

COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE:
Energy Storage and Distributed Energy Resources Enhancements

Submitted by	Company	Date Submitted
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The California Energy Storage Alliance (CESA)¹ offers these comments on the California Independent System Operator's (CAISO) Energy Storage and Distributed Energy Resources (ESDER) Initiative's Revised Straw Proposal.² This proposal advances the CAISO's proposed plans for Non-Generator Resources (NGR) model enhancements, Proxy-Demand Resource (PDR) and Reliability Demand Response Resource (RDRR) alternative performance evaluation methodologies, and non-Resource Adequacy (RA) multiple use applications (MUAs).

CESA appreciates the efforts of the CAISO to allow energy storage and distributed energy resources (DERs) to participate in CAISO markets via aggregation. Until now, small resources such as distributed storage and other fast load modifying resources such as electric vehicle chargers have lacked sufficient avenues to provide services to CAISO markets. In the context of California's renewable energy future, these resources can provide significant benefits in terms of flexibility, capacity, and liquidity, and should be encouraged.

In these comments, CESA provides several up-front points and then includes responses to the CAISO's ESDER Revised Straw Comments Response Template.³

I. CESA Comments

1. Final designs and implementation of the PDR MGO-Adjusted Baselines are paramount.

This issue is especially important to CESA and many of its members, many of whom have collaborated with CAISO to identify and develop feasible solutions. CESA appreciates the

¹ 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>)

²http://www.caiso.com/Documents/RevisedStrawProposal_EnergyStorage-DistributedEnergyResources.pdf

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CAISO's willingness to work these issues towards finalization. As stated in the Straw Proposal⁴, the ISO recognized the need to expand the available approved baseline methodologies, and so has developed the MGO alternative and another metering alternative. CESA believes any remaining concerns can be readily addressed, and supports the CAISO's approaches raised in the Revised Straw Proposal. CESA plans to also participate in the related downstream CAISO-run Supply Integration Working Group (SIWG) meeting on October 12.

Given other aspects of the revised straw proposal. CESA sees the PDR MGO Adjusted Baseline as a top-priority matter that needs timely implementation. CESA would like to ensure that needed tariff amendments move expediently with targeted FERC approval by end of Q1 2016. To this end, CESA supports continued efforts to cement the design. The design workably fits with the CAISO's proposed Alternative Baseline Guiding Principles of Accuracy, Auditability, Ease of Implementation, and Compliance with NAESB. Because the MGO Alternative Baseline requires the use of a baseline in developing metering results, the plan thus comports with NAESB's Baseline-approved model. CESA recommends rapid finalization of this design.

In finalizing the MGO alternative, CESA also requests clarification on any non-exporting rules that govern PDR resources. CESA believes this issue merits further consideration from the CAISO and would like to clarify that the export check provision does not disqualify BTM from wholesale market participation under PDR/RDRR.

CESA provides further detail comments on the below comments response template.

2. CESA encourages the CAISO to support LRAs to resolve outstanding metering and tariff issues.

As noted above, the DERP construct is an important step in allowing distributed energy resources to participate in CAISO markets, but CESA understands that some potentially related issues may require further address by LRAs. These issues include approving appropriate metering and interconnection configurations, clarifying behind the meter billing and tariff issues, and supporting cost-effective interconnection for DERs.

CESA believes a useful approach for this collaboration may involve finalizing the CAISO's design so that there is less of a 'moving target', potentially clarifying which issues the CPUC wants to revisit. CESA also supports the CAISO's approach of supporting compliance with LRA rules, as was used in the CAISO Board-approved Metering and Telemetry design. CESA encourages the CAISO to work with LRAs and other stakeholders

⁴ "ESDER Issue Paper and Straw Proposal" CAISO, July 30, 2015, p. 17

to resolve these remaining issues and support cost effective DER participation under the DERPA.

3. The CAISO should develop plans for NGR models to allow ‘part-time’ metering, rather than 24-hour a day.

CESA does not support the proposal for NGR to require 24-hour-a-day settlement information for all resources. This level of information may expose behind the meter resources participating intermittently into the CAISO to charges or settlements for grid-beneficial activities provided for retail customers. The 24-hour settlement requirement makes economic operation of a NGR behind the meter practically impossible. This means that resources which are able to provide frequency regulation to the CAISO during certain times of day will not be able to participate in CAISO markets, potentially lowering market competition and efficiency.

CESA understands that the some market participation models require 24-hour-a-day settlements. For a generator directly connected to the distribution or transmission grid, this perhaps makes more sense. CESA thus believes it is reasonable for these types of ‘full-time’ resources to settle out of market dispatches at the wholesale level, e.g. through Uninstructed Imbalance Energy, although caveats may apply. For behind the meter NGRs, however, out of market dispatch would already be covered under the retail tariff of the utility meter, which ultimately results in a settlement to the CAISO. Therefore, it is not necessary to require 24-hour-a-day settlements from behind the meter NGRs. In the context of ESDER, which explicitly scopes participation enhancements for behind the meter resources, a 24 hour-a-day metering requirement for behind the meter NGRs was unexpected. CESA, among other stakeholders, has collaborated with the CAISO to support NGR as a means of participating optimally in the CAISO, but the CAISO’s 24 hour-a-day requirement is harmful to market participation and to the optimal use of many potential flexible resources. The CAISO should detail a plan to refine NGR so that more ‘opt-in/opt-out’ capabilities exist in this model for behind the meter resources.

