

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

Order Instituting Rulemaking to Oversee  
the Resource Adequacy Program, Consider  
Program Refinements, and Establish  
Forward Resource Adequacy Procurement  
Obligations.

Rulemaking 19-11-009  
(Filed November 7, 2019)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE  
ON THE ORDER INSTITUTING RULEMAKING TO OVERSEE THE RESOURCE  
ADEQUACY PROGRAM, CONSIDER PROGRAM REFINEMENTS, AND  
ESTABLISH FORWARD RESOURCE ADEQUACY PROCUREMENT OBLIGATIONS**

Alex J. Morris  
Executive Director

Jin Noh  
Senior Policy Manager

**CALIFORNIA ENERGY STORAGE ALLIANCE**  
2150 Allston Way, Suite 400  
Berkeley, California 94704  
Telephone: (510) 665-7811 x110  
Email: [amorris@storagealliance.org](mailto:amorris@storagealliance.org)

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”)<sup>1</sup> hereby submits these comments to the *Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Forward Resource Adequacy Procurement Obligations* (“OIR”), filed by President Marybel Batjer on November 7, 2019.

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<sup>1</sup> 174 Power Global, 8minutenergy Renewables, Able Grid Energy Solutions, Advanced Microgrid Solutions, Aggreko, Alligant Scientific, LLC, AltaGas Services, Amber Kinetics, Ameresco, American Honda Motor Company, Inc., Avangrid Renewables, Axiom Exergy, Better Energies, Boston Energy Trading & Marketing, Brenmiller Energy, Bright Energy Storage Technologies, Brookfield Renewables, Carbon Solutions Group, Clean Energy Associates, ConEd Battery Development, Customized Energy Solutions, Dimension Renewable Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, EDF Renewable Energy, eMotorWerks, Inc., Enel X North America, Energport, Energy Vault, Engie Storage, E.ON Climate & Renewables North America, esVolta, Fluence, Form Energy, General Electric Company, Greensmith Energy, Gridwiz Inc., Hecate Grid LLC, Highview Power, Ingersoll Rand, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Lendlease Energy Development, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Energy Solutions, LS Power Development, LLC, Magnum CAES, Malta Inc, NantEnergy, National Grid, NEC Energy Solutions, Inc., NextEra Energy Resources, NEXTracker, NGK Insulators, Ltd., Nuvve, Pattern Energy, Pintail Power, Plus Power, Primus Power, PolyJoule, Quidnet Energy, PXiSE Energy, Range Energy Storage Systems, Recurrent Energy, RES Americas, SNC-Lavalin, Soltage, Southwest Generation, Stem, STOREME, Inc., Sunrun, Swell Energy, Tenaska, Inc., Tesla, True North Venture Partners, Viridity Energy, VRB Energy, WattTime, and Wellhead Electric. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all the individual CESA member companies. (<http://storagealliance.org>).

## **I. INTRODUCTION.**

California's grid has experienced rapid and profound changes in recent years. The proliferation of variable energy resources ("VERs") and the ambitious decarbonization goals set by the State have created challenges and opportunities that require new policy paradigms. As California moves away from conventional fossil-fueled generation, it is fundamental to ensure the State has enough capacity to provide clean, reliable and cost-effective power. With these challenges in mind, CESA appreciates the opportunity to collaborate with the Commission and other stakeholders to refine the Resource Adequacy ("RA") program.

Energy storage is a diverse resource class with technologies that can support grid operations at all levels of the system. From fast-response regulation to multi-day energy arbitrage, energy storage technologies can advance the integration of renewable resources, minimize the environmental impact of fossil-fueled generation, and augment the capacity provided by VERs. Fundamentally, the RA program plays an important role in shaping the fleet to ensure reliability, and as such, the Commission should strive to develop RA capacity counting rules, procurement mechanisms, and incentives to ensure that resources such as energy storage are appropriately valued for their capacity attributes.

In our comments, we recommend the following issues be considered in the scope of the new OIR:

- **The Commission should develop a methodology that properly values hybrid storage resources:** The lack of comprehensive and consistent capacity counting methodology for hybrid storage resources has not appropriately valued their capacity contributions. Clear and consistent methodologies are crucial since the RA program plays a vital role in signaling to the market the types and attributes of resources needed to maintain grid reliability in coming years. Given the results of the latest integrated resource planning ("IRP") cycle and the current CAISO

interconnection queue, it is imperative that the Commission set a capacity counting methodology for renewable resources co-optimized with energy storage.<sup>2</sup>

