California Independent
System Operator Corporation

June 14, 2011

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: California Independent System Operator Corporation
Docket Nos. ER08-1178-___, and EL08-88-___
120 Day Exceptional Dispatch Report

Dear Secretary Bose:

Pursuant to the Commission's September 2, 2009 order in the above referenced dockets, the California ISO submits the attached report. The September 2 order directed the ISO to continue to file reports every 120 days that describe the status of the ISO's efforts to reduce the frequency of Exceptional Dispatch and the status of the ISO's development of operational and product enhancements that would reduce reliance on Exceptional Dispatch. The attached report provides an update of the ISO's efforts to meet the Commission's directives as set forth in the September 2 Order.

Respectfully submitted,

By: *<u>/s/ Sidney M. Davies</u>*

Nancy Saracino
General Counsel
Sidney M. Davies
Assistant General Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 608-7144
Fax: (916) 608-7222
sdavies@caiso.com

Exceptional Dispatch Report

Prepared by
California Independent System Operator

June 14, 2011

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1. Introduction

This is the California ISO's sixth 120-day report. Previous 120-day reports were submitted to FERC on February 14, 2011; October 15, June 17 and February 17, 2010; and October 20, 2009 and are available on the ISO website.[1] This report provides information to the Commission and market participants on the measures the ISO has taken, and plans to take since the last 120-day report, to reduce reliance on exceptional dispatch.

2. Exceptional Dispatch Data and Reports

Since the last 120-day report, the overall volume of exceptional dispatch has declined. Although this decline has not always decreased monotonically, the general pattern is indisputable. To comply with FERC directives and inform the market, the ISO produces extensive documentation on exceptional dispatch in addition to the 120-day reporting process. The principal reporting method for exceptional dispatch is through the two monthly reports: one filed on the 15th of every month and another filed on the 30th of every month. The monthly reports provide the market with the most recent summary of exceptional dispatch activity. The monthly reports are also available on the ISO's website at: http://www.caiso.com/1ff3/1ff3c4cf23840.html.

These reports provide market participants with comprehensive data on the frequency, volume and cost of exceptional dispatches issued by the ISO to ensure the reliability of the California ISO balancing authority area. The report filed on the 15th of each month provides frequency and volume information for the most recent month for which it has this data. The report filed on the 30th of each month includes cost data for the most recent month for which it has settlement quality data.

Table 1 Report. This report provides information on the frequency, quantity, and duration of exceptional dispatch. The report is based on a template specified in the September 2 Order as modified by the May 4 Order. Each line item entry is a summary of exceptional dispatches classified by (1) the reason for the exceptional dispatch; (2) the location of the resource by Participating Transmission Owner ("PTO") service area; (3) the Local Reliability Area ("LRA") where applicable; (4) the market in which the exceptional dispatch occurred (day-ahead vs. real-time); and (5) the date of the exceptional dispatch. For each classification the following information is provided: (1) Megawatts (MW); (2) Commitment (3) Inc or Dec (4) Hours; (5) Begin Time; and (6) End Time. Appendix A to the Table 1 Exceptional Dispatch Report contains three illustrative examples of how exceptional dispatch activity is captured in the report.

Table 2 Report. The Table 2 Report contains all the Table 1 Report fields in the same format, but adds ten additional columns to the report which include the six listed above as well as: (7) Total Volume (MWh); (8) Min Load Cost; (9) Start Up Cost; (10) Charge Code "CC" CC6470; (11) Exceptional Dispatch Volume (MWh INC/DEC); (12) CC6470 INC; (13) CC6470 DEC; (14) CC6482; (15) CC6488; and (16) CC6620.

- Appendix A: Explanation by Example. This appendix contains three detailed illustrative examples, based on fictitious data due to confidentiality, of how each data

[1] ISO 120-day reports, http://www.caiso.com/2718/27189a5933dd0.html

field in a report line item entry is determined.

- Appendix B: Price Impact Analysis. In the September 2 Order, FERC directed the ISO to conduct a price impact analysis on two distinct pricing nodes for the entire reporting period. The two pricing nodes must be the most impacted by the exceptional dispatch instructions and must belong to two different load aggregation points (LAPs). Each month, the ISO identifies one heavily impacted pricing node in the Pacific Gas and Electric (PG&E) load aggregation point (LAP) and one in the Southern California Edison (SCE) LAP, which correspond to an actual pricing nodes in the ISO system, for which only one resource is connected to each pricing node. Thus, the price nodes analyzed are different from month to month which may make an annual presentation of this data difficult to interpret.

- Appendix C: Exceptional Dispatch Bid Mitigation Analysis. In January 2009, the ISO applied the exceptional dispatch bid mitigation to the exceptional dispatches that are noncompetitive TMODELs and Delta Dispatch as of the month of August and began to provide the bid mitigation analysis in the January report.

