



# US&R Power Grid Partners

*Clean Technology for the Nations Power Grid*

Monday, November 10, 2008

Jim Price  
Lead Engineering Specialist  
California ISO  
P.O. Box 639014  
151 Blue Ravine Road  
Folsom, CA 95763-9014

RE: Comments on the Draft Final Proposal - Post-Release 1 MRTU Functionality for Demand Response and the November 5 Demand Response Stakeholder meeting

We appreciate the opportunity to comment on the extensive work the CAISO and stakeholders have accomplished to date in the effort to include Demand Response in grid operations.

As a developer and marketer of energy storage systems, we believe that energy storage offers a significant and easily integrated opportunity for Load to provide fast response ancillary services, including frequency regulation, spinning reserve and energy bids. Initially, Load may install energy storage for many reasons, including integration of on-site generation from fuel cells, wind or solar, or for peak shaving, or for power quality and reliability related to UPS and emergency generation. However, as the CAISO provides more opportunities for Load to participate in ISO markets, more energy storage will be installed, increasing the portfolio of fast responding storage needed to integrate renewables and support the 20 – 33% RPS goals of California.

We support the Dispatchable Demand Response (DDR) model scheduled for Post-Release MRTU functionality as the most flexible and appropriate for energy storage. This model, as envisioned, allows Load with energy storage to effectively provide full comparable functionality to that of a generator. We believe the development of this model is important for several reasons.

- Some may argue that developing a DDR model with full functionality is an academic exercise, as it is unlikely that an energy end user would be able or willing to reduce energy consumption like a reverse generator. However, the addition of energy storage changes the rules, and offering an opportunity to participate in CAISO markets further increases the economic incentives to install storage, thus increasing the resources available to CAISO.
- Also, enabling Load to participate with the functionality of a reverse generator reduces the need to build more fossil fueled power generators, including those peak shaving natural gas turbines that sit idly for most of the year but still require the same transmission upgrades, regulatory review, capital expense and environmental permitting of a base load plant.

*Ancillary Services for the Regional Grid Operator through Advanced Energy Storage*

PO BOX 54346 Irvine, CA 92619-4346  
TEL (949) 474-0511 FAX (949) 474-0516

One area that may need to be addressed is the ability of Load - with storage - to actually exceed demand response capability, because the capacity of an energy storage system (ESS) could exceed the energy usage of Load. For example, a commercial customer may have a 10 MW demand Monday through Friday, but a reduced demand of 5 MW on the weekends. If the energy user installs a 7 MW ESS, then the "Base Load" could be reduced from 10 MW to a "Minimum Load" of 3 MW during the week.

However, the maximum curtailment on the weekend would only be 5 MW, even though the ESS could supply 7 MW, unless the model can account for the additional 2 MW that would be exported to the grid. If the model could accept the extra 2 MW as negative Minimum Load, then the benefit of the additional curtailment could be accommodated.

We look forward to the continued development of Demand Response options for energy storage and appreciate the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to be 'C. Toca', with a long, sweeping horizontal line extending to the right above the name.

Charles R. Toca  
Manager