

**Comments of the
California Energy Storage Alliance (CESA) on the
RA Enhancements Straw Proposal Part 2**

Submitted by	Organization	Date Submitted
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Introduction:

CESA offers these comments on the RA Enhancements workshops hosted at the California Independent System Operator (CAISO) offices on April 8-9, 2019. CESA appreciates the opportunity to comments and looks forward to working with the CAISO on these important issues.

CESA Comments:

CESA is generally supportive of efforts to evaluate and improve CAISO-jurisdictional rules relating to Resource Adequacy, must-offer obligations, and related rules.

CESA offer four main comments on the workshops:

- 1) Updates to Effective Flexible Capacity Counting should focus on valuing fast-flexibility to ensure the RA fleet has the fast-flexibility capabilities to meet system needs.**

CESA has long-maintained that the CAISO should ensure its fast-flexibility needs are reasonably certain to be met by Flexible Capacity resources. The focus on counting ramping over three-hours has been helpful at meeting some ramping needs but provides no certainty regarding the ability of resources on the system to manage fast-flexibility needs. These needs are more acute and may arise faster than more gradual ramping shortfalls, highlighting the challenge faced by operators for intra-hour ramping. In some

cases, operators may see fit to commit additional resources for flex needs, potentially or infrequently creating inefficient uplifts and market pricing.

CESA thus supports the 'Fast Ramp' Flex RA category contemplated by the CAISO. CESA recommends the fast-ramp product focus, in line with FRACMOO ideas, on 15-minute or 5-minute ramp capabilities, rather than 1-hour capabilities.

The CAISO recognizes that EFC-UCAP for storage will need to be calculated differently than for conventional resources.¹ CESA's points from its past comments (March 20, 2019)² regarding the calculation of an EFC for energy storage relating to EF-UCAP needs inclusion in any proposals going forward since CESA's proposals seek to fairly and properly value energy storage which has a different flexibility range than conventional resources.

2) The CAISO should keep REM resources eligible to provide fast flexibility since these resources can provide regulation, which is a key part of the system's flex needs.

The CAISO has mentioned that REM resources are less frequently registered than other resource types, and that the lack of energy duration associated with REM operations could cause these resources to be less available for sustained ramp periods. As such, the CAISO is considering if REM resources should not receive any Effective Flexible Capacity.

REM resources should continue to be eligible flex capacity resources.

REM resources are designed to provide fast and accurate regulation, serving as premium sources of flexibility for the CAISO. The CAISO's FRACMOO initiative has highlighted that ramping needs can be construed as the imbalances that are realized from day-ahead to the fifteen-minute market (FMM) schedules or from FMM to five-minute real-time dispatch (RTD) schedules and conditions. In either case, flex needs are determined with an eye towards also securing sufficient flex capacity to provide regulation.

The CAISO's proposal to exclude resources that focus on one type of flexibility energy product is misplaced. Consider alternatively how some resources are not equipped with Automatic Generator Control or may otherwise be sub-optimal at providing regulation. The CAISO does not seek to limit or exclude such resources from providing Flexible Capacity merely because they cannot provide the premium flexible capacity products. But such limitations are being considered for REM resources despite their speed, accuracy, and general support for inclusions in markets per FERC Order 755, wherein FERC "preliminarily found that the use of faster-ramping resources for frequency regulation has the potential to improve operation and economic efficiency and, in turn, lower costs to

¹ "RA Enhancements Workshop Slides, April 8-9, 2019", CAISO, slide 37

² "Comments by CESA on RA Enhancements Straw Proposal – Phase 2" March 20, 2019.

<http://www.caiso.com/Documents/CESAComments-ResourceAdequacyEnhancements-StrawProposalPart2.pdf>

consumers in organized markets. Faster ramping resources may be able to replace resources that currently provide frequency regulation, so that RTOs and ISO's may be able to procure less regulation capacity, thereby lowering costs to load.”³ The exclusion of REM resources is thus misaligned with efficiency gains and may be potentially discriminatory. Many resources have unique operating limitations and CAISO should not categorically exclude energy storage resources from seeking to provide any market or capacity services. While CESA supports the CAISO's evaluation of resource eligibility, the CAISO should retain full flex capacity eligibility for REM and storage resources and should count such flex capacity appropriately under any new 'fast flex' period determined in this initiative, e.g. over a 15-minute period. The flexible capacity range should include the charging range, if deliverable in sufficient time.

