



COMMENTS OF ADVANCED MICROGRID SOLUTIONS

Energy Storage and Distributed Energy Resources Enhancements

October 9, 2015

Submitted by	Company	Date Submitted
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Advanced Microgrid Solutions (AMS) offers these comments on the California Independent System Operator's (CAISO) Energy Storage and Distributed Energy Resources (ESDER) Initiative's Revised Straw Proposal. AMS appreciates the CAISO's continued commitment to addressing issues critical for increasing market participation for Distributed Energy Resources (DERs).

AMS is most interested in finalizing the design and implementation of the Proxy Demand Resource – Meter Generator Output (PDR-MGO) baseline. This issue is of the utmost importance to AMS as AMS has 50 megawatts (MW) under contract with Southern California Edison (SCE) as part of SCE's Local Capacity Requirements (LCR) Procurement with strict deadlines for commercial operation. Few companies feel the urgency around implementing MGO as we do. As stated in the Straw Proposal, there is general support from stakeholders for a MGO option. Further, the MGO design meets the CAISO's proposed Alternative Baseline Guiding Principles of accuracy, auditability, ease of implementation, and compliance with NAESB Standards.

AMS is eager to work with the CAISO and other stakeholders to resolve any outstanding issues in the very near term. AMS will attend the Energy Storage and Distributed Energy Resources Working Group Meeting on October 12, 2015 and looks forward to using this venue as an opportunity to resolve lingering issues. The California Public Utilities Commission is on schedule for approval of SCE's LCR Application which means that AMS's 50 MW of PDRs will be entering the CAISO market late next year. Timely implementation of MGO is critical and once consensus is affirmed, AMS encourages the CAISO to expedite timelines as needed to ensure FERC approval by the end of Q1 2016.

On the following pages AMS offers specific answers to questions posed by the CAISO in their response template.



Responses to the CAISO Stakeholder Comments Template

Non-generator resources (NGR) enhancements

No comment.

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

1. Consider/develop an alternative ISO Type 1 performance evaluation methodology based 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?*

AMS greatly appreciates the CAISO's willingness to engage proactively on this issue. We strongly support the CAISO's MGO proposal and find it consistent with the CAISO's proposed Alternative Baseline Guiding Principles of accuracy, auditability, ease of implementation, and compliance with NAESB. Specifically, use of a meter to measure PDR dispatch is indisputably accurate when compared to a traditional baseline, easy to implement as it requires no change in rules for traditional Demand Response (DR) providers, can be easily audited since meter data is available, and is compliant with NAESB.

Timely implementation of a MGO alternative is critical for AMS projects and we look forward to working with the CAISO to push for timely tariff changes. Assuming CAISO board approval, we respectfully ask that the CAISO propose a schedule that has final tariff changes implemented by the end of Q1 2016.

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

No comment.

