



Memorandum

To: ISO Board of Governors

From: Steve Berberich, Vice President of Technology and Corporate Services and
Chief Financial Officer

Date: December 9, 2009

Re: **Briefing on 2009-2011 Market Initiatives Release Plan**

This memorandum does not require Board action.

EXECUTIVE SUMMARY

Management continues to update the *2009-2011 Market Initiatives Release Plan* based on progress in implementing strategic initiatives. Since the last Board update, the California Independent System Operator Corporation (ISO) deployed payment acceleration which has successfully reduced credit risk by shortening the time between trade date and market clearing. Also of note, we started the market simulation as expected for the winter 2009 release which is targeted for deployment before year end. Based on further analysis and additional stakeholder input, the ISO is setting dates for the multi-stage generator modeling and convergence bidding implementations.

Management is proposing to mitigate the multi-stage generator modeling schedule risk by deploying the forbidden operating region functionality on April 1, 2010 and deferring full scope until the fall of 2010. Management is also confirming February 1, 2011 as the deployment date for convergence bidding as no further acceleration of schedule is feasible. Further details associated with the release of capabilities to the marketplace are detailed in this document and highlighted in Attachment 1 – Updated Release Plan.

THE RELEASE PLAN

Winter 2009 release

The winter 2009 release will implement a standardized resource adequacy capacity product which fulfills a highly-ranked stakeholder need. The standard capacity product, approved by the Board in March 2009, improves efficiency in resource adequacy contracting and

trading. The project is currently on track for a December 2009 deployment and a January 1, 2010 effective date, and the ISO is undertaking the following readiness activities.

- Market simulation began on November 2, 2009, as scheduled, and participants are actively engaged in scenario testing;
- Three training sessions provided market participants with information required to ensure external readiness; and
- Weekly status meetings facilitate communication and resolve issues leading to implementation in December.

Spring 2010 release

The spring 2010 release will deliver key market functionalities that were deferred until the year after *go-live*. It includes four key initiatives: *Multi-stage generating unit modeling*, *scarcity pricing*, *procurement of ancillary services in the hour ahead scheduling process*, and *proxy demand resource*. Upon further schedule analysis, Management is proposing adjustments in the spring 2010 release to better organize internal and external development efforts. These adjustments are outlined with each initiative.

Multi-Stage Generating Unit Modeling incorporates software functionality for units with multiple configurations, such as combined cycle generating plants or resources with real-time forbidden operating regions. It also addresses the deferred implementation of real time enforcement of forbidden operating region functionality. The current status of this initiative is as follows:

- Incremental progress in the software development of the market applications has been made, with considerable development and testing effort remaining;
- Management has evaluated internal development, testing schedules and stakeholder input and proposes a phased approach that deploys the forbidden operating region functionality on April 1, 2010 and extends the release of the full multi-stage generator modeling functionality until fall 2010. The forbidden operating region approach does not address all the operational needs of the combined cycle units, but it reduces the need for some supervision that is necessary today to ensure the resource transits all the way through forbidden region after entering. This also allows the ISO to comply with the Federal Energy Regulatory Commission (FERC) order to re-instate the real-time forbidden region functionality.
- Moving the full multi-stage generator modeling functionality to fall 2010 allows sufficient time to evaluate the market outcomes and solution quality of significant system changes. This will also allow market participants enough time to accurately, effectively and economically model their generators in order to fully benefit from the multi-stage generator models.

Scarcity Pricing enhances the current pricing mechanism and raises ancillary services prices if there are insufficient ancillary services bids to meet procurement targets and satisfies FERC's *September 2006 MRTU Order* directing the ISO to implement a more comprehensive reserve shortage mechanism within 12 months of the new market implementation.

- The policy and market design stakeholder process is complete and the draft final proposal will be presented to the Board in December 2009;
- The ISO posted the external business requirements specifications on November 5, 2009 and no issues have been raised;
- Draft scarcity pricing compliance filing language posted on November 10, 2009 is available for stakeholder review; and
- Management confirms that scarcity pricing is on track for deployment on April 1, 2010, as planned.

Procurement of ancillary services in the hour ahead scheduling process (HASP) allows dispatch of energy from operating reserves procured from non-dynamic system resources in the hour-ahead timeframe. Based on Board approval in September 2009, Management is moving forward with implementation as follows:

- Discussion of business requirements at the release planning workshop on November 10, 2009;
- Publication of required technical specifications in mid-December; and
- Implementation with the other spring 2010 functionality as planned.

Proxy Demand Resource is a new demand response product which allows demand resources to directly participate in ISO markets and meets the requirements for comparable treatment of generating and non-generating resources in accordance with *FERC Order 719*. Based on Board approval in September 2009, Management is moving forward with implementation as follows:

- Business process changes for registration, bidding and market output changes were discussed with market participants at a release planning workshop on November 10, 2009;
- Draft technical specifications published on December 1, 2009 describe the software design changes required to support proxy demand resources;
- Coordination with the California Public Utilities Commission (CPUC) is occurring to facilitate CPUC actions required to fully implement proxy demand response; and

- Based on progress to date, the ISO and market participants will benefit from an additional month for development and testing, moving the deployment date to May 1, 2010 from a previously planned April 1, 2010 date, retaining a pre-summer release date.

