



Comments of the California Energy Storage Alliance (CESA)
on
CAISO FRACMOO Flex Capacity Framework Proposal

Submitted by	Company	Date Submitted
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CESA appreciates the opportunity to comment on the CAISO’s Flexible Capacity and Must Offer Obligations Phase 2 (FRACMOO 2) Revised Draft Flex Capacity Framework Proposal.¹ CESA offers both general comments and responses to the CAISO’s Comments-Response Template.

FRACMOO 2 remains an important stakeholder initiative that should promote proper fleet planning and contracting in order to ensure reliability across the year.

I. CESA’s Comments:

- A. Additional vetting of the methodology and uncertainty and variability metrics are warranted to ensure the metrics yield logical outcomes that also address the CAISO’s needs.**

Based on stakeholder input, CESA is concerned that the Revised Frameworks proposed metrics could be flawed. CESA’s views are based on the assessment that the current fleet is failing to

¹http://www.caiso.com/Documents/DraftFlexibleCapacityFrameworkProposalFlexibleResourceAdequacyCriteria_MustOfferObligationPhase2.pdf

satisfactorily yield a fleet for the CAISO.² In contrast to this prevailing challenge, however, the meeting slides, Market Surveillance Committee discussions, and verbal comments at the CAISO's February 7th, 2018 stakeholder meeting have indicated that the new metrics may result in very little change to the fleet. This outcome could run at odds with the view that the CAISO needs more and different flexibility and that the new metrics should more adequately frame and 'solve for' the CAISO's flexibility problems.³ Further, CESA understands the CAISO's anticipated day-ahead market changes could exacerbate this potential. The possibility of this outcome highlights that the metrics may be flawed. Additional vetting is thus appropriate.

CESA strongly urges consideration of self-schedule effects and also of downward ramping needs too. While CESA continues to believe some variant or suite of products to meet both known variability and uncertainty is the right approach, such a suite should obviously include downward ramping considerations. The CAISO's current approach mostly prompts a focus on up-ramping needs and must-offer obligations, but not on having a fleet to meet down-ramping, ACE and BAL-002 or other requirements at all times.

B. CESA supports full unbundling of a resource's EFC from its NQC – details on the proposed flexible deliverability study or authorization process are needed.

Full unbundling is an efficient change that should be pursued. Resources should opt to provide services they see benefit in. Ultimately, this unbundling helps electric ratepayers, lowers costs, and boosts market efficiency.

CESA agrees that flex RA resources, not seeking to provide system or local RA, should not have to go through a full capacity deliverability study, nor necessarily be subjected to costly system upgrades since they do not seek to be fully deliverable at peak times. However, CESA requests more information on any proposed separate flexibility deliverability study process. Such a study process should be a low-hurdle. In fact, CESA seeks ways to support expedited processes to promote quicker deployments of flexible resources. CESA looks forward to working with the CAISO on this matter.

² Past FRACMOO proposals have sought to modify Flex Capacity structures due to concerns that the current rules do not yield a fleet sufficient to meet the CAISO's needs.

³ CAISO Presentation Slides, FRACMOO Mtg, February 7, 2018, slide 76:

<http://www.aiso.com/Documents/Agenda-Presentation-RevisedDraftFlexibleCapacityFrameworkProposal-FlexibleRACriteria-MustOfferObligationsPhase2-Feb72018.pdf>

C. Counting rules, portfolio limits, and approaches for hybrid resources (like solar or gas plus storage) should appropriately value the fast ramping capabilities of storage.

The CAISO discusses eligibility and ramping capability based on short-duration ramp periods, such as 5 or 15-minute periods. CESA supports this approach since it will ensure slow-ramping resources are not unreasonably highly counted nor unduly relied on for real-time ramping needs.

Considerations of hybrid resources should be clarified. For instance, a hybrid solar plus storage resource should have an EFC that factors in the potential for the combined-resource to have a negative p-min (based on charging the storage unit). This also applies to dispatchable gas plants with storage, in which the gas plants flexibility range may exceed its NQC because it can have a negative p-min.

There should be no portfolio limits regarding the use of energy storage resources, including if combined with solar. CESA makes no comment regarding potential limits placed on other resources. For hybrid resources, however, CESA believes further clarifications are appropriate so that energy storage hybrid resources are reasonable differentiated and valued.

D. The CAISO should continue to explore the right approach to real-time flexibility must-offer obligations.

The CAISO proposal suggests a standard 24x7 must-offer obligation for real-time flex capacity providers. While CESA understands the need to ensure the fleet has sufficient flexibility, the proposal may strand some capacity, e.g. demand response or multiple-use energy storage solutions. CESA suggests a data-based approach to determine if any differentiation between part-time versus full-time available resources is appropriate. CESA's position is bolstered by the CAISO's data that most extreme flexibility challenges occur during the day.