- 3) CESA supports information-sharing on local-capacity area energy needs (in addition to peak capacity needs) so long as no caps on energy storage are established and so that existing storage resources are not unexpectedly devalued from a capacity point of view.**

CESA's past comments have spoken on CESA's views on this matter.⁴

- 4) Assessment and must-offer periods for capacity products should focus on key periods of the day.**

CESA supports a planning capacity product suite that reasonably guarantees the CAISO's operating needs are met. That said, the CAISO should have reasonable confidence that its energy market will also promote and shape market participation. Over-specification of planning capacity products' operational requirements may reduce eligibility in ways that are unnecessary while leading to increased costs and inefficiency in planning capacity markets. The CAISO should thus focus on finding a balance between broad planning capacity product designs and some operational details in the form of MOOs or other criteria, while also empowering the energy markets to promote efficient participation and dispatch.

Put another way, the RA construct's 'planning capacity' approach, as CESA sees it, is not designed to optimally *dispatch or schedule* resources. The CAISO must naturally rely on market signals for energy market operations to some degree, even though some must-offer obligations should continue to be used.

³ FERC Order 755, 10/20/2011. <https://www.ferc.gov/whats-new/comm-meet/2011/102011/E-28.pdf>

⁴ "Comments by CESA on RA Enhancements Straw Proposal – Part 1", Feb 5, 2019. <http://www.caiso.com/Documents/CESAComments-ResourceAdequacyEnhancements-StrawProposalPart1.pdf>

As the CAISO seeks to update capacity MOOs and evaluation periods, CESA suggests that 24-hour evaluation or offer periods may be excessive. Many periods of the year have predictable conditions with ample system slack, e.g. excess capacity. The CAISO should differentiate and tackle efficient market operations separately from broad fungible capacity product definition. CESA believes a system, a local, a (fast) flex up, and a (fast) flex down product, including with sub-categories where applicable, may be sufficient. MOOs can focus on peakier periods, e.g. flex or system peaks.

Overly expansive RA participation or availability requirements may limit participation from multi-use applications or could create artificial scarcity situations. The CAISO should avoid overly expansive RA rules which hinder participation and cost-savings from resources that can be reliably available to meet market and grid needs.

The CAISO should also further focus on building a CAISO market that promotes participation and efficient market prices while avoiding excessive commitments where reasonable. By continuing to focus on a well-functioning energy market, the CAISO can naturally promote some of the participation it seeks from planning capacity resources through, to some degree, MOOs and related RA rules. CESA further recommends that the CAISO should lower its negative bid-floor to support energy storage charging and discharging, or other actions by market participants that are rational.

About CESA:

CESA is an industry advocacy association focused on grid-connected energy storage. CESA's mission is to make energy storage a mainstream resource that accelerates the adoption of renewable energy and promotes a cleaner, more efficient, reliable, affordable, and secure electric power system. The CAISO's ESDER initiative specifically addressed market participation pathways for energy storage in select applications and is a core priority of CESA's.

CESA is a 501(c)(6) non-profit that represents over 70 member-companies and leaders in the energy storage industry.⁵ www.storagealliance.org.

⁵ 8minutenergy Renewables, Able Grid Energy Solutions, Advanced Microgrid Solutions, AltaGas Services, Amber Kinetics, American Honda Motor Company, Inc., Axiom Exergy, Brenmiller Energy, Bright Energy Storage Technologies, Brookfield Renewables, Carbon Solutions Group, Centrica Business Solutions, Consolidated Edison Development, Inc., Customized Energy Solutions, Dimension Renewable Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, EDF Renewable Energy, ElectriQ Power, eMotorWerks, Inc., Enel, Energport, ENGIE, E.ON Climate & Renewables North America, esVolta, Fluence Energy, GAF, General Electric Company, Greensmith Energy, Ingersoll Rand, 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, NantEnergy, National Grid, NEC Energy Solutions, Inc., NextEra Energy Resources, NEXTracker, NGK Insulators, Ltd., NRG Energy, Inc., Parker Hannifin Corporation, Pintail Power, Primus Power, Range Energy Storage Systems, Recurrent Energy, Renewable Energy Systems (RES), Sempra Renewables, Sharp Electronics Corporation, SNC Lavalin, Southwest Generation, Sovereign Energy, Stem, STOREME, Inc., Sunrun, Swell Energy, True North Venture Partners, Viridity Energy, VRB 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>).