Early 2011 Release

The early 2011 release includes convergence bidding and further refinements to the participating load program.

Convergence bidding allows market participants to place purely financial bids at particular pricing nodes in the day-ahead market. Convergence bids cleared in the day-ahead market at day-ahead prices are liquidated in the real-time market at real-time prices. The market participant thus earns or is charged the difference between the day-ahead price and the real-time price at the location of the cleared bid. Convergence bidding will enable market participants to hedge exposure to real-time price volatility and will provide other market efficiency benefits through increasing liquidity in the markets as well as price convergence between day-ahead and real-time prices. The current status of this initiative is as follows:

- A final conceptual design proposal was approved by the Board in October 2009 and filed with FERC on November 20, 2009 together with a motion to request a schedule extension until February 1, 2011. The first draft of tariff language for stakeholder review is planned to be posted in mid-December with FERC filing planned for late February.
- Management is actively engaged with its primary software vendor in the software design phase and is conducting tests to determine practical limits to make the software implementation more predictable. Results of these efforts have confirmed the February 1, 2011 deployment date but has not resulted in an earlier release opportunity; and
- The ISO posted external business requirements specifications on December 2, 2009 and discussed them at the convergence bidding working group meeting on December 3, 2009. Management is committed to continuing engaging stakeholders on convergence bidding implementation topics throughout 2010.

At the October Board meeting, stakeholders raised concerns about items that were being addressed in parallel efforts to coincide with the convergence bidding final proposal. The ISO has responded to these concerns and is engaged in the following processes:

- This ISO plans to release bid information for convergence bids on the same timeline as physical bids. Some market participants have requested more granular information about virtual transactions only and on a more frequent basis. A stakeholder process is underway to resolve this issue and Management intends to

bring a final proposal on the conceptual design of information release for convergence bidding to the Board in February 2010;

- A separate stakeholder process is also active to resolve issues with convergence bidding at the interties and the need for electronic tagging requirements. Management intends to bring a final proposal on the conceptual design of tagging requirements for convergence bidding at the interties to the Board in February 2010. Other potential intertie issues, such as potential crowding out of physical interties by virtual supply and HASP pricing issues, have been raised by market participants but are not confirmed by the ISO as resulting in a negative impact through the introduction on convergence bidding. These issues will be resolved outside of the convergence bidding scope; and
- The ISO continues to require AC power flow convergence as part of the convergence bidding software design and has shared additional details of this design with market participants. Current discussions include the approach for megawatt capping and further testing plans. Management will work with market participants to develop meaningful testing scenarios that will be used to validate AC power flow convergence requirements before and during market simulation.

Participating load refinements introduces participating load resources to be bid and optimized in the market with most of the available market features like generating resources. These refinements will help complete the demand response product offering. We anticipate significant implementation work associated with the following expected key challenges:

- More than 200 new bidding rules;
- Automatic generation control on participating load;
- Decremental bid functionality in day-ahead and real-time markets for participating load with full range of inter-temporal constraints;
- Completely new set of post-market and settlement functions; and
- Metering requirements.

NEXT STEPS

The *2009-2011 Market Initiatives Release Plan* is a living document that reflects the input of internal development, vendor status, and market participant feedback. As implementation progress is made on several market initiatives in parallel, new efficiencies and dependencies are identified and reflected in the release plan.

The spring 2010 release is tuned to maximize functionality while limiting external interface changes. The deployment planned for April 1, 2010 includes forbidden operating region functionality, scarcity pricing and procurement of ancillary services in HASP. All three of these initiatives have little or no impact on external interfaces and can be predictably deployed based on testing and market simulation results with manageable effort from market participants.

The more significant interface changes introduced by proxy demand resources and MSG will be slightly deferred with proxy demand resource functionality deploying on May 1, 2010 and MSG deploying in fall 2010. These interface changes will be backwards compatible, meaning that market participants can elect if or when to take advantage of these features based on their business needs. This added flexibility offers considerably more options for market participants to manage their costs and schedules.

Convergence bidding deployment on February 1, 2011 reflects the ISO's best efforts for implementing the recently approved conceptual design and provides a date certain for market participants to conduct their system design, development and testing. Management respectfully requested from FERC a ten-month extension of schedule in order to provide sufficient time for the ISO and market participants to develop and test the software and impacts to the many interrelated business applications.

As reported at the last Board meeting, Management remains committed to continuously improving the release planning process and will continue to respond to stakeholder comments over the course of this two-year planning horizon and beyond. As further planning and schedule validation occurs, Management plans to share a more detailed, fully transparent consolidated release schedule that sets forth external milestones and dependencies between projects.

Management continues to appreciate the participation of market participants through the implementation workshops and will continue to rely on stakeholder input to guide the market initiatives release plan.

Attachment 1 – Updated Release Plan