E. Energy Storage Resources that have modest transition times to go from charging to discharging should be authorized for flex RA value that ranges from the appropriately determined Pmax to the appropriately determined P-min.

CESA requests the CAISO explicitly clarify that bi-directional energy storage resources with even modest transition times from eligibility for EFCs that cover their full range from Pmax to Pmin, where the Pmin is negative (indicating 'charging'). CESA believes this is authorized by the definitions on eligibility and counting in the proposal but seeks confirmation. Resources with brief 'transition times' can provide large amounts of flexibility and should have an EFC that

reflects this. CESA notes that some pump hydro units have transition times yet provide important flexibility and so should be authorized while be measured and valued appropriately.

II. Responses to CAISO Comments Template

CESA Comments: A focus on fast-ramping capability should be a part of any solution. The CAISO should ensure it defines its ramping needs in ways that meet grid conditions. Resources that are often not sufficient to meet actual ramping needs, such as very slow ramping resources, should likely be devalued as ramping resources, where reasonable.

i. Identification of ramping and uncertainty needs

The ISO has identified two drivers of flexible capacity needs: General Ramping needs and uncertainty. The ISO also demonstrated how these drivers related to operational needs.

Comments:

CESA Comments: Overgeneration, self-scheduling and other drivers for downward ramping also need a flexible capacity solution. The CAISO should structure rules that yield a fleet for virtually any circumstance and should avoid out-of-market backstops through comprehensive flexible planning capacity approaches.

ii. Definition of products

The ISO has outlined the need for three different flexible RA products: Day-ahead load shaping, a 15-minute product, and a 5-minute product.

Comments:

CESA Comments: These products seem reasonable, but the CAISO should ensure this approach actual would yield a fleet that meets needs. CESA believes there may be a flaw in this metric if the calculation of need from these products shows little need, even though we know the CAISO may struggle at times to meet the flexibility needs of the system because the fleet is inadequately comprised.

Strong controls for out-of-state resources should ensure such resources are 'booked and deliverable' equivalently to in-state resources. Adjustments to the EFC of a resources in EIM entities that may not have full deliverability need to be clarified, because such resources may not need transmission reservations in EIM, creating uncertainty regarding the resource's flexibility deliverability. For resources out of the CAISO and not in EIM areas, transmission-

system schedules or reservations sufficient to deliver the power seems both reasonable and necessary.

iii. Quantification of the flexible capacity needs

The ISO has provided data regarding observed levels of uncertainty, in addition to previous discussions of net load ramps.

Comments:

CESA Comments: Conservative estimates and calculations are appropriate. The CAISO is right to include Regulation in the real-time product needs-calculation.

CESA believes the potential for outages mid-month should prompt consideration of procurement of flexible resources beyond the identified need. This might be akin to procurement based on an effective forced outage rate. While outage replacement and substitution rules address needs to some degree, some resources such as hydro can exit the market mid-month would providing replacement capacity. To avoid shortages, some prudent amount of excess procurement is warranted.

iv. Eligibility criteria and must offer obligations

The ISO has identified a preliminary list of resource characteristics and attributes that could be considered for resource eligibility to provide each product. Additionally, the ISO is considering new counting rules for VERs that are willing to bid into the ISO markets.

Comments:

CESA Comments: See CESA's comments above.

CESA supports counting based on ramping abilities in real-time intervals. CESA highlights that oversimplification of MOOs may strand some flexibility, and CESA would appreciate further consideration of how flexibility needs (and the availability of some resources) may differ from day to night.

v. Equitable allocation of flexible capacity needs

The ISO has proposed a methodology for equitable allocation of flexible capacity requirements. The ISO seeks comments on this proposed methodology, as well as any alternative methodologies.

Comments:

No comment at this time.

vi. Other

Please provide any comments not addressed above, including comments on process or scope of the FRACMOO2 initiative, here.

Comments:

CESA Comments: CESA strongly supports unbundling (and separate interconnection deliverability requirements) for flexibility versus peaking capacity. This part of the CAISO's proposal will yield market efficiencies, cost-savings, and other benefits.

Additionally, energy storage resources that have modest transition times to go from charging to discharging should be authorized for flex RA value that ranges from the appropriately determined Pmax to the appropriately determined P-min. The CAISO should confirm such resources fully 'count', assuming deliverability and start-times are also sufficient.