

July 19, 2018

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. ER08-1178-000 and EL08-88-000**

**Exceptional Dispatch Informational Report Covering Period From  
February 2014 Through June 2018**

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits the attached informational report describing, for the period from February 2014 through June 2018, the status of the CAISO's efforts to reduce the frequency of Exceptional Dispatch and the status of the CAISO's development of operational and product enhancements that would reduce reliance on Exceptional Dispatch. Although it covers a longer time period, the attached report includes the same categories of information as the 120-day Exceptional Dispatch reports the Commission directed the CAISO to submit in the September 2, 2009 order issued in the above-referenced dockets.<sup>1</sup>

In the September 2009 order, the Commission directed the CAISO to file reports every 120 days that describe the status of the CAISO's efforts to reduce the frequency of Exceptional Dispatch and the status of the CAISO's development of operational and product enhancements that would reduce reliance on Exceptional Dispatch.<sup>2</sup> The 120-day filing is in addition to the two monthly Exceptional Dispatch reports the CAISO files in the above-referenced dockets. The CAISO filed the 120-day reports in these proceedings every 120 days, until the Commission issued an order on October 26, 2012 that suspended

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<sup>1</sup> *Cal. Indep. Sys. Operator Corp.*, 128 FERC ¶ 61,218 (September 2009 order).

<sup>2</sup> *Id.* at PP 50-51. The Commission explained that it "does not intend to notice these future status reports or to issue orders on these in the future, as these reports are for informational purposes only." *Id.* at P 51 n.66.

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the CAISO's 120-day filing obligation for the 12-month period from October 2012 until October 2013 and directed the CAISO to submit a comprehensive Exceptional Dispatch report following the end of the period.<sup>3</sup> The CAISO submitted the comprehensive Exceptional Dispatch report on October 28, 2013.<sup>4</sup>

The CAISO filed a 120-day report on February 25, 2014, which was 120 days after it filed the October 28, 2013 comprehensive report. Subsequently, however, the CAISO has not been filing the 120-day reports due to an inadvertent oversight. The CAISO is now correcting the oversight by resuming the 120-day filings with the attached report today.

Please contact the undersigned with any questions regarding this filing.

Respectfully submitted,

**By: /s/ Sidney L. Mannheim**

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<sup>3</sup> *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,069, at P 45 & n.61 (2012) (October 2012 order).

<sup>4</sup> The CAISO filed the comprehensive Exceptional Dispatch report in the proceeding in which the Commission issued the October 2012 order (Docket No. ER12-2539-000).



# California ISO

## **Exceptional Dispatch Report**

**Prepared by  
California Independent System Operator**

July 19, 2018

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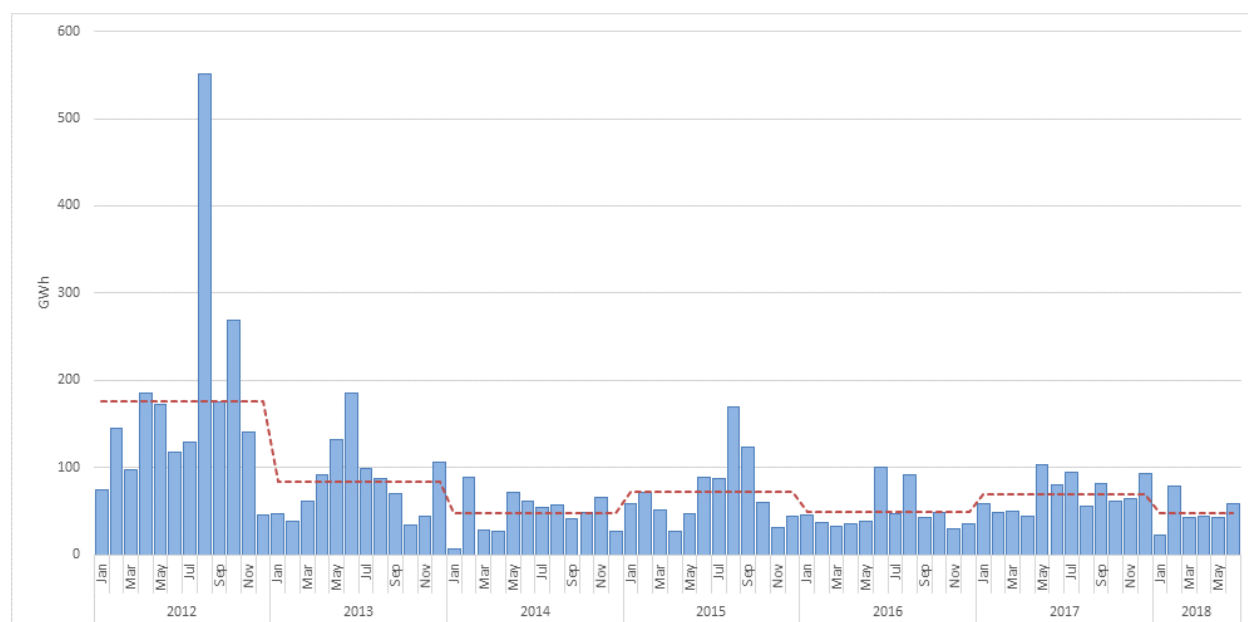
## 1. Introduction