- 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.*

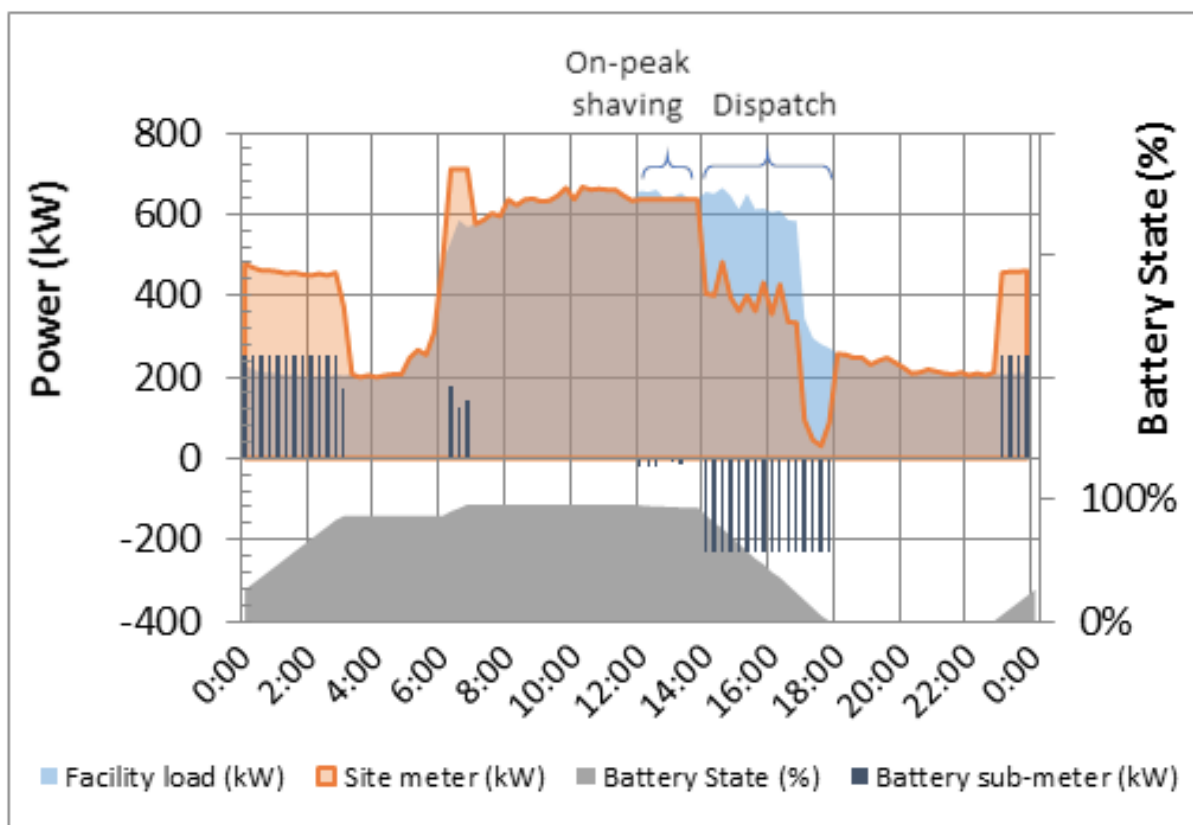


AMS supports Option B as proposed by the CAISO. There are no additional items that the CAISO need consider at this time.

d. Are there concerns on the use of MGO for “frequent” use of load offsetting behind the meter generation?

AMS does not have concerns about ‘frequent’ use of load. In the case of the AMS SCE LCR Contracts, a vast majority of battery discharge is pursuant to dispatch of the contracted capacity by SCE. Other use of the battery is incremental and not frequent or material (see sample host site graphic below). Additionally, AMS’s need for an alternative baseline methodology is driven by the need to dispatch for purposes of these IOU contracts. Peak shaving by the battery system is de minimis in capacity (kW). The duration and the frequency of battery discharge for peak shaving is highly variable. It would be administratively burdensome, if not impossible, to use baseline methodologies to capture the impact of peak shaving.

Sample Host Site Dispatch





- 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?*

AMS is not in favor of requiring a set aside for potential multi-use of the generator/device. Efficient deployment of multi-use resources requires flexibility especially in this state of nascent market development. Resources already have incentives to honor dispatch schedules. The CAISO should study this issue as the market evolves and propose rules once there is sufficient market penetration to determine impacts.

Additionally, a "reservation of capacity" would be difficult to determine. The same problems with the existing baseline methodology, and hence the need for MGO, would apply in determining a "reservation of capacity". As stated above peak shaving is de minimis and administratively burdensome, if not impossible to account for.

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

No comment.

In addition, AMS would appreciate the opportunity to further discuss non-exporting rules related to PDR.

Non-resource adequacy multiple use applications

AMS looks forward to continuing to work with the CAISO on issues related to multiple use applications (MUAs). We have serious concerns about the 24-hour 'in market' metering requirements proposed for NGRs. Implementation of this 24-hour settlement rule essentially prohibits multiple use of distributed energy resources. Overly restrictive market rules inhibit the ability of DERs to capture the multiple value streams needed to facilitate rapid proliferation of the behind-the-meter storage industry.