



California Independent
System Operator Corporation

October 15, 2010

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 docket, 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: /s/ Sidney M. Davies

Nancy Saracino
General Counsel
Sidney M. Davies
Assistant General Counsel
California Independent System
Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630
Tel: (916) 608-7144
Fax: (916) 608-7296
sdavies@caiso.com

Exceptional Dispatch Report

**Prepared by
California Independent System Operator**

October 15, 2010

Exceptional Dispatch Report

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1. Introduction

This is the California ISO's fourth 120-day report. This report provides a compilation of information provided to the Commission and market participants in other reports and filings and provides an update on the measures the ISO is taking to reduce reliance on exceptional dispatch.

2. Exceptional Dispatch Data and Reports

Since March 31, 2009, 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 requirement process. The principal reporting method for exceptional dispatch is through the two monthly reports: one filed on the 15th of every month and one 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 had 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 dispatches. 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 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 for 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 include 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 2010-2014.¹ 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 has launched a new stakeholder process 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.

3. Actions to Address Exceptional Dispatch

This section describes the actions that have been taken to date 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

¹ The ISO's strategic plan is available at the following link:
<http://www.caiso.com/2793/279394df10d80ex.html>.

Performance and Planning Forum, the bi-weekly Market Update Call,² and through topic-specific ISO stakeholder initiatives. Table 1 provides an overview.

Table 1: Actions to Reduce Exceptional Dispatch

Date	Action
April 2009	1. Intermittent Deviation from Day-Ahead Schedules
May 2009	2. Improved Load Forecasting and Load Distribution
June 1, 2009	3. Improved Load Distribution Factor Scale to Regions
June 1, 2009	4. Improved LDF in RTM using Last State Estimator LDF
June 2009	5. Conformed Model Power Flows and Actual Power Flows
July 1, 2009	6. Improved Start-Up Profiles
July 26, 2009	7. Operator Process Change For Greater Market Reliance
July 26, 2009	8. Added G-217 and G-219 Nomograms in RUC,
September 24, 2009	9. Netted Larger Generation Resources,
October 3, 2009	10. Implemented Variable Regulation,
November 12, 2009	11. Implemented Simplified Ramping,
November 2009	12. Added Transmission Constraints,
February 4, 2010	13. Minimum Online Commitment #1, G-217 and G-219 in IFM & RUC
April 15, 2010	14. Forbidden Operating Region in Real-Time Market,
April 26, 2010	15. Minimum Online Commitment for Equipment Outages,
May 10, 2010	16. Minimum Online Commitment #2, G-206 in IFM & RUC
Ongoing	17. Improved Software and Model Improvements
June-July 2010	18. Transmission Upgrades that affect T-129 for Fresno Area
July 2010	19. Compensating Injections
September 30, 2010	20. Generation Upgrade at Humboldt
2010. Exact Date TBD.	21. Automated Load Forecast System Five-Minute
Exact Date TBD	22. Renewable Portfolio Standard Forecast
November 15, 2010	23. Better Modeling Shutdowns Profile
November 15, 2010	24. Multi-Stage Generator Modeling
2010. Exact Date TBD.	25. Load Distribution Factor Forecasting
December 7, 2010	26. Day-Ahead Market Commitment Process Enhancements to Reduce Cycling
Ongoing	27. Other Software Fixes
Ongoing	28. Market Model Improvements
Ongoing	29. Consideration and Development of New Market Products

3.1. Actions Taken To Date

Since March 31, 2009, the ISO has undertaken and implemented a number of actions to address and reduce exceptional dispatch. These actions are described in chronological order below.

1. Intermittent Deviation from Day-Ahead Schedules, April 2009 – Deviations from intermittent resources were causing control issues and flow model issues. The ISO modified software to account for the deviations and improve flows and imbalance.

² Market Update Call, <http://www.caiso.com/23dc/23dc932e2b630.html>

2. Improved Load Forecasting and Load Distribution, May 2009 – Initially the ISO observed that very short-term load forecasting was not following changes in load direction well in the HASP timeframe versus the five minutes prior to Real-Time Dispatch. In order to address this observed forecast inconsistency, the ISO moved to basing its HASP and RTM forecast on an interpolation of the ISO Automated Load Forecast System 30-minute forecast. This adjustment in practice was implemented in mid-May 2009.

