

Memorandum

To: ISO Board of Governors
From: Petar Ristanovic, Vice President of Technology
Date: July 6, 2011
Re: **Briefing on Market Initiatives Release Plan**

This memorandum does not require Board action.

EXECUTIVE SUMMARY

Management provides a briefing on the Market Initiatives Release Plan at each Board meeting to keep the ISO Board of Governors and the public current with the implementation status of approved policy initiatives. This briefing offers updates on recent project deployments and upcoming software releases. The release plan typically spans a two-year timeframe with two major releases each year and monthly releases of smaller market design changes. Staff intends to manage initiative projects efficiently, optimizing cost and value with stakeholder input on joint impacts.

Since the last Board meeting, staff deployed software changes to address operational issues, including the *Open Ties* correction and improvements in real-time load forecasting. Management plans to deploy a software change in July for a dynamic ramp rate in ancillary service procurement that will ensure that resources that are awarded ancillary services are optimized and deliverable. Management deferred plans to deploy the *Flexible Ramping* nomogram pending a stakeholder process to evaluate compensation.

The fall 2011 release is progressing as planned with design and development of the *Reliability Demand Response Product* and *72-Hour Residual Unit Commitment* and *Credit Reform in Organized Energy Markets*. Based on Board approval in May, staff has added the changes associated with the *Dynamic Transfers* interim solution to the fall 2011 release. Further, Management will pursue an enhancement in grouping constraints that will reduce exceptional dispatch or dispatch blocking by recognizing sequencing constraints and other parameters across resources.

Looking ahead to the spring of 2012, Management plans for the *Regulation Energy Management* initiative to allow for non-generation resource, such as storage, to provide regulation service and other functionality to support the integration of renewable resources to be ready in this timeframe. Management also initiated work on the implementation of *Enhancements in Local Market Power Mitigation*.

THE RELEASE PLAN

Production update

As a follow-up on prior initiatives, management is monitoring and enhancing *Multi-Stage Generator Modeling* and *Convergence Bidding*.

Multi-Stage Generator Modeling

Staff anticipates activating two additional *Multi-State Generator Modeling* resources in June bringing the total to 17 *Multi-State Generator Modeling* resources to the market. Management is pursuing further enhancements to *Multi-State Generator Modeling* and continued discussion with stakeholders through a straw proposal published in June with intent to bring a final proposal to the Board in October.

Convergence Bidding

Intertie points modeled as market scheduling limits were not held to the correct limits by the dual intertie constraint functionality and nine intertie locations have been suspended from virtual bidding. Management expects to resolve this by the end of July.

Fall 2011 release

The fall 2011 release, targeted for October 1, 2011, is a major release with significant new functionality in scope to address policy changes that have already completed the stakeholder process.

Reliability Demand Response Product

Demand response continues to be a strategic priority and management is building the longer term release plan, including the approach for participating load and support for non-generation resources. The implementation of the *Reliability Demand Response Product* is underway, including design and development activities with appropriate vendors. Staff will publish technical specifications to the market participants by the end of June to ensure that all parties are ready for the market simulation planned to start on August 22, 2011.

72-Hour Residual Unit Commitment

The *72-Hour Residual Unit Commitment* market enhancement is intended to improve economic efficiency and reliability by extending the unit commitment process to 72 hours, rather than the current process of 24 hours. Management reports that software development is on track and anticipates starting market simulation on August 22, 2011.

Change in Commitment Costs Phase 2

Management is re-evaluating further software enhancements as part of the *Changes in Commitment Costs* given that all policy changes were implemented in the spring 2011 release. The remaining software enhancements would automate business processes and reduce labor costs and will be implemented as bandwidth is available both internally and externally.

Credit Reform in Organized Energy Markets

On October 21, 2010, the FERC issued "Order 741 – Final Rule Regarding Credit Reforms in Organized Wholesale Electric Markets". In this ruling FERC requires each ISO and RTO to submit a compliance filing including tariff revisions to improve the management of risk and the subsequent use of credit in the organized wholesale electric markets or to demonstrate that its existing tariff already satisfies these regulations. Among these requirements are:

1. Shorten both the billing period and the period for payment to no more than seven days each; and
2. Eliminate unsecured credit in all firm transmission rights or equivalent markets, including the California ISO's congestion revenue rights markets.

Staff is on track to implement process and system changes to ensure compliance with these two FERC mandates by October 1, 2011. In conjunction with these changes, management is proposing additional improvements to the settlements timeline which will further accelerate payments and credits due to recalculations. Management prefers to combine these efforts to gain the efficiencies of software design, development and testing. The stakeholder process for the additional settlements timelines changes is underway with intent to bring a draft final proposal to the Board in July.

