California ISO

Stakeholder Comments of the
Public Advocates Office at the California Public Utilities Commission
Energy Storage and Distributed Energy Resources (ESDER) Phase 4
Workshop on May 7, 2019

Upon completion of this template, please submit it to initiativecomments@caiso.com.
Submissions are requested by close of business **May 17, 2019.**

Please provide your organization's general comments on the following issues and answers to specific requests.

Submitted by	Organization	Date Submitted
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1. **Non-Generator Resource (NGR) model SOC parameter**

The Public Advocates Office supports the California Independent System Operator's (CAISO) effort to manage the optimal use of non-generator resources. This includes the CAISO's proposed refinement to front-of-the-meter (FTM) energy storage resources State-of-Charge (SOC) parameters and their usage by Scheduling Coordinators.[1] This also includes the CAISO's proposal to perform Multi-Interval Optimization.[2] In addition, the Public Advocates Office supports the CAISO's proposal to treat Non-Generating Resources as supply resources, requiring execution of only a Participating Generator Agreement but not a Participating Load Agreement.[3]

2. **Bidding requirements for energy storage resources**

The Public Advocates Office recognizes the important role of market power mitigation by CAISO and anticipates that the amount of storage resources on the grid will eventually increase to the point that they could exercise market power. In anticipation of this scenario, the Public Advocates Office supports CAISO's work in developing Default Energy Bids for energy storage in ESDER 4, especially considering the lag time between

[1] Straw Proposal - Energy Storage and Distributed Energy Resources Phase 4, May 9, 2019 (Straw Proposal ESDER 4) Available at http://www.caiso.com/Documents/StrawProposal-EnergyStorageandDistributedEnergyResourcesPhase4.pdf

[2] Straw Proposal ESDER 4, p. 8, paragraph 2.

[3] Straw Proposal ESDER 4, p. 9, paragraph 3.

policy development and implementation. The cost components of a storage resource's marginal cost of operation - used to calculate a resource's Default Energy Bid – are complicated, especially if the cost of replacement components is considered. The CAISO and stakeholders would benefit from gaining a better understanding of the marginal cost of dispatching an energy storage resource in the context of market power mitigation, as well as in proceedings at the California Public Utilities Commission, such as the Integrated Resource Planning proceeding.[4]

3. **DR operational characteristics**

   a. *Please provide comments on the CAISO's three options.*

The Public Advocates Office has no comments on this issue at this time.

4. **Variable output DR**

   a. *CAISO requests additional detail and reasoning from stakeholders who believe a more appropriate method exists for determining QC than applying an ELCC methodology.*

The Public Advocates Office supports the California Large Energy Consumers Association's (CLECA's) comments[5] regarding maintaining qualifying capacity (QC) values based on Load Impact Protocols that are used by the CAISO and the CPUC to measure performance of Demand Response programs. Load Impact Protocols have been adopted by various Independent System Operators/Regional Transmission Organizations (ISO/RTO) and incorporated into the North American Energy Supply Board (NAESB) Demand Response (DR) standards.[6] These standards, methods and protocols can be used to determine QC values instead of applying a new effective load carrying capacity (ELCC) methodology.

   b. *CAISO requests stakeholder feedback on controls needed to ensure that forecasts accurately reflect a resource's capability.*

It is the responsibility of the Resource Provider or Aggregator to ensure that the resource bid is available at dispatch. This is done in coordination with the Scheduling Coordinator. The CAISO should work closely with both the Resource Provider and Scheduling Coordinator to ensure success within the parameters of the resource agreement. In addition, metering requirements for all resource providers should help

[4] Rulemaking (R).16-02-007.

[5] CLECA Comments on the ESDER 4 Issue Paper Working Group, April 1, 2019, p. 5 paragraph 2. ("In Summary, CLECA recommends the LIP remain in place for the determination of Annual and Monthly RA value for DR.") Available at: http://www.caiso.com/Documents/CLECAComments-EnergyStorage-DistributedEnergyResourcesPhase4WorkingGroup-Mar18-2019.pdf.

