

## California Department of Water Resources State Water Project's Comments to California Independent System Operator Stakeholder Process for the Renewable Resources Integration Market and Product Review Phase 2

April 28, 2011

California Department of Water Resources - State Water Project (SWP) welcomes the opportunity to provide comments to California Independent System Operator (CAISO) on its stakeholder process for the Renewable Resources Integration Market and Product Review Phase 2. SWP looks forward to continuing its cooperative relationship with CAISO and glad to provide inputs to this process to help the CAISO market design enhancements and changes that are necessary to integrate renewable resources into the CAISO grid. In general, the SWP supports the CAISO's efforts of integrating renewable resources in a manner that maintains grid reliability through market measures, and SWP would like to offer the following comments.

### 1. **Acknowledge lessons learned from MRTU into a methodology for developing the Comprehensive Market Design Roadmap.**

As anticipated by the CAISO, the market changes required to integrate renewable resources will be "significant" and likely to be as complex and challenging as the changes seen with MRTU. Thus, lesson learned examples from the MRTU experience should be integrated into the scoping, design, development, and deployment of market measures that will be considered in the comprehensive roadmap. Key activities found to be beneficial with the MRTU project, such as market measures studies, phased market system deployment approach, and market participant simulation participation should remain a key component of the Comprehensive Market Design Roadmap.

### 2. **Establish and Apply Uniform Performance Requirements for all Resources**

SWP further encourages CAISO to make enhancements and changes to existing performance standards and requirements, which are applied to the existing generation fleet, such that renewable resources are bound by the same standards. Delivery of stable and predictable energy is very important to grid reliability. Renewable resources can deliver firm and dependable energy production by investing and employing technology and procedures that enable these resources to satisfy performance standards that are applied to the existing generation fleet.

### 3. **Create New Market Reliability Products and Services**

SWP encourages the CAISO to pursue the development of new market products and services to assist in resolving grid reliability issues associated with variable resources integration. In doing so, CAISO is encouraged to also develop settlement processes that follow cost causation principles when allocating costs. Under section 2.3 of the CAISO Discussion and Scoping Paper on Renewable Integration Phase 2, SWP supports further investigation into the following market products.

*Pay for performance regulation:* Proper and appropriate incentive should be investigated and applied to qualified resources that are capable of providing services that assist in the integration of the variable power production from renewable resources. Performance

incentives should be considered for all resources, and not only to fast ramping resources, given that the resource can provide a service that can mitigate reliability issues presented by Variable Energy Resources (VER).

*Load Following Reserve:* Dispatchable resources that could satisfy the projected increase for load-following requirement should include the capability of participating load and demand response resources to help fill this grid reliability need. The CAISO is encouraged to investigate *localized* procurement of load following reserves and seek *nodal price* settlement to encourage appropriate incentive for all eligible resources to participate. Current barriers that inhibit participating load resources from participation in the real-time market and from providing ancillary reserves, aside from non-spinning, should be modified and made part of the development of the Load Following Reserve product.

*Over-Generation Mitigation Services:* With the forecasted increase of over-generation problems due to the mismatch of peak variable generation and peak demand, CAISO should continue to investigate and implement energy pricing mechanisms (e.g. relaxing the current negative bid floor price) to increase market participation from generation and non-generation resources including demand response to address the over-generation conditions. CAISO should seek a market solution in resolving over-generation conditions and reduce dependency on established operating procedures that employ market exception dispatch to resolve these conditions.

#### **4. CAISO market should send Long-Term Price Signals to Demand Resources**

SWP encourages CAISO to include “technology neutral” designs that will provide incentives for demand response resources in addressing system reliability issues associated with variable resource integration. Such incentives should send long-term time-of-use price signals to demand response resources. Demand response resources should receive equal treatment as that received by generators when offering the same services, i.e., when generators are excluded from certain cost allocations, demand response resources should also be excluded.

#### **5. Employ Cost Causation Principles in Allocation of Renewable Integration Cost**

SWP believes that cost causation principles should be applied, when allocating reliability procurement costs, to entities that create renewable generation integration problems, and to variable supply and variable demand resources that contribute to grid reliability issues similar to issues created by variable energy resources. Allocation of costs to these resources will create proper incentives to address performance issues that could counteract the cost of market reliability services.

#### **6. High priority initiatives should include granular nodal pricing and settlement**

SWP encourages the CAISO to consider the significant value provided by true nodal pricing settlement that currently is not applied to load scheduled at Default Load Aggregation Point (DLAP). SWP has supported greater load granularity as a means of increasing CAISO efficiency and resolving a number of problems associated with large DLAPs. Without nodal pricing and settlement, the market lacks the transparency and signal that incentivize localized capital investment and likely encourage participation in programs such as localized load following reserves (discussed in Item 3).

## **7. Cost and benefits of a 15 minute scheduling interval should be carefully considered**

Careful consideration should be given to balance the costs and benefits of intra-hour scheduling. In particular, the costs should be carefully evaluated before a 15-minute scheduling timeframe is mandated. Seams issues still exist in the western interconnect and current complexities would only be increased with a 15-minute scheduling interval. Without question, greater scheduling flexibility moves in the proper direction to improve integration of variable energy resources. Consideration should be given to additional options, however, such as greater flexibility for all resources to schedule in real time. Participating Load, for instance, currently cannot schedule in real time under the CAISO tariff. Fully allowing all resources to participate in the real-time market could improve the range and type of resources that are available to allow system integration of variable energy resources.

## **8. Stakeholder process and future Resources Planning and Development**

SWP being the owner and developer of power generation resources, with an inherent emphasis on hydropower, encourages CAISO to recognize the importance of providing clear signals, to developers, on how the market structure and products will evolve over time relevant to the need for Renewable Resources integration. Developers need the basis to navigate new projects through the planning, permitting, and financing processes. Same could be said, for the planning and implementation processes in modernization efforts of existing resources, such as hydropower, and the interdependency of their economic viability and the premise of future market's needs and opportunities in integrating Renewable Resources.