December 2011 Monthly Release

Grid Management Charge Rate Structure Change

Management is also implementing the change in the grid management charge rate structure which will be achieved by year end. Staff is drafting the business requirements and will work with the software vendor to determine the effort and cost of system changes for congestion revenue rights rates. Additionally, staff will ensure that business processes and procedures will be updated to reflect the new rate structure.

Generation of Bids for Non-Resources Specific Resource Adequacy

Suppliers of resource adequacy capacity have the obligation to bid that capacity into the ISO market. The ISO therefore has tariff authority to insert generated bids for resource adequacy resources that fail to bid into the market. There are gaps in this process, however, when it comes to the case of system or import resources that are not resource-specific but do have resource adequacy contracts (non-resource specific resource adequacy resources). Through this project, the ISO will implement the established policy with non-resource specific resource adequacy to allow the proper enforcement of the resource adequacy capacities for those non-resource specific resource adequacy resources.

Since resource capacity is planned on an annual basis, management is targeting deployment of the necessary process and system changes in December 2011. To date, the impact assessment is showing more effort than what was originally envisioned, potentially due to the addition of a policy changes in the ability to be able to manage the hourly resource adequacy capacities for the internal resource adequacy generators. Management is proceeding with a simplification to limit the functionalities only to enforce the bidding requirement based on hourly resource adequacy and facilitate hourly resource adequacy display for operations this year and

the remaining scope would be achieved next year. Management reported this change in plan to market participants in May and June.

Spring 2012 release

Regulation Energy Management

Regulation energy management is a proposed market enhancement to the rules the ISO uses for procuring regulation services. This enhancement will allow new types of storage resources, such as batteries and flywheels, to provide regulation service. Implementing regulation energy management will lead to increased participation in the ancillary service market by energy storage and demand response resources and will support the integration of additional renewable resources. *Regulation Energy Management* also allows new storage technologies to provide regulation energy over a continued sustained period. Staff made significant progress in defining the non-generator resource model for regulation energy management and is engaging our vendor in the software design. The target deployment is the spring 2012 release.

Enhancements in Local Market Power Mitigation

Management plans to simplify and improve the design for local market power mitigation in accordance with FERC mandate to address issues with the current design. Staff is currently conducting the stakeholder process with intent to present a draft final proposal to the Board in July 2011. Management initiated the implementation effort and presented the system impact assessment to market participants on June 22, 2011.

The spring 2012 release timeframe will mark three years after new market deployment and four mandated market functions will need to be assessed in parallel with the evolving market and product needs related to renewable integration. Given feedback from market participants during the renewable integration market and product review stakeholder process to address these issues more holistically, management may seek to defer one or more of these items. These items include:

- 1) *Export of ancillary services* explores how to build the reservation of transmission capacity into the market optimization so that market participants who might have an obligation to supply ancillary service energy in real-time to neighboring control areas can serve this obligation;
- 2) *Bid cost recovery for units over multiple days* resolves instances in which a resource's run time crosses over from one operating day into the next;
- 3) *Two tier real-time uplift* responds to stakeholder concerns regarding the single tier approach and they have requested a two tier charge similar to day-ahead bid cost recovery where the first tier would allocate costs based on cost causation principles; and
- 4) *Scheduling and Logging for ISO of California to Scheduling Infrastructure Business Rules* interface will address the current situation where the bidding interface extends bids and generates bids without taking outage information that was submitted in the outage interface into account. This will results bids created over and above a unit's entire operating range even in those circumstances where the scheduling coordinator

has submitted an outage derate. Management solicited stakeholder comments on the current need for this functionality and concluded that it is no longer a priority. Based on this input, Management may seek approval from FERC to eliminate this requirement.

The renewable integration market and product review has identified two areas of implementation: enhancements to the Participating Intermittent Resource Program and changes in the bid floor cap. The impact assessment of these two efforts is in progress. Staff will monitor these impacts as the stakeholder process continues leading to decision at the October Board meeting.

Fall 2012 release

Data Release Phase 3

Data Release Phase 3 is the final phase of an initiative established in 2009 to address the request of market participants to review ISO data release and accessibility policy following the implementation of the new market design. The objective is to release data which will enable market participants to better understand market results and participate more effectively in the ISO market. Phase 3 will address additional market data which will further improve overall market efficiency, and was approved at the May Board meeting. Implementation planning is underway with likelihood that deployment will be in the fall of 2012 in conjunction with a market results redesign effort.

Spring 2013 release

Other market initiatives, such as full scope of *Dynamic Transfers*, are being added to the release plan, populating the spring 2013 release timeline for full functionality. *Dynamic Transfers* policy explores the issues central to the potential expansion of ISO dynamic transfer scheduling policy. Staff is completing the business requirements for the *Dynamic Transfers* market design.

LOOKING FORWARD

Management is committed to maintaining high quality and timely releases to satisfy these objectives, working with market participants to achieve the greatest value for investments made in evolving our systems, processes, and people to meet this challenge.