The ISO also publishes a monthly market performance report at the Monthly Market Performance Report webpage at: http://www.caiso.com/2424/2424d03b3f610.html. This monthly report highlights the frequency and cost of exceptional dispatch as a subset of the broader category of operator intervention. The report is published approximately three weeks after the end of every month and is based on preliminary settlement data available about 10 days after month end. Although issued monthly, the report usually shows data from the two most recent months.

Additional information is also explained in greater detail in the Market Performance Metric Catalog which is also issued on a monthly basis. This report provides the explanation and context for each market metric, including information on exceptional dispatch. The Market Performance Metric Catalogs are publicly available at: http://www.caiso.com/2424/2424d14d4a200.html

In addition to these reports, the ISO provides two regularly scheduled forums for discussing exceptional dispatch issues, among other issues: the bi-weekly market update call scheduled every other Thursday at 10:15 a.m. and the Market Performance and Planning Forum meetings held every six weeks. The market update call is available to address market participant questions on any topic, including exceptional dispatch. The Market Performance and Planning meetings began in February 2010. This forum provides for high-level dialogue on release planning, implementation and new market enhancements. The forum builds on the previous Market Release Workshop process. Agenda includes items of importance to stakeholders including the ISO's progress on reducing reliance on exceptional dispatch, which is one of the ISO's corporate objectives as identified in the ISO's Five-Year Strategic Plan for 2010-2014. Meeting agenda, presentations, and stakeholder comments are posted on the Market Performance and Planning Forum webpage: http://www.caiso.com/271e/271ea81869a90.html.

Finally, the ISO is actively working with stakeholders on an initiative known as the Renewable Integration Market Product and Review initiative. In this effort, the ISO and stakeholders will be taking a comprehensive look at what new products might be necessary and appropriate in light of the ISO's new market design and its renewable integration goals, and efforts here are expected to have a positive impact on reducing exceptional dispatch.

3. Actions to Address Exceptional Dispatch

This section describes the actions that have been taken since the last 120-day report to reduce exceptional dispatch, as well as actions that are currently underway or planned for future implementation. Updates to the actions in this section will be provided as developed through ISO Market Notices, the Market Performance and Planning Forum, the bi-weekly Market Update Call,[2] and through topic-specific ISO stakeholder initiatives. Table 1 provides an overview of actions since the last 120-day report.

Table 1: Actions to Address Exceptional Dispatch

Date Implemented	Action
May 2011	21. Automated Load Forecast System Five-Minute
TBD	23. Better Modeling Shutdowns Profile
December 7, 2010	26. Day-Ahead Market Commitment Process Enhancements to Reduce Cycling of Resources
Ongoing	27. Other Software Fixes
Ongoing	28. Market Model Improvements
Ongoing	29. Renewable Integration Market and Product Review

Since the last 120-day report, the ISO has undertaken and implemented a number of actions to address and reduce exceptional dispatch. These actions are described in chronological order below. The numbering below continues from the last 120-day report. Some items have been removed based on completion or applicability, but subsequent items have not been renumbered to facilitate reference between reports.

21. Automated Load Forecast System Five-Minute, implemented in May 2011 – This action improves load forecast accuracy by directly forecasting for every five- and 15-minute time target in RTM using the Automated Load Forecast System (ALFS3). It is expected that a direct forecast of five and 15-minute values will lead to a more accurate forecast, account for changing conditions and better reflect peaks and valleys of the forecast. It is expected that this direct forecast will improve load forecasting and will further improve consistency of forecast occurring in HASP T-1.25 hours) time horizon with the Real-Time dispatch time horizon (T-5 minutes). In addition the direction five-minute forecast will allow for intra-hour peak conditions to be predicted. This improvement may help reduce the need for exceptional dispatch occurring after HASP to better align the intertie dispatch with changing load forecast conditions. The new ALFS will also improve the consistency between day-ahead and real-time load forecasts.

23. Better Modeling Shutdowns Profile – This action focuses on reducing the artificial ramp created by high Pmin units. Improving profile modeling will allow the ISO to better predict the imbalance energy impacts of resources shutting down that currently are assumed to shutdown instantaneously. The current instantaneous assumption results in a high burden on the ramping capability of a resource. An interim step was implemented in April 2011. Instead of directly modeling the shutdown profile by ramping down its output over a number of intervals, this interim approach adjusted the RTD load downward to count for the energy surplus created by

[2] Market Update conference call, http://www.caiso.com/23dc/23dc932e2b630.html

generation ramping down over 3 RTD intervals. This interim solution has proven to be effective in better representing the demand/supply balance during late evening hours, reducing the need to exceptionally dispatch generation to count for the supply inaccuracy caused by modeling generator shutdown in one RTD interval. The next step would be to directly model the shutdown of a generator by reducing its output over a number of RTD intervals, and may require more realistic input data from the Scheduling Coordinators. The implementation date for the direct approach has not been determined.