3. Improved Load Distribution Factor Scale to Regions, June 1, 2009 – Scaled load distribution factor per region has improved the accuracy in calculating the flow on paths between regions. This improvement mainly improved the accuracy of Real-Time flows on major north to south paths like Path 15 and Path 26 flows. This improvement had only a minor impact on exceptional dispatch. This enhancement was implemented on June 1, 2009.

4. Improved LDF in RTM using Last State Estimator LDF, June 1, 2009 – The ISO implemented an improved Load Distribution Factor (LDF) in RTM using the last State Estimator LDF. This action improved the accuracy of calculating flows. The use of more accurate real-time LDFs has resulted in improved real-time flow patterns. This improvement most likely reduced the need for the number of exceptional dispatches resulting from modeling differences in localized areas. This enhancement was implemented on June 1, 2009.

5. Conformed Model Power Flows and Actual Power Flows, June 2009 – An ability to conform modeled power flows and actual power flows through use of a flow bias provided the operator with the ability to correct for slight inaccuracies. This enhancement was implemented in early June 2009.

6. Improved Start-Up Profiles, July 1, 2009 - Prior to July 2009, ISO market software assumed that resources below their minimum operating level (P_{min}) were effectively at zero MW until a resource reached its P_{min} at the scheduled time. However, this enhancement revised this assumption by following actual telemetry up as the resource approached its P_{min} prior to its scheduled start time. As a result, instead of assuming that a unit's operating level drops back to zero MW, the software will assume that the unit's last known operating level (as opposed to zero MW) is its current operating level, unless telemetry indicates otherwise. Under this new functionality, resources starting up now stay in the horizon calculation until P_{min} is reached. This improvement contributes to a reduction in exceptional dispatches previously required to address this software limitation. This enhancement was implemented on July 1, 2009. Note that the Multi-Stage Generating (MSG) enhancements will make further improvements to the start-up profiles by estimating resource start-up progress, as opposed to assuming a last known operating level for a resource below P_{min} .

7. Operator Process Change For Greater Market Reliance, July 26, 2009 – Previously, in the event that an operator had reason to believe a specific resource would be needed, and there were no optional resources, an operator would pre-commit the resource. On July 26, 2009, the process was modified to allow the market to commit the resource first. If the market committed the resource, then no exceptional dispatch was needed. However, if the resource was not committed by the market, the resource would be pre-committed by an operator and the market re-run.

8. Added G-217 and G-219 Nomograms in RUC, July 26, 2009 – As an interim solution to satisfy commitment constraints, the ISO implemented certain commitment requirements into RUC. On July 26, 2009 the ISO implemented two nomograms in RUC incorporating the constraints of two ISO Operating Procedures *G-217, South of Lugo Generation Requirements*, and *G-219 SCE Local Area Generation Requirement for Orange County*. These represented the bulk of the Day-Ahead exceptional dispatch unit commitment prior to July 26, 2009. The enforcement of these constraints in RUC resulted in a significant reduction in the “*Monthly*

average minimum-output energy from generation committed in day-ahead through exceptional dispatch" as illustrated in Figure 1.13 from the 2009 Department of Market Monitoring (DMM) Annual Report, as shown in Section 4.8 of this white paper.

- On July 26, 2009, the ISO stopped issuing exceptional dispatch instructions to resources associated with the G-217 and G-219 operating procedures prior to the day-ahead market. As a result of this and allowing the IFM to run prior to pre-committing resources under exceptional dispatch, the frequency of day ahead exceptional dispatches has been significantly reduced without significantly increasing the amount of resources committed in RUC.
- Between July 1st and 26th, the frequency of exceptional dispatch unit commitments for G-217 and G-219 ranged between zero and 13 units per day, and averaged approximately six units per day. Beginning July 27, the volume of Exceptional Dispatch for G-217 and G-219 declined nearly to zero, as the units were mostly committed in either the IFM, or as needed in RUC, although there have been a few instances where there is still a need to manually commit post Day-Ahead.

9. Netted Larger Generation Resources, September 24, 2009 - Netted some of the larger generation resources where there is load behind the meter. The modification reduced some situations where transmission constraint limits had to be conformed to actual flow conditions, but may have addressed some specific cases where exceptional dispatch may have been used to avoid unnecessary dispatching a resource. This enhancement was implemented on September 24, 2009.