II. CESA Responses to the CAISO Stakeholder Comments Template

Non-generator resources (NGR) enhancements

Please provide your comments in each of the four areas of proposed NGR enhancement.

1. NGR documentation.
 - a. What specific NGR areas do you think require additional documentation that are not already outlined in the revised straw proposal?

CESA Comments:

No comment at this time.

2. Clarification about how ISO uses state of charge (SOC) in the market optimization.
 - a. What specific NGR SOC areas do you think require additional clarity that are not already outlined in the revised straw proposal?

CESA Comments:

No comment at this time.

3. Allow for an initial SOC value as a daily bid parameter in the day-ahead market.
 - a. Are there any further considerations for allowing for a daily initial SOC bid parameter that are not already outlined in the revised straw proposal?

CESA Comments:

No comment at this time.

4. Allow an option to not provide energy limits or have the ISO co-optimize an NGR based on state of charge. Under this NGR option:

- NGRs that do not have SOC energy limits or choose to self-manage their SOC within resource energy limits, may choose to not use energy limit constraints and SOC in co-optimization or dispatch.
- NGRs that have an SOC and choose to self-manage their SOC, must provide telemetry SOC values for ISO resource monitoring.
- NGRs participating under Regulation Energy Management (REM) will not be eligible for this option.

- a. Are there any further considerations for allowing NGRs to not use SOC and energy limit constraints that are not already outlined in the straw proposal?

CESA Comments:

No comment at this time.

Proxy Demand Resource (PDR)/Reliability Demand Response Resource (RDRR) enhancements

Please provide your comments in each of the two areas of proposed enhancement.

1. Consider/develop an alternative ISO Type 1 performance evaluation methodology base on metering generator output (MGO) concepts.
 - a. What is your opinion on the MGO options being considered to represent performance of load offsetting behind the meter generation?
 - b. What specific options do you believe need further evaluation in terms of its appropriate use under PDR/RDRR performance measurement methodology?
 - c. Are there additional variants, specific to configuration B, needing further consideration (i.e. baseline of directly meter generator/device). If so please provide examples of what the ISO might need to consider.
 - d. Are there concerns on the use of MGO for “frequent” use of load offsetting behind the meter generation?
 - e. What is your response to the ISO’s consideration of employing a “reservation of capacity” for load offsetting behind the meter generation to account for potential multi-use of the generator/device?

CESA Comments:

CESA believes the development of an MGO-adjusted baseline option is paramount and must be finalized and implemented quickly. Numerous parties have collaborated heavily with the CAISO to develop this proposal.

The CAISO’s market seeks to match supply to demand at least-cost. To this end, market efficiency is increased through greater market participation in the form of participating aggregations, participating demand, etc. This overall goal of enhanced market efficiency and liquidity should continue to guide the CAISO. Meanwhile, electricity end-customer and ratepayer values can be enhanced through better market efficiency and utilization of resources. The PDRR/RDRR functionality supports these core customer goals. Thus the ESDER initiative is advancing a core ‘win-win’ agenda.

CESA appreciates the need for the CAISO to develop a robust market system with appropriate controls. These controls can involve ‘good actor’ clauses, financial exposures such as exposure to Uninstructed Imbalance Energy (UIE), and other controls such as a principled design following the ‘Alternative Baseline Methodology Guiding Principles’.⁵ These approaches are all appropriately within the CAISO’s jurisdiction and can be addressed in timely fashion.

⁵ *Revised Straw*, p. 22

CESA does not believe ‘frequent dispatch’ in and of itself is a problem, but that CESA understands that concerns associated with ‘frequent dispatch’ may involve either how frequent dispatch could change the baseline or how frequent dispatch somehow negatively influences the accuracy of the procured amount of load in that hour.

Regarding how frequent dispatch may lead to a different baseline, the MGO Alternative Baseline sufficiently addresses this concern. The use of the MGO specifically compensates for any ‘frequent dispatch’ so that metering results are accurate and so that the true resource ‘response’ is known. The MGO Alternative also satisfactorily addresses both NERC or NAESB metering requirements and the CAISO’s guiding principles. Because the MGO Alternative Baseline formulaically requires the use of baseline metering, the approach fits under the baseline category of performance measurement methodologies.

Regarding potential concerns that the frequency of dispatch somehow negatively influences the accuracy of the procured amount of load for that hour, CESA offers the following response. Firstly, load procurement frequently differs from actual load. For this reason, load procurement and ‘true-ups’ often occur in the CAISO’s Real-Time Market (RTM). Liquidity in the real-time market eases the management of these ‘missed forecasts’. By encouraging PDR/RDRR, the RTM liquidity can increase, supporting more balancing. Second, the CAISO can only address so much in its initiative. CESA believes some potential ‘frequent dispatch’ concepts raised by stakeholders may actually refer to stakeholder preferences and concerns for LRA-level rules. While such issues should be discussed, the CAISO should prioritize its focus on solving for least-cost market outcomes that support reliability. By finalizing its design, discussions for LRA rules and preferences can occur with more precision.

