

# Memorandum

**To:** ISO Board of Governors  
**From:** Petar Ristanovic, Vice President of Technology  
**Date:** October 26, 2010  
**Re:** **Briefing on Market Initiatives Release Plan**

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*This memorandum does not require Board action.*

## EXECUTIVE SUMMARY

The implementation team is principally focused on the deployment of *multi-stage generator modeling* planned for November 15, 2010. Dispatch issues caused by software defects have been the primary cause of the delay from the previously planned deployment on October 1, 2010. Recent improvements in the software have demonstrated significant progress towards resolution of all occurrences of this issue and market results are as expected. A final testing cycle will be conducted with market participants from October 29, 2010 through November 15, 2010 and participants will then have the option to go-live with their multi-stage generator resources on that date or have them remain in the market with forbidden operating regions.

The market simulation for *convergence bidding* started on September 20, 2010 as planned in preparation of deployment in early 2011. Staff is preparing *phase 2 of the standard capacity product* for market simulation to begin on November 1, 2010 to support an effective date of January 1, 2011. *Scarcity pricing* changes are on track for deployment on December 14, 2010. Management continues to assess and plan for a new slate of market initiatives, including the renewable integration market and product review starting this quarter.

## THE RELEASE PLAN

### *Fall 2010 release*

*Multi-stage generator modeling* incorporates software functionality for units with multiple configurations, such as combined cycle generating plants or resources with real-time forbidden operating regions.

- Market simulation ended on October 15, 2010 with market scenarios and settlements statements fully validated and a final external test cycle is planned in the stage environment from October 29, 2010 through November 15, 2010;
- FERC provided approval for the tariff changes associated with this functionality, including changes in transition costs addressing potential issues with market power mitigation;
- All software changes are designed and implemented in a backwards compatible mode, providing the ability to promote the majority of the software changes in advance; and
- Management intends to deploy multi-stage generator modeling on November 15, 2010; however market participants have the ability to take their resources out of this mode and remain in the market with forbidden operating regions any time prior to November 15, 2010.

### ***Winter 2010 release***

Prior to ending the year, several market enhancements are scheduled to be deployed that will improve market quality and performance.

*Initial conditions* proposes a methodology to minimize cycling of generating units in the day-ahead market. The integrated forward market currently optimizes unit commitments over a 24-hour time horizon. This functionality would offer some ability for generating units that become economical to remain on-line through the over-night hours and to be available for the next day's on-peak energy hours. Under the current design, such generating units may be de-committed in the late hours of the 24-hour time horizon. This enhancement will be implemented on December 7, 2010 and will pave the way for future enhancements in extending the time horizon for unit commitment in the day-ahead market.

*Scarcity pricing* is scheduled to be implemented on December 14, 2010 following FERC's June 29, 2010 order conditionally accepting the ISO's proposal. FERC suspended the implementation of scarcity pricing to further consider the ISO's proposal for scarcity premiums in the ancillary service sub-regions. The ISO submitted a compliance filing to address the FERC order and is testing the relevant software changes to support the order.

*Phase 2 of the standard capacity product proposal* contemplates enhancements required by FERC to the existing standard capacity product. This was presented to the Board and approved in May. Actions that have taken place include:

- We made progress according to plan on the software development and testing of the phase 2 requirements;
- Market participants agree on the market simulation plan to begin on November 1, 2010; and
- Deployment will occur on December 21, 2010 with an effective date of January 1, 2011, to align with annual resource adequacy contracting practices.

Implementation of *congestion revenue rights enhancements and credit policy* approved by the Board earlier this year is underway with deployment planned in November 2010. These enhancements are primarily process driven with minimal system enhancements.

### *Early 2011 release*

*Convergence bidding* allows market participants to submit 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 hour-ahead or real-time market at the applicable hour-ahead or real-time prices. The market participant thus earns or is charged the difference between the day-ahead price and the applicable hour-ahead or 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:

- Progress continues on the development and testing of software changes required to support convergence bidding;
- Monthly progress reports submitted on the implementation of *convergence bidding* to FERC, as required;
- Business practice manual draft updates published, including the settlements configuration files, in September;
- Market simulation began on September 20, 2010 with the bidding interface available for external testing. The simulation will continue with the day-ahead market functionality being introduced on October 25, 2010; and
- A project plan to deploy convergence bidding on February 1, 2011 is currently being executed by staff.

Related to *convergence bidding* is the first phase of the *credit tracking system* which was deployed to production on October 20, 2010. The baseline credit system provides support for existing credit functions and prepares the ISO for the next phase which will include integration with virtual bids in the day-ahead market.