[6] https://www.naesb.org/pdf3/dsmee100308w7.pdf, Measurement and Verification Standards Wholesale Electric Demand Response Recommendation Summary, 2008-10-03.

ensure the certainty that forecasts accurately reflect a resource capability since behind-the-meter resources are not directly controlled by the CAISO.

5. **Non-24x7 settlement of behind the meter NGR**

   a. *As a behind-the-meter resource under the non-generator resource model, any wholesale market activity will affect the load forecast. How will load serving entities account for changes to their load forecast and scheduling due to real time market participation of behind the meter resources?*

To account for changes to load forecasts and resource scheduling due to real time market participation of behind the meter resources, both load serving entities (LSEs) and the CAISO should strive to understand and anticipate customer behavior in terms of their demand and how each customer class responds to the incentives provided in tariffs under which they take service. For Demand Response and Load Shifting resources, the CAISO should work with Resource Providers and LSEs, using calculated Load Impact Protocols to account for changes in their load forecast and scheduling due to real time market participation of behind-the-meter resources.

   b. *How would a utility distribution company prevent settling a resource at the retail rate when the behind-the-meter device is participating in the wholesale market?*

Retail customers take electrical service from LSEs. Retail customers who agree to participate in a program that provides a CAISO grid service are still obligated to comply with the provisions of their current retail service tariff. Current retail service tariffs prevent Investor-owned utility (IOU) customers from exporting to the grid except Net Energy Metering (NEM) customers. Retail customers' participation in wholesale markets can only be accomplished by offsetting local customer demand. The CAISO, through the Resource Provider or Aggregator, compensates retail customers for their participation in the supplied grid service through the DR program.[7] [8] Hence, under current retail tariffs, IOUs always bill based on the retail rate. Any demand reduction in customer load to supply a wholesale service is settled at the retail rate. Thus, IOUs should continue to settle at retail rates any demand reduction in customer load used to supply a wholesale service when the behind-the-meter device is participating in the wholesale market.

[7] CAISO Tariff Sections 4.13, and 11.6. The mechanism was adjudicated in *Federal Energy Regulatory Commission v. Electric Power Supply Association et al,* 136 S. Ct. 760, 2016, and subsequently adopted by the Federal Energy Regulatory Commission (FERC) in FERC Order 745.

[8] CAISO Demand Response Users Guide, Version 4.5, October 31, 2018. http://www.caiso.com/Documents/DemandResponseUserGuide.pdf

c. *If a behind-the-meter resource is settled only for wholesale market activity, what would prevent a resource from charging at a wholesale rate and discharging to provide retail or non-wholesale services? How would this accounting work?*

Retail customers of Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) are already prohibited from reselling energy supplied by their IOU.[9] One potential solution to prevent the possibility of a resource charging at a wholesale rate and discharging to provide retail or non-wholesale services is to require every supply resource that can provide a grid service, whether transmission or distribution, to incorporate a Settlement Quality Meter (SQM)[10] that meets ANSI C12 metering standards and that can be monitored and validated based on the requirements of the grid service it provides. The location of a supply resource in front-of-the-meter is optimal. However, if a supply resource is located behind-the-meter, then using a subtractive metering calculation, the supply metering information can be aligned with the Premises Meter to separate the customer retail tariff usage from the wholesale or distribution grid usage. This mechanism or process would help prevent a resource from charging at a wholesale rate and discharging to provide retail or non-wholesale services.

6. **Additional comments**

The Public Advocates Offices has no additional comments at this time.

Please contact Jerry Melcher at jerry.melcher@cpuc.ca.gov or at (415) 703-1923 with any questions.

[9] See PG&E Tariff Rule 18; SCE Tariff Rule 18; SDG&E Tariff Rule 19.

[10] CAISO Business Practice Manual for Metering, Attachment A End Use Metering Standards, p.70. Available at https://bpmcm.caiso.com/BPM%20Document%20Library/Metering/BPM%20for%20Metering_v12_Redline.pdf