Regarding ‘reservations of capacity’ to be used to account for potential multi-use of a generator/device, CESA believes this is inappropriate and potentially discriminatory. Resources exposed to UIE already have incentives to honor dispatch schedules. As scoped in the ESDER, the CAISO is only looking at non-RA MUAs that imply there should be no expectation for such resources to participate in the market. Lastly, the CAISO’s consideration seems punitive and discriminatory in that it assumes problems with certain resource types and takes potentially costly actions to address them. Should this occur, would it be through RUC? If so, how could such changes be achieved in a timely manner? Is the CAISO proposing an out-of-market solution? As CESA understands it, such actions are unnecessary. The CAISO has a suite of tools and ancillary services that customers already pay for to ensure system reliability and in serving load and uncertain net-load targets in its optimization.

Practically, CESA also expects any reliability effects of MUAs, if in any way detrimental, will be extremely small and immaterial to the CAISO’s system for some time to come. The CAISO thus has useful opportunities to learn and assess frequencies of UIE for these types of systems. CESA, of course, appreciates the CAISO’s need to consider material system reliability concerns.

2. Develop additional detail regarding use of statistical sampling and document that in the appropriate BPMs.

- a. What is your opinion on the statistical sampling methodology being proposed as an approved ISO Type 2?
- b. Has enough detail been provided? If not, what additional detail is needed?
- c. What is your opinion on the applicability currently proposed and being considered by for ISO Type 2?
- d. What additional information can you provide the ISO that will help in understanding the need for use of ISO Type 2 in cases where Hourly Interval Metering is available? (i.e. why is the “interval meter data” unavailable to meet SQMD submission timelines) Should provisions for its use for Hourly Interval Metering cases have limitations? What might those limitations be?

CESA Comments:

No comment at this time.

Non-resource adequacy multiple use applications

1. Please comment on the ISO’s proposal regarding Type 1 multiple-use scenarios.

Comments:

2. Please comment on the ISO’s proposal regarding Type 2 multiple-use scenarios.

Comments:

3. Please offer any additional comments on other aspects of the ISO’s proposal.

Comments:

CESA Comments:

CESA appreciates the CAISO’s deliberative thought-work in assessing appropriate rules for non-RA MUAs. These rules are a key component of the ESDER initiative, and CESA looks forward to continued collaboration on these matters.

The CAISO’s use of Type 1 and Type 2 cases seems useful and tailors the discussion to potentially ‘likely’ cases. On this note, CESA supports the enhancement to the DERP to focus on net movement in line with distribution factors (DFs) from sub-resources at each node rather than to require homogeneous movement from all sub-resources. This new CAISO approach is superior because it should perform equivalently well with the CAISO’s congestion management and power-flow software controls and needs while allowing more realistic DERA to participate.

CESA supports the use of UIE for deviations from dispatch. The CAISO has long banked on UIE as an appropriate financial ‘consequence’ for deviations from schedule because UIE reflects the real-time costs of such deviations. The Market Surveillance Committee has upheld this approach in numerous instances.⁶ Moreover, with the eventual development and implementation of the Flexible Ramping Product (FRP), deviations from schedule may also face additional costs in the form of FRP cost-allocation.

CESA also supports the idea that the CAISO not seek to delay its design based on resources seeking to provide values outside of the CAISO’s market. The CAISO has referred to this genre of actions as a ‘double payment’ concern. To CESA, this concern seems to relate more to non-CAISO jurisdictional issues and should not be addressed here. The CAISO’s market structure, with appropriate controls, seeks to match supply to demand at least cost. In these (and many other) cases, out of market considerations are likely inappropriate to include in the CAISO rules. CESA of course supports robust rules for the CAISO’s market and for CPUC-jurisdictional services so that just and reasonable outcomes occur.

CESA also supports the CAISO’s approaches laid out for aggregations across multiple pnodes because these controls help ensure accurate understandings of power flows in support of accurate congestion management. With further experience on multiple pnode aggregations, enhancements and or tolerances for allowing generation and or load distribution factor changes, e.g. dynamic GDFs, should be considered.

While CESA, as stated, is supportive of many aspects of the CAISO’s design, CESA has concerns about the 24-hour ‘in market’ metering requirements proposed for NGRs. This approach may limit use of NGR and promote PDR use. PDR, however, does not allow for the provision of Regulation. The limitations on NGR may thus harm the market’s efficiency and limit opportunities for DERs. While the 24-hour accounting idea for NGR may mimic the accounting of other ISO participation models, CESA believes it is uniquely inappropriate for *non-RA* multiple-use DER aggregations that should have no obligation at all whatsoever to be in the market. Without an RA contract, such resources should have freedom to come and go from the market, yet the CAISO’s 24-hour NGR metering requirements essentially prohibit this. CESA looks forward to continued discussion on this matter.

⁶ See Market Surveillance Committee comments on discussions of ‘worse-of’ settlement ideas.