10. Implemented Variable Regulation, October 3, 2009 – The ISO implemented new functionality to vary its Regulation requirements in the IFM for different hours of the day. Previous practice was to procure only one amount of regulation up and down for all hours of the day. In contrast, the variable regulation functionality allows the ISO to procure different amounts of regulation for each hour. This new functionality more accurately calculates the ramp needed for load following and facilitates the procurement of regulation to meet the anticipated needs. This has resulted in greater amounts of regulation available to the ISO during periods when excessive ramps are experienced. While this effort was primarily aimed to address control performance, the collateral benefit has been a further reduction in exceptional dispatch that may have otherwise resulted to meet ramping requirements. Variable regulation functionality is described in more detail in the *Technical Bulletin on AS Procurement – Regulation*.³ This enhancement was implemented on October 3, 2009.

11. Implemented Simplified Ramping, November 12, 2009 - Allows for more realistic accounting and sharing of ramping capability between changes in energy schedule and award of regulation and other operating reserves. Also under simplified ramping the operational ramp-rate will be used for all dispatches rather than using regulation ramp-rate when the resource is awarded regulation. It is not expected that simplified ramping will have a significant impact on exceptional dispatch. More detail on this approach is in the *Technical Bulletin on Simplified Ramping*.⁴ This enhancement was implemented on November 12, 2009.

12. Added Transmission Constraints, November 2009 – Periodically, the ISO adds or enforces transmission constraints (branch groups) where flow based methods can be modeled. The addition of new constraints generally occurs during model builds, which occur about every

³ *Technical Bulletin on AS Procurement – Regulation*, 12/30/2009,
<http://www.caiso.com/2494/2494c16876b0.pdf>

⁴ *Technical Bulletin on Simplified Ramping*, 9/28/2009, <http://www.caiso.com/2494/2494c16876b0.pdf>

four to six weeks. However, in the event that a constraint is implemented between model builds, the ISO has committed to the issuance of a 10-day market notice, although constraints can be enforced with less notice as needed to maintain system reliability. The LA Basin import constraint (SCE_PCT_IMP_BG) limit based on observed conditions; see the Technical Bulletin for more information.⁵

13. Minimum Online Commitment #1, G-217 and G-219 in IFM & RUC, February 4, 2010

Using the Minimum Online Commitment (MOC) constraint capability, the ISO began enforcing operating procedures G-217 – South-of-Lugo Generation Requirements and G-219 – SCE Local Area Generation Requirements for Orange County. This enforcement was effective for trade day February 5, 2010 in the day-ahead market (DAM), including both the integrated forward market (IFM) and residual unit commitment (RUC). See the MOC Technical Bulletin for more information.⁶ This has been referred to as MOC #1.

14. Forbidden Operating Region in Real-Time Market, April 15, 2010 – This action is focused on implementing the deferred functionality that would respect the documented forbidden region functionality in the RTM. This extensive enhancement allows the ISO to explicitly model transitional constraints from moving from one operational stage to another. By introducing this capability, the ISO is able to reduce use exceptional dispatch to ensure a resource once dispatched into Forbidden Operating Range will continue to be dispatched at a ramp rate consistent with the resources documented transit time in order to maintain its ramping capability in an operational range. Furthermore, the ability to model various inter-temporal constraints at the configuration level will allow a better modeling of those generation units and thus further reduce the need for exceptional dispatch. While the original forbidden operating region functionality for real-time was implemented on April 15, 2010, the more detailed full Multi-Stage Generating Unit Modeling functionality is scheduled for implementation on November 15, 2010.⁷

15. Minimum Online Commitment for Equipment Outages, April 26, 2010 - The ISO expanded the use of the minimum online commitment (MOC) constraint for equipment outages in the ISO market effective for trade date April 26, 2010. This functionality was originally used for operating procedures G-217 South-of-Lugo Generation Requirements and G-219 SCE Local Area Generation Requirement for Orange County. Use of this functionality will be considered for equipment outages that have a commitment requirement to return the system to normal steady state limits following contingencies, or a commitment requirement to provide the necessary voltage and stability support. The appropriateness of using MOC for outages will depend on the following factors: duration of the outage, complexity of the outage, time available to perform the necessary engineering analysis, and technical consideration of the resources capable of meeting the reliability need.

