

## Stakeholder Comment Template

### CAISO Integration of Renewable Resources (IRRP)

October 24, 2008 Stakeholder Meeting

**Organization:** US&R Power Grid Partners, Division of Utility Savings & Refund, LLC, and Sales Affiliate for VRB Power Systems, Inc.

**Date Submitted** 11/7/2008

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**Industry Segment:** Marketer and developer of bulk energy storage systems and services.

Energy storage is consistently recognized as key to the integration of renewables. As an energy storage provider, we appreciate this opportunity to add our comments to the IRRP process.

Instructions: The CAISO is requesting written comments on information discussed at the Integration of Renewable Resources Program (IRRP) stakeholder meeting held on October 24, 2008. This template is offered as a guide for entities to submit comments.

All documents related to the CAISO's IRRP Program Plan are posted on the CAISO Website at the following link: <http://www.caiso.com/1c51/1c51c7946a480.html>

Upon completion of this template please submit (in MS Word) to Jim Blatchford at [jblatchford@caiso.com](mailto:jblatchford@caiso.com). Submissions are requested by close of business on **Friday November 7, 2008**.

*The IRRP effort is currently divided into two components – 20% RPS and 33% RPS. Each of these components will assess operational and infrastructure needs, which will then drive solutions that will fall with four categories: (1) infrastructure additions, (2) internal operational tools, (3) market products, and (4) regulatory modifications. Many of the tasks identified are consistent with the specific projects included in the IRRP High-Level Plan published in May 2008. Please comment on whether those tasks, as discussed at the stakeholder meeting, are appropriate and whether other projects should be included as part of the IRRP.*

- *Please indicate whether you believe such tasks should be included for 20% RPS or beyond 20% RPS.*
  - *We support the inclusion of fast response for frequency regulation and consideration of other services available from energy storage as stated below.*
- *If included in the 20% component, please provide a proposed schedule that would ensure the results of the task could impact meeting the 20% RPS goal by the start of 2012.*
  - *We support the CAISO goal of an energy storage pilot project in the 2<sup>nd</sup> quarter of*



*2009. Although energy storage can be a valuable tool for integrating renewables, it cannot be installed in sufficient quantity overnight. The sooner CAISO is able to revise their products to capture the value of storage services; the sooner developers can justify installation in significant quantity.*

*There are many renewable activities occurring in California and various areas across the country. Please list those studies or activities that you believe have merit that may serve as an appropriate model or otherwise assist the CAISO in conducting the IRRP. If ongoing, please indicate how such activities may be coordinated with the IRRP.*

*In response to the IRRP High-Level Plan, the Market Initiatives Roadmap, and the storage White Paper, several parties have indicated a strong interest in market product development to address aspects of renewable integration. To assist IRRP in prioritizing and coordinating its role in market development, please indicate your perspective on*

- *the effect of MRTU market design and planned enhancements (MAP) on renewable integration;*
- *any changes to the Roadmap based on consideration of renewable integration;*
- *which new market products, if any, are needed to stimulate needed capabilities;*
  - *CAISO has identified the potential value of energy storage – from a Control Area Operators perspective:*
    - *Fast response to control signals, frequency response, and automated dispatch commands*
    - *High ramp rates*
    - *High reliability and stability, environmentally friendly*
    - *Easy to start and stop*
    - *Increases the supply of Regulation Services*
    - *Large storage facilities can provide critical night time loads to help balance system*
  - *CAISO needs to determine the value of such capabilities and how to prioritize and incorporate the appropriate financial incentives into its products. For example, CAISO sees value in fast response – an attribute of many storage technologies – but bemoans the limited energy supply of some technologies. CAISO needs to prioritize its needs for fast response versus, for example, fast response plus sustained energy supply. If the latter is of more value than the former, then CAISO products should reflect that priority. For example, the current frequency regulation product could have tiered multipliers for speed of response, and “mileage” payments for multiple response capability, but also include an adjustment if a participant is unable to supply sustained energy. This opens the market product to many technologies able to supply part or all of the required ancillary service.*
  - *In addition, a long-term hedge or supply mechanism would be of value. Ancillary services are currently provided by market participants that are connected to the CAISO for reasons other than selling A/S. Typically, they do not need to sell services to make their economics. However, energy storage systems, as such, are neither consumers nor generators of energy. If CAISO wants to optimize the grid reliability value of energy storage, then long-term and reliable incentives must be*

*developed to encourage investment. Perhaps along the lines of the CRR – a long term hedge product that LSE's or Generators could procure at a fixed rate to protect themselves against fluctuating A/S costs.*

- *market aspects of interdependencies with other market and policy developments (e.g., once through cooling, long-term RA, greenhouse gas regulations); and*
- *market design lessons being learned in other ISOs/RTOs or other countries that are relevant to the California market context.*

*In response to comments on the IRRP High-Level Plan, several parties supported the creation of working groups. The CAISO proposes to create the following working groups to act as technical forums to assist the CAISO: Storage, Forecasting and PIRP, Needs Assessment Studies and Research, and Market Products.*

- *Please indicate whether you support the creation of such groups and whether your company would be willing to participate.*
  - *We support the formation of the storage working group and we wish to participate. CAISO has correctly identified the need for storage of all types to integrate renewable resources. It's important to include the developers and marketers of storage systems in the planning process if CAISO wants practical storage solutions available when needed.*
- *Are there other working groups that should be created?*
- *Should there be limits on participation to those with appropriate technical backgrounds?*
- *Describe the role the working groups should play in the IRRP.*
  - *The energy storage working group can inform the CAISO of the availability and capability of various technologies to provide services. Currently, the CAISO must depend on limited studies and reports to determine the potential advantages of various energy storage options. However, this is a rapidly growing technology area, and out of date studies need to be supplemented with current developments for CAISO to make informed decisions.*
  - *In addition, the choices CAISO will make will also be a driver to the energy storage industry. CAISO needs to be careful that they don't limit the energy storage options that would otherwise be available to them due to uninformed decisions.*