**BEFORE THE PUBLIC UTILITIES COMMISSION**
**OF THE STATE OF CALIFORNIA**

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| Order Instituting Rulemaking to Enhance the Role of Demand Response in Meeting the State's Resource Planning Needs and Operational Requirements. | Rulemaking 13-09-011<br>(Filed September 19, 2013) |

# RESPONSE OF THE CALIFORNIA ENERGY STORAGE ALLIANCE TO STEM INC.'S PETITION FOR MODIFICATION OF DECISION 16-09-056


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# RESPONSE OF THE CALIFORNIA ENERGY STORAGE ALLIANCE TO STEM INC.'S PETITION FOR MODIFICATION OF DECISION 16-09-056

In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), the California Energy Storage Alliance ("CESA")[1] hereby submits this response to *Stem, Inc.'s Petition for Modification of Decision 16-09-056* ("Petition"), submitted on January 26, 2018.

## I. INTRODUCTION.

The Petition proposes to remove energy storage from the list of prohibited resources in demand response ("DR") programs and eliminate the requirement, beginning on January 1, 2018, that energy storage resources used for DR meet the greenhouse gas ("GHG") emissions standards

[1] 8minutenergy Renewables, Able Grid Energy Solutions, Adara Power, Advanced Microgrid Solutions, AES, AltaGas Services, Amber Kinetics, American Honda Motor Company, Inc., Brenmiller Energy, Bright Energy Storage Technologies, Brookfield, 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, ENGIE Energy Storage, Fluence Energy, GAF, Geli, Greensmith Energy, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Iteros, Johnson Controls, Lendlease Energy Development, 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, Parker Hannifin Corporation, Qnovo, Range Energy Storage, Recurrent Energy, RES Americas Inc., Sempra Renewables, Sharp Electronics Corporation, SNC Lavalin, Southwest Generation, Sovereign Energy, STOREME, Inc., Sunrun, Swell Energy, Viridity Energy, Wellhead Electric, and 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).

adopted in the Self-Generation Incentive Program ("SGIP"), at least until the Commission adopts recommended changes from an ongoing SGIP GHG Signal Working Group.

CESA is supportive of the Petition and shares Stem's view that the major efforts underway to review and update the metrics and requirements in SGIP provide sufficient basis to grant the modifications requested in the Petition. In addition, CESA agrees that the DR prohibited resources policy may inappropriately extend SGIP's programmatic requirements, which are currently up for review and modification, for non-SGIP projects. Importantly, CESA shares the Petition's concerns that this policy may have an unintended impact of precluding energy storage resources from providing DR services in accordance with Local Capacity Requirement ("LCR") and Demand Response Auction Mechanism ("DRAM") contracts. CESA therefore requests that the Commission grant the requested modifications in the Petition.

Like Stem, CESA is committed to the goals of the Commission to reduce GHG emissions through SGIP-funded projects as well as through energy storage participation in DR programs. As evidence of this commitment, CESA has been a major party and facilitator of the aforementioned SGIP GHG Signal Working Group and has actively participated in the SGIP proceeding to find and develop solutions that would ensure SGIP-funded energy storage projects meet the program's market transformation, grid support, and GHG emissions reduction goals through workshops[2] and comments.[3] While the 2016 Energy Storage Impact Evaluation ("Itron Report") found certain

[2] See CESA's presentation on the "SGIP Measurement & Verification Workshop – Grid Support Panel" at the November 15, 2017 workshop:
http://www.storagealliance.org/sites/default/files/Presentations/2017-11-15%20SGIP%20M%26V%20Workshop%20-%20Grid%20Support%20Considerations.pdf

[3] *Comments of the California Energy Storage Alliance on Petition for Modification on Suspension of the Round-Trip Efficiency Metric in the Self-Generation Incentive Program*, submitted on December 22, 2017. *Comments of the California Energy Storage Alliance on Assigned Commissioner's Ruling on Proposed Refinements to the Self-Generation Incentive Program*, submitted on June 22, 2017, pp. 17-18.

metrics and performance requirements in SGIP to be flawed, the report also showed that energy storage can be extremely responsive to signals, and that energy storage is a highly programmable and dispatchable resource. As a result in part of the Itron report, the Commission directed a GHG Signal Working Group to consider and provide recommendations regarding potential rule changes that could be instituted to ensure that SGIP-funded storage systems achieve the goal of reducing GHG emissions. Relatedly, the goals and principles *for DR programs* regulated by the Commission parallel those of SGIP, as DR programs are designed to seek to support GHG emissions reductions, cost-effectively meet the needs of the grid, and enable customer choice.[4]

CESA intends to work with the Commission and stakeholders to develop reasonable and effective alternatives to the status quo of using flawed SGIP GHG metrics to accomplish these goals for energy storage solutions participating in DR programs. The Petition should be granted.

## II. ENERGY STORAGE SYSTEMS PARTICIPATING IN DEMAND RESPONSE PROGRAMS SHOULD BE REQUIRED TO MEET A GHG STANDARD THAT ACTUALLY REDUCES GREENHOUSE GAS EMISSIONS.