16. Minimum Online Commitment #2, G-206 in IFM & RUC, May 10, 2010 - The ISO has expanded the use of the minimum online commitment (MOC) effective May 10, 2010 to meet generation requirements as defined in operating procedure G-206 San Diego Area Generation Requirements in the day-ahead market (DAM), including both the integrated forward market (IFM) and residual unit commitment (RUC). In addition, the ISO has also started using MOC for select outages when appropriate.

⁵ Technical Bulletin: Import Limit Definition and Management in Support of Under-Frequency Load Shedding (UFLS), 12/3/2009, <http://www.caiso.com/2479/247997c52e0f0.pdf>

⁶ Technical Bulletin on Minimum Online Commitment Constraint, 1/11/2010, <http://www.caiso.com/271d/271dedc860760.pdf>

⁷ Market Notice on Real-Time Forbidden Operating Region Functionality Effective April 15, 2010, <http://www.caiso.com/2777/2777a16c3a100.html>

17. Improved Software and Model Improvements - Since the start of the new market in April 2009, there have been substantial improvements in the software by resolving variances and model builds. This has had a corresponding result in reducing the number of exceptional dispatches associated with software limitations and disruptions. Variance resolutions occur on a regular basis about every one-to-two weeks. Model builds occur on a four-to-six week interval. The last model build DB47, promoted to production on April 22, 2010 included enhanced modeling of LADWP area that is expected to improve market flows near the border of the ISO and LADWP balancing authority area as well as resource effectiveness. Such improvements are expected to reduce the need for operator intervention including exceptional dispatch. ISO DB48 Full Network Model implementation is scheduled for effective trade date June 17, 2010.⁸

18. Transmission Upgrades that affect T-129 for Fresno Area, June-July 2010 - This project was comprised of line drop reconductoring of Panoche–Mendota and Panoche–Oro Loma 115-kV lines at the Panoche end. These transmission improvements were completed in the months of June and July of 2010. This project was recommended to the Pacific Gas and Electric Company to implement as soon as possible and was documented in the 2010 ISO Transmission Plan (short-term plan).

The limiting elements for both transmission lines mentioned above have been replaced by PG&E. The ISO has updated T-129 and the modeling of the transmission constraints in the ISO market to take advantage of higher thermal capacities of both transmission lines. The higher thermal capacities have lead to reduced number of exceptional dispatches to meet the reliability requirements in procedure T-129.

19. Compensating Injections, July 2010 – Compensating Injections (CI) was implemented on in July 2010. CI is a new market modeling feature that minimizes the modeling discrepancies between intertie power flows in the market and the state estimator (SE). Better matches of power flows on the interties tend to lead to more realistic power flow patterns throughout the market network model. This new feature is expected to lead to the reduction of the need to conform a transmission constraint to match market power flow with SE in order to manage reliability in real-time.

20. Generation Upgrade at Humboldt, September 30, 2010 – The previous Humboldt fossil generators were dated and susceptible to increased risk of mechanical failure if subjected to frequent real-time market dispatches. The new Humboldt reciprocating engine generators became commercially operational on September 30, 2010.

3.2. Status of Current and Future Actions

21. Automated Load Forecast System Five-Minute, 2010, Exact Date TBD – This action was focused on improving load forecast accuracy by directly forecasting for every five- and 15-minute time target in RTM using the Automated Load Forecast System. Currently, the ISO is interpolating and shaping the forecast between 30-minute forecast values produced by the Automated Load Forecast System. 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

⁸ ISO Market Notice for DB48, <http://www.caiso.com/279d/279dabcf213d0.html>

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. The ISO is in progress of testing the new ALFS system. Implementation date is to be determined.

