward time-of-use ("TOU") rates for all NEM Successor Tariff customers and toward default TOU rates for all residential customers, CESA believes it is important to continue to establish policies that enable energy storage systems to be paired with NEM-eligible generators.

However, D.14-05-033 deferred adoption of a metering solution for DC-coupled NEM-paired storage ("NEM-PS") systems, recognizing that single-inverter configurations do not allow for the installation of a Net Generation Output Meter ("NGOM"):[2]

> "Although we recognize that certain single inverter large GFs with NEM-paired storage devices may not be able to accommodate the metering required as described above, we choose not to provide an alternative metering solution for such configurations at this time."

As previously highlighted in CESA's protests to the Supplemental Advice Letters filed by San Diego Gas and Electric Company ("SDG&E") and Southern California Edison Company ("SCE"),[3] the lack of approved metering configurations has created barriers to interconnecting NEM-PS configurations behind a single meter (*i.e.*, DC-coupled storage systems), leading either to such configurations to be precluded from interconnecting under the NEM tariff due to concerns about 'NEM integrity', or to such configurations requiring time-consuming negotiations with the utility interconnection teams to approve one-off solutions (*e.g.*, inverter or software controls) to ensure NEM integrity.

[2] D.14-05-033, p. 21.

[3] *Protest of the California Energy Storage Alliance to Advice Letter 3490-E of Southern California Edison Company* filed on January 17, 2017 and *Protest of the California Energy Storage Alliance to Advice Letter 2993-E of San Diego Gas and Electric Company* filed on January 17, 2017.

CESA therefore recommends that the Commission approve CALSEIA's Petition because it presents one viable, potentially pre-approved option for DC-coupled NEM-PS systems to interconnect under the NEM tariff while respecting NEM integrity.

II. THE COMMISSION SHOULD APPROVE THE PETITION FOR MODIFICATION FILED BY THE CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION.

In its Petition, CALSEIA proposes two alternative options in light of no options being adopted in D.14-05-033: (1) a no grid charging configuration that ensures all stored energy must have been generated by on-site solar and as such be NEM eligible; that uses a device that controls the DC voltage of electricity entering the energy storage system; or (2) a no storage export configuration that only allows the paired storage device to serve onsite load. CESA views these as viable configurations that ensure NEM integrity and thus should be approved by the Commission.

However, CESA also underscores CALSEIA's recommendation that the Commission leave the door open for other use cases, highlighting how there may be other pre-approved configurations needed for use cases where NEM-PS systems participate in demand response programs. CESA would further elaborate that CALSEIA's proposed alternative options in its Petition are just two options, and that other DC-coupled NEM-PS systems may require different configurations to verify NEM integrity. For example, while CALSEIA highlights a non-metering approach, CESA has recommended alternative options in its prior protests, including a metering and billing approach using a reduced form of Metering Option 2 from D.14-05-033[4] as well as a metering approach using current transformers ("CTs"). CESA also expects DC meters of revenue-grade accuracy to become a viable option very soon for DC-coupled NEM-PS

[4] Install an interval meter for the NEM-eligible generator.

systems as well. In other words, CALSEIA presents two alternative options that may be viable pathways for certain configurations to interconnect under the NEM tariff, but approval of this Petition should not limit all DC-coupled NEM-PS systems to have to interconnect under only these two configurations. There are other viable options, which should not be precluded as a pathway to interconnecting under the NEM tariff.

Additionally, CALSEIA's Petition also includes a recommendation to set the sizing limit for NEM-PS systems greater than 10 kW to be based on the continuous output capacity of the storage device, given that the shared single inverter, which has often served as the proxy for the size of the storage device, is typically sized to the output of the solar generator. CESA finds this reasonable because it would eliminate artificial limitations on the sizing of the paired storage device.

III. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the Petition and looks forward to working with the Commission and parties going forward in this proceeding.

Respectfully submitted,

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