CESA
CALIFORNIA ENERGY STORAGE ALLIANCE

Comments of the

California Energy Storage Alliance (CESA) on the

RA Enhancements Straw Proposal – Part 1

Submitted by	Organization	Date Submitted
Alex J. Morris	California Energy Storage Alliance (CESA)	February 6, 2019

Introduction:
CESA offers these comments on the RA Enhancements Straw Proposal Part 1, issued on December 20, 2018.[1] CESA appreciates the opportunity to comments and looks forward to working with the CAISO on these important issues.

CESA Comments:
CESA supports an assessment and tuning exercise for the set of Resource Adequacy rules jurisdictional to the CAISO. RA is an important tool for ensuring the fleet of resources available to the CAISO is sufficient to run the grid reliably for the applicable period, e.g. a month or year. Whereas much of the grid to date has relied on a more traditional fossil-based fleet, the CA grid is evolving towards a different fleet, including Variable Energy Resources (VERs) and energy storage. This transition highlights two important goals for the RA program. First, it should ensure the transition between the 'old' fleet and the newer one is smartly managed. Second, it should provide market signals about the types of capacity that are valued so that new resources can be planned and developed to meet needs that can be monetized, *e.g.* to provide flexibility. To do the latter, the CAISO should ensure its suite of RA products, in line with CPUC RA rules and designs, directs the right amount of fast flexibility, renewables integration, renewables storage, etc.

A. CESA supports information-sharing regarding the duration of 'need' in local areas or sub-areas but opposes any blunt cap on energy limited resources or backstopping based on non-binding studies.

[1] http://www.caiso.com/Documents/StrawProposalPart1-ResourceAdequacyEnhancements.pdf

The CAISO proposes to augment its local capacity technical analysis to include energy duration needs in local areas, in addition to peaking needs. *Caeteris paribus*, more information that can guide RA procurement is useful.

CESA feels strongly that energy storage should be eligible to compete to provide solutions. Moreover, Load-Serving Entities should have information in order to procure resources to meet grid needs. The CAISO's proposal allows this, but the CAISO should not exceed the stipulations of the proposal.

A bad outcome from the proposal would be if the CAISO expanded its proposal to backstop resources based on the *non-binding* technical study information or to cap or devalue extant or new energy storage solutions. CESA does not oppose the CAISO laying out a path where longer-duration storage solutions can be valued appropriately and can compete. The CAISO will, however, need a clear rationale for how it values existing 4-hour storage in a portfolio that may also include or seek longer-duration solutions. This portfolio effect should be vetted and stakeholdered before any further CAISO action is warranted. It may also be prudent to explore provisions to insulate existing resources or contracts from excessive regulatory risk by evolving rules slowly or implementing them with care. A portfolio approach likely mitigates some of this risk.

Finally, a workshop to evaluate the energy-duration aspects of the Local Technical Study should occur. Past local studies that focused on understanding energy needs were complex and benefitted from stakeholder input, ultimately building more consensus and support for actions put before the CAISO Board of Governors Explanations of study assumptions, approaches, and findings may be even more necessary if each local sub-area has specific non-intuitive idiosyncrasies that drive the studies' findings, *e.g.* fire risks are deemed value on one transmission corridor but not on a nearby one due to past fire activities. This information is very important for storage developers to understand. Even if information gleaned from a study is non-binding, the CAISO should have a transparent process that stakeholders can understand, participate in, and support. CESA's support for this study-based approach is based on the expectation that the CAISO will approach this study process diligently and transparently.

Finally, CESA requests clarification about how energy-focused studies may also inform planning reserve margin discussions. Past studies highlighted how some areas have 8-hour or 9-hour needs. With more variable resources, it may also help to begin exploration regarding the energy storage duration needs that could result from various contingencies, even if outside of the local sub-area.

B. RAAIM Enhancements or Alternatives that focus on Net Qualifying Capacity (NQC) changes may be disruptive and should be avoided unless an appropriate transition process is developed.

CESA supports assessments for how to simplify and improve the Resource Adequacy Availability Incentive Mechanism (RAAIM). CESA does not at this time endorse any changes to the RAAIM and believes further vetting and discussion of any transition issues is needed.

The CAISO appears to be considering a transition away from the RAAIM towards an effective forced outage rate approach by which resources receive lower capacity values if they are often unavailable. Under this construct, a resource may no longer need to procure replacement capacity but would also not receive full credit for its capabilities if its NQC is adjusted down.

The NQC is an important contractual metric that has critical material financial implications. Changes to the NQC may be extremely disruptive to existing contracts. One example is that resources with higher capacity cost structures could face more financial exposure from write-downs to an NQC that from contracting for replacement capacity. The implications and ability of existing contracts to accommodate major changes to the definition and calculation of the NQC could be serious. The relevance of historical outage rates may not necessarily reflect going-forward outage rates, so the accuracy of any historical outage-based calculation is also an area that warrants review and further consideration.

If NQC adjustments are to be explored, the CAISO should include some sort of transition approach to provide needed stability for existing contracts is needed. This type of transition method may involve the ability to opt-in to new rules, or some transition period, *e.g.* the existing contract term, in which the current rules would apply. CESA's efforts to support the determination of capacity counts for hybrid resources may also be useful in providing developers with tools to maintain NQCs.

C. Additional RA Enhancements are needed.

CESA believes elements of FRACMOO should be incorporated into this initiative as these elements fit with the concept and scope of RA enhancements. Specifically, the CAISO should complete the unbundling proposal of flex and system deliverability studies and RA counting, and should explore development a stand-alone flex deliverability study. The CAISO should count the flexibility of energy storage as the full range from charge to discharge. The CAISO should not limit real-time storage flexibility to some 'instantaneous max' measurement, which understates the flexibility of energy storage and unreasonably harms the valuation for flexibility of energy storage compared with that of a gas plant.

Additionally, CAISO should expand its RA Enhancements scope to address more hybrid resources, rather than just hybridized fast and slow Demand Response (DR). CESA has highlighted that several key hybrid configurations are being developed and need RA values. These include gas plus storage resources, solar plus storage, and wind plus storage. As the CAISO has jurisdiction to set these 'counts' for many non-CPUC areas, the CAISO needs to develop rules and approaches for this. This matter is urgent and important. The CAISO should set these hybridizing provisions

so they work not just for resources interconnecting as hybrids but also for retrofits to hybridize resources, in some cases without going through the interconnection queue again where applicable and safe. For hybridizing VERs, metering and resource ID options and requirements need specifications, in particular for DC-coupled storage capacity, and the ability of intermittent resources to maintain EIRP status should also be authorized.

Finally, the CAISO should include in scope the development of rules for RA related to exports from behind the meter distributed energy resources (DERs). In some cases, these resources have no path to be valued as RA. Currently, resources seeking to use the Distributed Energy Resource Provider (DERP) model have no RA eligibility, which seems unrealistic.

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.[2] www.storagealliance.org.

[2] 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).