## Stakeholder Comments Template

Submitted by	Company	Date Submitted
Michael Kramek Michael.kramek@betm.com 617-279-3364	Boston Energy Trading and Marketing	1/26/.2017



Please use this template to provide your written comments on the ESDER Phase 3 stakeholder initiative workshop held on January 16, 2018.

Submit comments to InitiativeComments@CAISO.com

Comments are due January 26, 2018 by 5:00pm

Boston Energy provides the following comments on the relative priority of the Energy Storage items identified by the ISO in the comments template. Overall Boston Energy believes the energy storage items should be given a higher priority by the ISO. Procurement by the IOU's of energy storage resource is becoming more and more common as California looks to storage as a means to integrate renewables and become less reliant on traditional generation resources. Flagging energy storage modeling improvements in yellow seems to suggest the CAISO believes the current storage market participation model doesn't need improvement. While the current participation model is a good one, it definitely needs improvements in order to provide the right signal to energy storage to participate in the markets that value the flexibility, speed, and accuracy these resources provide the ISO.

Specific comments on the items listed in the priority list are:

**State of Charge (SOC) Managements** – Boston Energy continues to view SOC management as a top priority for energy storage resource participation. We remain concerned that the must offer rules for RA resources make it challenging for SOC management given the fact the ISO only offers a single ancillary service bid point for each product. Allowing a multi-segment ancillary service bids would go a long way in improving SOC management due to the ability to obtain a better mix of schedules coming out of the day-ahead market. Today an energy storage resource that is flagged as RA and certified for ancillary services is challenged to price efficiently the desire to get the desired mix of energy and ancillary services awards in the day-ahead market because it's required to offer its full ancillary service capacity for each product at one price. Multi-segment ancillary service bids are one improvement that can be made to address this issue. The other is modifying the must offer rules for energy storage.

**Establishing Throughput Limitations** – Improving the model to allow energy storage resource to better control throughput is an improvement Boston Energy supports and should be part of the scope of ESDR Phase 3. Ultimately incorporating hourly, daily total throughput parameters and/or cycles per day parameter will help improve the ISO participation model and something that should be fleshed out in more detail as part of this stakeholder process. Clearly defining what throughput and cycles means and how they will be determined by the market models will be a critical and important first step.

## **Other Comments:**

Boston Energy requests that the AGC accuracy score and ramping transparency issues as presented by Dr. Blake Rector and Mr. Mike McGuffin on January 16 be investigated by the CAISO and added to the above list as high priority items as needed. Boston Energy agrees with the presenters that the AGC accuracy scores don't correspond with the actual performance we see as a scheduling coordinator for a large energy storage resource. Transparency and data availability from the CAISO to shadow this calculation is not available and if that continues the ISO needs to come up with an alternate way to measure accuracy during an AGC dispatch so that energy storage resource can track performance and make any changes necessary to improve accuracy when following an AGC dispatch.

Furthermore, Boston Energy continues to urge the ISO to look into improving the AGC signal so that it doesn't request regulation down/up dispatch during sever positive/negative price spikes. This has been a long identified inefficiency of the market and could disproportionally impact storage because many storage resources derive, or plan to derive, a larger subset of their revenues from the regulation market.