22. Renewable Portfolio Standard Forecast, Exact Date TBD – Beginning in September 2009, the ISO has increased its capability to stream more data from outside sources concerning solar and wind conditions to our forecast providers. This has enhanced our forecasting accuracy. In addition, on April 30, 2010, FERC issued an order conditionally accepting the ISO's filing of a tariff amendment to expand the scope of data required to be provided by wind and solar resources larger than 1 MW. The additional data requirements consist of (1) extending to additional resources the obligation to install forecasting and telemetry equipment and to communicate relevant data to the ISO, and (2) reducing the threshold for reporting a forced outage of an eligible intermittent resource with total capacity of greater than 10 MW from the current outage capacity level of 10 MW to 1 MW. These requirements go into effect on July 1. More accurate forecasting and more information on outages should reduce the need for exceptional dispatch to manage wind and solar resources.

23. Better Modeling Shutdowns Profile, November 15, 2010 – 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. The ISO presently is testing a new market feature called Multi-Stage Generation (MSG) modeling that provide improved capability for modeling shutdown profile and other modeling improvements. The implementation of this enhancement is expected on November 15, 2010.

24. Multi-Stage Generator Modeling, November 15, 2010 – The more extensive resource modeling capability of Multi-Stage Generators, which will allow resources like Combined Cycle resource that have distinct operating configurations to be modeled more reflecting of the constraints. As a result it is expected that some exceptional dispatch that result to manage a resources complicated operating characteristics may be reduced. The MSG deployment date is November 15, 2010.

25. Load Distribution Factor Forecasting, 2010, Exact Date TBD - In some cases the short-term inaccuracy of load distribution factors can lead to situations where local constraints are not binding in the market but are in actuality or, the opposite, where they are binding in the market but not actually. In either case, exceptional dispatches at times are used to constrain specific resources on or off to satisfy a constraint that actually exists. Therefore improved load distribution factor accuracy in such cases could reduce the need for exceptional dispatch. This enhancement is expected to evolve over the next one-year timeframe. Currently, the Load Distribution Factor process used in the Day-Ahead Market incorporates a simple similar day process that does not account for changes in weather conditions. Therefore there are situations in which weather changes result in the similar day Load Distribution Factors not be sufficiently accurate. The first phase of this improvement will provide a prototype that will allow the ISO to compare results with and without weather adjustment was completed at the end of 2nd quarter 2010. This phase will incorporate adjustment into Load Distribution Factor process that will account for weather changes that affect sub-LAP area load forecast. The ISO has completed the development and prototyping of the new algorithm. The ISO is in the process of completing parallel testing to compare the new LDF forecasts with the current LDF forecasts.

26. Day-Ahead Market Commitment Process Enhancements to Reduce Cycling of Resources, 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 how initial conditions of a resource are determined. The ISO is taking two actions that related to mitigation of cycling of resources in the Day-Ahead Market: First the ISO is considering enhancements to the existing initial conditions process to allow for resources that intend to stay online to inform the ISO if this intent prior to the ISO starts the next day's Day Ahead market process. Second, the ISO has started to explore opportunity to phase-in a multi-day unit commitment process first 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 ISO has initiated and completed a stakeholder process. The ISO is now working toward implementing this enhancement to initial condition on December 7, 2010, and is evaluating implementation of 72 hour Residual Unit Commitment in the spring of 2011.

27. Other Software Fixes, Ongoing - At times resources commitment status does not track with schedule 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.

29. Consideration and Development of New Market Products, Ongoing - Given that the potential new product data set trend is similar to overall exceptional dispatch trends, the ISO concluded in the June 2010 Exceptional Dispatch Report that the modeling and software improvements taken to date have had a broader impact across all exceptional dispatch reason codes. In addition, the ISO concluded that due to the varied causes of exceptional dispatches that no single product could be designed that would displace exceptional dispatch. Instead, the ISO concluded that continued emphasis on modeling and software enhancements plus current and planned stakeholder initiatives will provide a secondary benefit of reducing exceptional dispatches. For example, the new market product initiative discussed below will provide a comprehensive review of new products that the ISO will need to operate its markets efficiently while reducing reliance on exceptional dispatch.

Many stakeholders agreed with the ISO's conclusions. In comments on the previous 120-day report, six sets of stakeholder comments were received by the ISO. Overall, stakeholders agreed that new product development should not occur in a narrow context focused specifically on exceptional dispatch. CPUC staff stated that they did not see that a new market product has been identified that would appreciably reduce exceptional dispatch frequency and/or volume, beyond the market developments already being discussed by the ISO Staff. CPUC Staff urged that the value of and resources required to develop any proposed product should be weighed against the ISO's investment and allocation of resources to achieve other important policy goals mentioned above, such as increasing California's reliance upon renewable and demand response resources.