The roundtrip efficiency ("RTE") threshold set as the GHG standard for energy storage eligibility in SGIP was determined in Decision ("D.") 15-11-027 based on a series of assumptions for energy storage technologies and for general timing of charge and discharge (*i.e.*, marginal generators during peak versus off-peak times) of energy storage systems. However, the assumed operational profile was based on static rate signals that did not account for today's more granular daily and seasonal variations in actual hourly marginal emissions rates. For these reasons, the SGIP rules are being evaluated and potentially modified. Thus, in pursuit of a proxy for GHG-

*Comments of the California Energy Storage Alliance on Assigned Commissioner's Ruling on Implementation of Assembly Bill 1637*, submitted on January 31, 2017, pp. 12-14.

[4] In accordance with the Energy Action Plan, Loading Order, and the *Decision Adopting Guidance for Future Demand Response Portfolios and Modifying Decision 14-12-024*, D.16-09-056, issued on October 5, 2016, pp. 45-46.

emissions reduction capability, there is a potential for the unintended outcome where GHG emissions can be worsened by improperly timed energy storage dispatch directed by an overly static operational profile.

The Ruling, issued in light of the Itron report's findings to develop a proposal for a GHG signal and enforcement mechanism for energy storage systems funded by SGIP, acknowledges that the RTE metric employed by D.15-11-027 may be an imperfect metric for achieving GHG reductions.[5] Given that the GHG eligibility standard was observed by Itron to be "not sufficient" and by the Commission to be an "imperfect" metric for GHG emissions reductions, CESA finds it also flawed to use this same standard for energy storage eligibility for DR program participation.

The SGIP GHG Signal Working Group is currently in the process of modeling different scenarios including GHG "signals" to determine what steps may need to be considered to ensure GHG reductions from SGIP-funded energy storage systems. This good-faith efforts has involved dozens of stakeholders with CESA and industy members actively engaged in modeling efforts by which to identify helpful information and then to consider potential program modifications. Given this work and the underlying concerns with the efficacy of the current SGIP requirements established in 2015, it is unreasonable to "port" these same requirements into the DR program. Only after the Commission has considered the recommendations from the working group and taken whatever steps are ultimately deemed necessary to address the concerns regarding SGIP funded systems reducing GHG emissions, should the Commission consider including these same requirements as a condition of DR eligibility.

[5] *Assigned Commissioner's Ruling (1) Establishing an Energy Storage Greenhouse Gas Signal Working Group and (2) Entering a Summary of the November 15, 2017 Energy Storage Workshop Into the Record*, issued on December 29, 2017, p. 2.

Stem also raises the important issue of how this prohibition policy may impact the eligibility or operational profile of storage-enabled demand response with capacity contracts, which have specified operational and availability requirements to meet critical local reliability needs. As noted above, CESA agrees that there may be unexpected GHG emission results from participating energy storage resources seeking to comply with SGIP operational rules, particularly when these local capacity resources were designed to address and fulfill an operational profile different from those of SGIP. Additionally, there is a broader concern of using the SGIP eligibility requirement for new and advanced DR products and programs, as identified in a recent report by the Lawrence Berkeley National Laboratory– *i.e.*, shed, shift, shimmy, and shape DR products.[6] With the Commission's intent to integrate DR resources into wholesale markets as supply-side resources (*i.e.*, to provide capacity) and with work underway to develop new DR products such as the load shifting product, CESA believes it will be important to leverage the GHG signals developed in the SGIP proceeding that are more closely tied to actual GHG emissions as a means to ensure that energy storage resources achieve the GHG reduction goals of DR programs. For example, shimmy DR services (*e.g.*, providing regulation or very fast dispatch services for system balancing) may require an energy storage system to both charge and discharge during peak periods to provide ancillary services, which may not produce the intended GHG emission results if subject to the RTE requirement in SGIP. Similar to how SGIP eligibility requirements for energy storage systems were inappropriately based on an assumed operational profile, it may also be inappropriate to determine DR program eligibility (or prohibition) policy based on current SGIP eligibility requirements.

[6] *2015 California Demand Response Potential Study Final Report on Phase Two Results*.

Further, CESA believes that prohibition policy, even if unintentional, may be holding energy storage systems participating in DR programs to perhaps stricter operating requirements from traditional DR resources, through which customers shift when they consume energy. To the degree a DR event is triggered by factors unrelated or uncorrelated with the marginal emissions rate on grid, traditional DR resources could result in GHG emission increases to the extent the shift in load increases the participating customers' loads during times of relatively high marginal GHG emissions. For this reason, CESA is generally opposed to establishing uneven GHG emission reduction requirements for energy storage resources. s as the priority objective to which all other goals of the DR program are subordinate. While GHG emission reduction is an important objective for DR programs, CESA believes that a balanced approach is more appropriate where the other goals of DR programs (*e.g.*, customer choice, grid support) are also factored into the value that energy storage resources provide through DR programs. Certainly, prohibiting those resources that are inherently GHG-emitting, like fossil-fuel-fired generators, from participating in DR makes policy sense. However, resources like energy storage, which have zero point-source emissions, should both be allowed and be subject to rules that are non-disciminatory relative to traditional DR resources. Energy storage installations also enable opportunities for customers to engage in updated rates and support a more educated energy consumer. These benefits also support goals of GHG reduction in the grid, albeit indirectly.

Overall, CESA supports the Petition and recommends that the Commission grant the request to eliminate the requirement that energy storage, in order to be eligible, must meet the GHG requirements of SGIP, recognizing that there is sufficient evidence of the imperfections of the SGIP RTE requirement.

## III. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the Petition.

Respectfully submitted,

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