26. Day-Ahead Market Commitment Process Enhancements to Reduce Cycling of Resources, first phase implemented on December 7, 2010 – To avoid unnecessary cycling of resources that can occur with a single-day commitment horizon, the ISO is exploring a process enhancement to reflect expected real-time status. The ISO is taking two actions that are related to mitigation of cycling of resources in the Day-Ahead Market. First, the ISO implemented enhancements to the existing initial conditions process to allow for resources that intend to stay online to inform the ISO of this intent prior to the ISO start of the next day's Day Ahead market process. Second, the ISO has started to explore the opportunity to phase-in a multi-day unit commitment process utilizing the deferred functionality that was intended to provide for optimal decisions regarding Extremely Long Start resources possibly combined with an extension of the existing Residual Unit Commitment process to evaluate 48 to 72 hour instead of the current 24 hours. This approach would provide benefits of incorporating a bridged commitment decision across off-peak hours as well has sets up a more optimized input to initial conditions for the next day's Day-Ahead market input. The initial condition enhancement was activated on December 7, 2010, and the 72 Hour RUC project has started and is targeted for implementation in the latter half of 2011.

27. Other Software Fixes, Ongoing – At times, resources commitment status does not track with scheduled or actual telemetry. Until these issues are fully addressed, exceptional dispatch is a mechanism to force the resource status to the correct status. Several of these issues have been addressed and the ISO will continue to address such observation.

28. Market Model Improvements, Ongoing – The ISO plans to continue the efforts to expand the network modeling to include more transmission network, generation resources, and loads external to the ISO Controlled Grid. Initial planning and conceptual design has started.

29. Renewable Integration Market and Product Review, Ongoing – While protecting system reliability, state policy requires that the ISO integrate more renewable energy into California's wholesale energy market. Further, renewables integration requires additional operational capabilities, including additional ramping support and ancillary services and increased ability to manage over-generation conditions. Renewable energy also imposes new operating requirements, such as more frequent starts and stops and cycling of existing generation units. The ISO opened the Renewable Integration Market and Product Review (RI-MPR) policy initiative in 2010 to work with ISO stakeholders in a phased approach to identify and develop potential changes to wholesale market design, including market products and procedures, needed to accommodate the expected substantial increase in production by variable energy resources over the next decade. Phase 1 addresses shorter-term issues, http://www.caiso.com/27be/27beb7931d800.html, whereas Phase 2 addresses longer-term considerations, http://www.caiso.com/2b3d/2b3d8b92f940.html. It is expected that increased economic dispatch of renewable resources will reduce over-generation and will result in lower exceptional dispatch levels.

Phase 1 RI-MPR – Phase 1 began in July 2010 to identify short-term solutions for integrating renewable resources onto the grid. The scope of Phase 1 was comprised of two market design changes: (1) lower the energy bid floor to provide additional incentives for market participants, including variable energy resources (VER) to submit decremental (DEC) bids to enable the markets to manage over-generation and congestion more efficiently and transparently, (2) evaluate options for wind and solar resources so that they participate more fully in our markets, in particular the real time market. The current Participating Intermittent Resource Program (PIRP) provides disincentives for wind and solar resources to bid into the market. Specifically the program requires participating resources to self schedule rather than submit bids, and it mutes the real-time price signals through monthly netting of deviations. In addition, the current energy bid floor level does not allow wind and solar resources to recover the opportunity costs of reducing their energy output. These features create strong disincentives for many resources, and particularly VER, to submit decremental bids. A proposal is expected for Board consideration in August, but may require additional development time.

Phase 2 RI-MPR – Phase 2 of the RI-MPR began on April 1, 2011 with a stakeholder meeting to discuss the scope of this initiative. The ISO then released its Phase 2 discussion and scoping paper on April 5, 2011, which is available at: http://www.caiso.com/2b57/2b57efa839d50.pdf. In collaboration with stakeholders, the ISO will develop a market vision and roadmap in Phase 2 of this initiative. The roadmap will detail the market enhancements needed to efficiently operate the grid in an environment where a large number of renewable resources are interconnected to the transmission and distribution system. Introducing increased variability in the supply portfolio results in greater operational uncertainty, which the ISO must anticipate and manage, to continually balance supply and demand and meet applicable reliability criteria. To meet or exceed state mandated energy policy goals, the ISO is in the process of assessing its operational needs and evaluating a range of measures to adapt and align its wholesale electricity market necessary to maintain grid reliability under a high renewable, variable energy resource, operating paradigm.

Given anticipated market and operational impacts, in Phase 2 the ISO is evaluating both 1) near term changes to existing market design that may provide the ISO with additional operational flexibility, as well as 2) longer term market design changes in the form of new spot market products and forward capacity products that will provide the ISO the needed operational characteristics from the resource fleet to reliably and cost-effectively integrate renewable, variable energy resources.

The ISO intends to publish a set of proposals on day-of, day-ahead and forward procurement market enhancements over the course of 2011. The goal for 2011 is to produce a final market vision and roadmap for ISO Board review in December 2011. This document will lay out the plan for wholesale market products and refinements to be designed and implemented between 2012 and 2014.

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 14th day of June, 2011.

/s/ Anna Pascuzzo

Anna Pascuzzo