Calpine noted that new market products may not be needed to address the remaining instances of exceptional dispatch but they may be required to provide appropriate compensation and ensure that adequate resources with the right operating characteristics are made available to the ISO. Similarly, RRI Energy stated that whether or not new products are required to reduce

the frequency of exceptional dispatch is too narrow a perspective in considering whether new products are required. In fact, it seems likely that new products to integrate renewable resources will be required – and may have a corollary benefit of reducing the volume or frequency of exceptional dispatch. RRI further stated that the use of on-line capacity constraints may mask the need for additional reliability services, and fail to make fully transparent the reliability services the ISO requires. New products may make the reliability services appropriated through on-line capacity constraints more transparent and assure their continued availability. To the extent such product are needed, the ISO believes they should be developed in light of a comprehensive review of the market's needs.

WPTF's comments strike a similar chord. WPTF stated that the ISO may be interpreting "products" more narrowly than are WPTF members. WPTF commented that ISO services should be explicit and receive the appropriate compensation. While a new product specifically designed to reduce the frequency of exceptional dispatch is not required, and though the on-line capacity constraints are preferable to an out of market mechanism, the use of an on-line capacity constraint should not be viewed as an end state for two important reasons. First, it lacks transparency regarding the need, and second it appropriates the reliability services required rather than specifying an unbundled, competitively procured market product that satisfies the need.

The Renewable Integration Market and Product Review initiative that began in summer 2010 outlined operational needs resulting from increasing system variability and will determine if new ancillary services products are required due to the increased penetration of intermittent resources. The ISO believes that this initiative is the right forum in which to address many of the thoughts and concerns described by stakeholders in the 120-day report process. This initiative is taking a prospective look at the need to develop new products to ensure that the level of exceptional dispatches does not significantly increase as a result of the addition of a large amount of variable energy resources.

4. Renewable Integration Market and Product Review

In the June 10, 2010 Exceptional Dispatch Review and Assessment White Paper, the ISO announced that the Renewable Integration Market and Product Review (RI:MPR) initiative would commence in summer 2010. Through this initiative, the ISO and stakeholders will review the emerging operational needs resulting from higher system variability and forecasting errors and determine if new ancillary services are required due to the increased penetration of intermittent resources.

The RI:MPR initiative commenced with a stakeholder forum on July 16, 2010 to discuss the potential impacts of reaching 20% and 33% RPS goals. Additional documentation from the forum is available at <http://www.caiso.com/2811/28117c3575190.html>. Following the forum the ISO published the 20% Renewable Integration study results on August 31, 2010. The study is available at <http://www.caiso.com/2804/2804d036401f0.pdf>. The ISO held a stakeholder meeting on September 17, 2010 to discuss the study methodology and results. The results of the study concluded that the existing ISO fleet could integrate 20% RPS by 2012; however, this assumes that the existing conventional generation fleet remains available for dispatch. The study did highlight some potential concerns around real-time self-scheduling of conventional generation and the lack of downward dispatchable capacity leading to over-generation which will be addressed in the first phase of the RI:MPR initiative.

The phase 1 RI:MPR issue paper and scoping document was published on September 30, 2010. The issue paper is available at <http://www.caiso.com/2821/2821c31a21680.pdf>. A stakeholder meeting was held on October 5, 2010. The scope focused on increasing the load

following and regulation capacity by 2012. In order to increase load following capacity the ISO will evaluate modifications necessary to increase the number of resources (conventional and intermittent) available for economic dispatch. With regards to increasing regulation capacity, the ISO will continue the design of Regulation Energy Management which enables Limited Energy Storage Resources to participate in the Day-Ahead Regulation market. The next stakeholder meeting is scheduled for December 8, 2010.

In phase 2 of the RI:MPR initiative, the ISO and stakeholders will address potential new products to meet the operational needs identified in the 33% Renewable Integration study which is currently underway. Additional integration study results are expected over Q4 2010 – Q1 2011.

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 15th day of October, 2010.

/s/ Anna Pascuzzo
Anna Pascuzzo