

Stakeholder Comments Template

Submitted by	Company	Date Submitted
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All documents for the energy storage and distributed energy resources (ESDER) initiative, including the September 17, 2015 Revised Straw Proposal and the presentation discussed during the September 28, 2015 stakeholder web conference, are available on the webpage for the ESDER initiative at: [HYPERLINK](http://www.caiso.com/informed/Pages/StakeholderProcesses/EnergyStorage_AggregatedDistributedEnergyResources.aspx)

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eMotorWerks Comments:

eMotorWerks appreciates the CAISO's continued efforts to allow distributed energy resources to participate in its market via the ESDER and other initiatives. However, critical limitations still remain. For instance, there is still no viable avenue for behind the meter resources to provide frequency regulation under either PDR or NGR.

eMotorWerks has a fleet of EV chargers that can be dispatched within three seconds according to a CAISO regulation signal. These grid resources already contain revenue grade metering and can be readily aggregated with a RIG and telemetry. Because PEVs and chargers are being installed across the state, the marginal cost of such dispatch can be very low. The roadblock that has been put up is that behind the meter resources already pay a retail rate for electricity at all times, so cannot, therefore, also pay wholesale settlements for energy at all times in order to provide regulation during only a limited number of hours per day.

The 24 NGR settlement requirement is justified for in front of the meter NGRs because their energy must be settled at a wholesale level. However, behind the meter resources already purchase energy at retail, which is ultimately settled in the market. It does not make sense to require all charging energy to be purchased at all times by a resource behind the meter. Such a requirement is especially disheartening when California is trying to encourage PEVs in the state, and when charging infrastructure can be so well suited to provide the dispatch and telemetry required for frequency regulation. Several solutions to this problem exist. The CAISO could seamlessly incorporate frequency regulation into PDR, a service already designed for behind the meter resources without compromising the intentions of the DERP scheduled to begin next year. Alternatively, the CAISO could allow exceptions to the NGR 24 hour requirement for behind the meter resources. Finally, the CAISO could investigate the removal of energy settlements from frequency regulation for behind the meter resources, as their energy is already settled at retail. eMotorWerks looks forward to working with the CAISO and other stakeholders to create a path for low cost dispatch able resources to provide value in the CAISO's markets and on the grid.

Non-generator resources (NGR) enhancements

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

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

Comments:

No comment at this time.

Clarification about how ISO uses state of charge (SOC) in the market optimization.

What specific NGR SOC areas do you think require additional clarity that are not already outlined in the revised straw proposal?

Comments:

No comment at this time.

Allow for an initial SOC value as a daily bid parameter in the day-ahead market.

Are there any further considerations for allowing for a daily initial SOC bid parameter that are not already outlined in the revised straw proposal?

Comments:

No comment at this time.

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.

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?

eMotorWerks Comments:

eMotorWerks appreciates the currently proposed NGR enhancements. The existing SOC optimization approach is well suited to some resources, but is inappropriate for resources such as aggregated EV charging fleets. EV charging stations can provide exceptional dispatch capabilities in CAISO markets, but the energy limits of an aggregated EV charging resource varies according to the vehicles that are plugged in and charging, which will vary by time of day, location, etc. It is therefore sensible to leave bidding and dispatch responsibility to the aggregator and/or fleet operator of these resources.

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

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

Consider/develop an alternative ISO Type 1 performance evaluation methodology base on metering generator output (MGO) concepts.

What is your opinion on the MGO options being considered to represent performance of load offsetting behind the meter generation?

What specific options do you believe need further evaluation in terms of its appropriate use under PDR/RDRR performance measurement methodology?

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.

Are there concerns on the use of MGO for “frequent” use of load offsetting

behind the meter generation?

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?

eMotorWerks Comments:

Direct metered options for PDR can provide much greater clarity on the dispatch of PDRs, as they isolated the flexible resource from uncorrelated fluctuations in customer load. Therefore, eMotorWerks very much appreciates the CAISO working to enable the various MGO options. Specifically, eMotorWerks would be interested in participating in CAISO markets using option B1 (via standalone EV charging, or EV charging combined with other loads) or option B3 (via EV charging combined with energy storage or a generator).

The establishment of a baseline inherently discourages daily market participation. However, eMotorWerks understands that, without a baseline, separating bulk energy dispatch from permanent load shifting or permanent generation can be difficult without intimate visibility into the software systems controlling this dispatch.

Therefore, eMotorWerks would be very much interested in seeing further development of a capacity reservation system, not just with regard to generation, but also with regard to dispatchable loads. For instance, it is possible to use some portion of a fleet of EV chargers to reduce demand charges to a building, while retaining sufficient overhead to offer excess capacity to CAISO markets via PDR. EV fleet charging behavior may also allowed to fluctuate over time, while offering a solid and reliable block of dispatch to the CAISO. eMotorWerks sees that such a reservation system could allow for multi use while supporting clear dispatch to CAISO markets.

eMotorWerks also notes that pure behind the meter frequency regulation dispatch under PDR may not have many of the issues identified by the CAISO relating to energy market dispatch. Due to the fast response times and real time telemetry required to provide regulation service, a period of frequency regulation dispatch could be accurately separated from out-of-market dispatch in a prior hour. Upon being awarded a bid for frequency regulation, one or more sub-metered resources could be maintained at a consistent baseline state of charge or discharge, with all deviations from that baseline settled as regulation dispatch. eMotorWerks would be very interested to work with other stakeholders and the CAISO to incorporate frequency regulation into the PDR program.

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

What is your opinion on the statistical sampling methodology being proposed as an approved ISO Type 2?

Has enough detail been provided? If not, what additional detail is needed?

What is your opinion on the applicability currently proposed and being considered by for ISO Type 2?

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?

Comments:

No comments at this time.

Non-resource adequacy multiple use applications

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

Comments:

eMotorWerks supports the ISO's proposal as reasonable and fair.

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

eMotorWerks Comments:

As noted in the opening comments, the ISO's proposal regarding Type 2 multiple use scenarios does not fully address the scenario of a resource serving both retail and wholesale functions. In maintaining the requirement that NGRs be continuously settled in wholesale markets, the ISO's proposal effectively rules out economic participation by behind the meter resources, which currently also must be continuously settled at retail energy rates. It is possible that behind the meter NGRs could be "netted" out of a site retail meter to settled entirely through wholesale processes, but such a metering arrangement is not allowed by LSEs at this time.

If a behind the meter resource were allowed to "opt in" to wholesale market participation during certain hours, then this multi use case would be workable, and a whole new category of low cost resources could be available to ISO markets. The CAISO should consider adjusting the NGR requirements to allow limited hour participation for behind the meter resources.

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

Comments:

California ISO

ESDER – Revised Straw Proposal

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Please use this template to provide your comments on the Revised Straw Proposal posted on September 17, 2015 and as supplemented by the presentation and discussion during the stakeholder web conference held on September 28, 2015.

Submit comments to HYPERLINK "mailto:InitiativeComments@caiso.com"

InitiativeComments@caiso.com

Comments are due October 9, 2015 by 5:00pm