- **The Commission should evaluate capacity needs to inform energy storage qualifying capacity (“QC”) methodologies in order to properly signal to the market the resources needed for future procurement:** The evaluation of the “four-hour rule” may be necessary to incentivize load-serving entities (“LSEs”) to procure energy storage resources with the appropriate capacity attributes. The need for storage with durations over four hours has been demonstrated in the IRP scenarios constructed to evaluate capacity needs by 2045 and in the local capacity requirement (“LCR”) studies by the California Independent System Operator (“CAISO”).<sup>3</sup>
- **The Commission should further study system-wide and local capacity needs instead of establishing a cap for use- or energy-limited resources:** CESA recommends the Commission, along with the CAISO, further study the capacity needs, both in a system-wide and location-specific fashion. CESA believes that a better understanding of energy needs and load shapes should be the Commission’s preferred approach to minimize the risks associated with the growing reliance on energy-limited resources. Rather than the establishment of a hard cap on the capacity provided by use- or energy-limited resources, the Commission should work along the CAISO and other relevant stakeholders to better understand the capacity needs of specific local areas and sub-areas so as to expedite their transition away from carbon-emitting generation.
- **The Commission should evaluate the unbundling of System and Flexible capacity products in order to optimize the procurement of resources and support ratepayer benefits:** CESA reiterates our comments on the need and urgency to address unbundling of system and flexible attributes of RA resources. Such measure could streamline the procurement of resources, supporting lower ratepayer costs.

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<sup>2</sup> The Proposed Reference System Plan (“RSP”) derived from the 2019-2020 IRP Proceeding estimates that around 11 GW of solar PV generation and 11 GW of lithium-ion battery storage by 2030. In addition, the CAISO interconnection queue, C10, shows thousands of megawatts of plus-storage projects.

<http://www.caiso.com/PublishedDocuments/PublicQueueReport.xlsx>

<sup>3</sup> See the 2045 core case results within the RESOLVE model

(<https://www.cpuc.ca.gov/General.aspx?id=6442463176>) and the CAISO’s 2020 Local Capacity Technical Study (<http://www.caiso.com/Documents/Final2020LocalCapacityTechnicalReport.pdf>).

## **II. THE COMMISSION SHOULD DEVELOP A METHODOLOGY THAT PROPERLY VALUES HYBRID STORAGE RESOURCES.**

CESA commends the Commission for including the capacity counting rules for hybrid resources within the scope of issues to be considered in this rulemaking. Bearing in mind the work done by the CAISO in its Hybrid Resources Initiative, this scoping item represents a timely issue that can inform investment decisions and steer procurement towards resources that are better suited to provide reliable power while supporting the State’s overarching energy and environmental policies.<sup>4</sup>

On September 27, 2019, CESA, along with Engie Storage, Enel X, Tesla Inc., Sunrun Inc., the Center for Energy Efficiency and Renewable Technologies (“CEERT”), and Vote Solar (together, the “Joint Parties”) filed a motion urging the Commission to adopt an interim capacity counting methodology for hybrid resources, both in-front-of and behind-the-meter, in order to expedite the planning and contracting of the 3,300 MW procurement authorized in the IRP 2021-2023 Reliability Procurement Decision (D.19-11-016). In response to this motion, on November 25, 2019, the CPUC issued a Proposed Decision (“PD”) to adopt an interim solution to set a QC value for in-front-of-the-meter (“IFOM”) hybrids with operational restrictions.<sup>5</sup> The PD proposes adopting a counting convention where the QC value of the hybrid resource is the greater of either: (i) the ELCC-based QC of the intermittent resource or the QC of the dispatchable resource, whichever applies; or (ii) the QC of the co-located storage device.<sup>6</sup> While CESA appreciates the timely response of the Commission to establish an interim counting rule that offers some direction to LSEs and developers, CESA has many concerns with the proposed interim solution as being

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<sup>4</sup> See the CAISO’s Hybrid Resources Initiative Issue Paper (<http://www.caiso.com/Documents/IssuePaper-HybridResources.pdf>)

<sup>5</sup> In this context, “operational restrictions” refer to the way renewable-plus-storage resources are set to operate in a coordinated manner to be able to capture ITC incentives.

<sup>6</sup> PD at 9.

inconsistent with the CAISO's hybrid resource definitions and framework, unclear on certain terminologies (*e.g.*, operational restrictions), and narrowly focusing on certain hybrid resource use cases without a more nuanced consideration of all generation-plus-storage types and configurations, which we will address in later comments to the PD. Altogether, the PD would not properly value the capacity contributions of hybrid resources as it applies a blanket QC methodology that is not applicable or appropriate for all hybrid resources, as defined by the PD.

Importantly, considering the PD does not address capacity-counting methodologies for hybrid resources that are installed behind the meter ("BTM"), this OIR should explicitly consider this issue through party proposals, workshops, and comments. The PD explains that QC methodologies for BTM hybrid resources would require significant reforms to the program. However, given the significant capacity shortfalls in the state, as well as growing distributed resiliency needs, CESA believes it is the right time for the Commission to timely discuss and develop a QC methodology for BTM hybrid resources, which could play an important role in addressing these two urgent needs of the state.