### *Spring 2011 release*

Following the early 2011 release, Management intends to respond to stakeholder requests for only two major releases per year with spring and fall deployment timeframes. The spring 2011 release will be sized appropriately to meet additional concerns that the ISO and market participants will need a stabilization period following the many changes that have occurred since the start of new market design. The following smaller efforts will be supported in the spring 2011 release:

- *Interim capacity procurement mechanism and exceptional dispatch pricing* changes to replace existing structures that will expire in March 31, 2011;
- *Participating load pilots* will be supported as requested by market participants.
- Initial implementation of *changes in commitment cost* and *dynamic transfers* will be considered and applied in this timeframe with the full implementation to follow in the fall of 2011.
- *72 hour residual unit commitment* extends the time horizon for unit commitment beyond one trade date, which provides efficiency and reliability in scheduling resources across trading day boundaries. ISO staff evaluated a prototype of this functionality in September 2010 to evaluate

impact to market performance and based on the results of this analysis is committing to an implementation in the spring 2011 timeframe.

### ***Fall 2011 release***

The fall 2011 release will be a major release with significant new functionality being added to address policy changes that have already completed or will soon complete the stakeholder process, including:

- *Aggregated pumps and pump storage* further enhance the ability of pumping and pump storage resources for bidding into the market;
- *Ancillary services for non-generation resources* further enhances the ability of non-generation resources to be bid and optimized in the market;
- Additional implementation of resource adequacy features, including: *bids for resource adequacy imports and subset of hours resource adequacy* and the *replacement requirement for resource adequacy resources for planned outages*, as well as the third phase of the *standard capacity product*;
- *Dynamic transfers* will respond to requests to the ISO for dynamic scheduling of import services which have increased dramatically in the past year;
- *Reliability demand response product* will meet the needs for newly configured demand response resources that have a reliability trigger and desire to be dispatched only under particular system conditions;
- *Changes to commitment costs* including bidding and mitigation for start up and minimum load costs;
- *Data release phase 3* will further address market transparency concerns; and
- *Outage management system* will provide an improved platform for managing generation outages.

### **LOOKING FORWARD**

As we look ahead to the spring of 2012, many additional market initiatives are planned for the three year milestone following the start of the new market design. Most significantly, the ISO will start to implement the results renewable integration market and product review. Management will also address the new functionality mandated by FERC to be completed in this timeframe. 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.

10/11/2010		Market Initiatives Release Plan - Straw Proposal																																				
Release	Phase	Initiative	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12															
Fall / Winter 2010	Implementation	Multi-Stage Generation Modeling																									Market Sim - MAP Stage											
	Implementation	Initial Conditions																									Market Sim - Stage											
	Implementation	Scarcity Pricing																									Start Stakeholder Process											
	Implementation	Standard Capacity Product Phase 2																																				End Stakeholder Process
	Implementation	CRR Enhancements / Credit Policy																																		Deployment Date		
Early 2011	Implementation	Convergence Bidding / Credit Tracking System																																			Effective Date, if different	
Spring 2011	Policy	Updating ICPM and Exceptional Dispatch and Bid Mitigation																																				
	Planning	72 Hour Residual Unit Commitment (pending prototype analysis)																																				
	Planning	Participating Load Pilot (placeholder)																																				
Fall 2011	Planning	Aggregated Pumps and Pump Storage																																				
	Planning	AS for Non-Generation Resource																																				
	Policy	Bids for RA Imports and Subset of Hours RA																																				
	Policy	Standard Capacity Product Phase 3																																				
	Policy	Dynamic Transfers - Full Functionality (Interim release to be determined)																																				
	Planning	Changes in Commitment Costs - SUC/MLC (Interim release TBD)																																				
	Policy	Reliability Demand Response Product																																				
	Policy	Data Release Phase 3																																				
	Implementation	Outage Management System																																				
Spring 2012	Policy	Renewable Integration Market & Product Review (Phase 1&2)																																				
	Policy	Year Three Mandated Items (listed below)																																				
	Policy	Load Granularity Refinements																																				
	Policy	Refinements in LMPM Process																																				
	Policy	Export of AS																																				
	Policy	Bid Cost Recovery for Unit over Multiple Days																																				
	Policy	Two Tier Real-Time Uplift																																				
	Policy	Non Mandated Items (listed below)																																				
	Policy	Simultaneous RUC and IFM																																				
	Policy	Multi Day Unit Commitment																																				
	Policy	AS Substitution																																				
	Policy	Multi Hour Block Bidding in RUC																																				