To address capacity counting issues related to hybrid resources in the long term, CESA agrees that the OIR should conduct analysis and have parties develop proposals to support an appropriate QC value for hybrid resources. For example, the Commission should consider whether and where effective load carrying capability ("ELCC") methodologies are appropriate for variable generation resources are hybridized with storage resources, and if appropriate, would require an analysis of different sizing ratios and durations of the storage resource in order to better understand the capacity implications of firming generation vis-à-vis shifting generation. Importantly, CESA believes that the Commission should also make distinctions to capacity counting methodologies

for co-located versus hybrid resources, and for storage paired with dispatchable generation versus variable generation, consistent with the CAISO's Hybrid Resources Initiative.

**III. THE COMMISSION SHOULD EVALUATE CAPACITY NEEDS TO INFORM ENERGY STORAGE QUALIFYING CAPACITY METHODOLOGIES IN ORDER TO PROPERLY SIGNAL TO THE MARKET THE RESOURCES NEEDED FOR FUTURE PROCURMENT.**

The OIR mentions that counting conventions for different resources may be specifically considered within this proceeding.<sup>7</sup> Hence, CESA supports the Commission in examining the current QC rules for energy storage resources and determine whether the QC methodologies should be supplemented to incentivize different types of capacity attributes. At this time, energy storage resources receive a QC value equivalent to the output the resource can sustain over a four-hour period.<sup>8</sup> However, as the penetration of VERs grow, CESA supports a consideration of capacity needs in various local and sub-areas. CESA deems this issue worthy of discussing, especially considering the latest modeling done in the IRP Proceeding estimates that California will need storage resources with durations around seven hours by 2045 to achieve the decarbonization targets set forth by Senate Bill ("SB") 100.<sup>9</sup> CESA recommends discussing this issue in a technical workshop with opportunities to provide proposals and comments due to the technical nature of these topics.

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<sup>7</sup> PD at 6.

<sup>8</sup> *Decision Adopting Local Procurement and Flexible Capacity Obligations for 2015, and Further Refining the Resource Adequacy Program* in D.14-06-050 at Appendix B, p. B-9, <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M097/K619/97619935.PDF>.

<sup>9</sup> See the 2045 core case results within the RESOLVE model, available at <https://www.cpuc.ca.gov/General.aspx?id=6442463176>.

**IV. THE COMMISSION SHOULD FURTHER STUDY SYSTEM-WIDE AND LOCAL CAPACITY NEEDS INSTEAD OF ESTABLISHING A CAP FOR USE- OR ENERGY-LIMITED RESOURCES.**

In the opening testimony for Track 2 of R.17-09-020, CAISO sought to include rules that could limit the reliance of certain areas and sub-areas on use- and/or energy-limited resources. This issue was motivated in part by the potential need to operate energy-limited resources for more than the four-hour RA period. The OIR asks stakeholders if the Commission should reexamine the need for caps on said resources. CESA believes that is neither necessary nor beneficial to the sector. A hard cap on any kind of resources would be potentially discriminatory and would not send the proper market signals for LSEs to procure resources that are valuable for the grid. Instead, CESA supports the CAISO's decision to provide the LCR needs in terms of capacity and energy (*i.e.*, load shapes) for all local areas and sub-areas, since this data provides insight to LSEs and developers regarding how the potential need can be met. As demonstrated in the SCE Moorpark LCR Application, eight-hour needs were addressed with four-hour storage resources. Consequently, CESA believes the development of potentially additional or refined QC methodologies could better incentivize the deployment of the portfolio of energy storage resources with the appropriate capacity attributes. CESA supports discussion on this issue in the OIR.

**V. THE COMMISSION SHOULD EVALUATE THE UNBUNDLING OF SYSTEM AND FLEXIBLE CAPACITY PRODUCTS IN ORDER TO OPTIMIZE THE PROCURMENT OF CAPACITY AND SUPPORT RATEPAYER BENEFITS.**

Despite many proposals regarding the potential benefits of unbundling system and flexible attributes in the RA program, the OIR does not include this issue in the list of potential topics to examine. In our R.17-09-020 Track 3 proposals,<sup>10</sup> CESA discussed how unbundling the flexible

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<sup>10</sup> *Comments of the California Energy Storage Alliance on Track 3 Proposals Workshop and Energy Division Proposal on Effective Load Carrying Capacity in Response to the Amended Scoping Memo and Ruling of Assigned*



attributes of RA from their system attributes would lead to more efficient RA market outcomes. Unbundling Flexible RA from System RA would lead to specialization of resources, effectively creating a specific market for those resources that provide flexibility better and in a more cost-effective manner. This, in turn, would lead to optimized procurement by LSEs, lowering ratepayer costs while providing more reliable response. While the CAISO seeks to establish flexible ramping products and imbalance products within its initiatives, these two issues were largely overlooked by the Commission in R.17-09-020. Thus, CESA recommends that the Commission to immediately direct its attention towards these issues.

## **VII. CONCLUSION.**

CESA appreciates the opportunity to submit these comments to the OIR and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,



Alex J. Morris  
Executive Director  
**CALIFORNIA ENERGY STORAGE ALLIANCE**

Date: December 3, 2019

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*Commissioner and Administrative Law Judge's Ruling on Effective Load Carrying Capacity* filed on March 22, 2019 in R.17-09-020 at pp. 9-10.