This informational report by the California ISO (CAISO) provides an update to the Commission and market participants on the exceptional dispatch metrics and the measures the CAISO took to reduce reliance on exceptional dispatch for the period from February 2014 through June 2018. As explained in the transmittal letter for the filing of this report, the CAISO consistently issued informational reports providing updates regarding those same exceptional dispatch matters on a 120-day basis through February 25, 2014, but has not issued a 120-day report since then.<sup>1</sup> The CAISO is resuming these 120-day reports starting with the submittal of the instant report.

## 2. Exceptional Dispatch Data and Reports

As shown in Figure 1 below, the average volume of exceptional dispatch reduced fairly with respect to early years and has remained relatively stable at low levels for recent years.

**Figure 1: Exceptional Dispatch Volume**



To comply with Commission directives and inform the market, as reflected in orders and the CAISO tariff, the CAISO produces and files two monthly exceptional dispatch reports in Docket No. ER08-1178, in addition to the 120-day reports that the CAISO is now resuming. One report (the Table 1 report) is filed on the 15<sup>th</sup> day of every month and the other report (the Table 2 report) is filed on the 30<sup>th</sup> day of every month. The CAISO has filed the Table 1 and Table 2 reports on the regular monthly schedule during the period from February 2014 through June 2018. These monthly reports provide the market with the most recent summary of exceptional dispatch activity and associated costs. The monthly reports are also available on the CAISO’s website at: <http://www.caiso.com/market/Pages/ReportsBulletins/Default.aspx>.

<sup>1</sup> The ISO’s 120-day reports are available on the ISO website at: <http://www.caiso.com/informed/Pages/RegulatoryFilingsAndOrders.aspx>.

**Table 1 Report.** The Table 1 report provides information on the frequency, quantity, and duration of exceptional dispatch. The report is based on a template specified in Commission orders. 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 six categories of information are provided: (1) Megawatts; (2) Commitment; (3) Inc or Dec; (4) Hours; (5) Begin Time; and (6) End Time. Appendix A to the Table 1 report contains three illustrative examples of how exceptional dispatch activity is captured in the report.

**Table 2 Report.** The Table 2 report contains the same six categories of information provided in the Table 1 report and in addition contains the following ten categories of information: (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.

The CAISO also publishes a monthly market performance report at: <http://www.aiso.com/market/Pages/ReportsBulletins/Default.aspx>. 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 the end of the month.

Additional information is also explained in greater detail in the Market Performance Metric Catalog that the CAISO issues on a monthly basis. This report provides the explanation and context for each market metric, including information on exceptional dispatch. It is available at: <http://www.aiso.com/market/Pages/ReportsBulletins/Default.aspx>.

The CAISO also provides a regularly scheduled forum for discussing issues, including exceptional dispatch – the Market Performance and Planning Forum meetings that the CAISO holds every six weeks. These meetings provide a venue for high-level dialogue on release planning, implementation, and new market enhancements. Agendas for the meetings cover items of importance to stakeholders, and includes general metrics of the ISO market performance, including Exceptional Dispatch metrics. Meeting agendas, presentations, and stakeholder comments are posted on the Market Performance and Planning Forum webpage: <http://www.aiso.com/Documents/Market%20performance%20and%20planning%20forum>.

### **3. Actions to Address Exceptional Dispatch**

This section describes the actions that have been taken to reduce exceptional dispatch since February 2014, as well as actions that are currently underway or planned for future implementation.

The CAISO models transmission constraints and reliability requirements in the market to reduce reliance on exceptional dispatch. The CAISO also uses minimum online constraints (MOCs) to address specific system conditions that otherwise would have required the issuance of exceptional dispatch instructions and when there is a competitive supply of resources to meet the need. This type of constraint is enforced in the day-ahead market on ad hoc needs to ensure certain capacity is online to meet reliability requirements.

The CAISO has finally completed the policy phase of its initiative regarding contingency modeling enhancement (CME). The CAISO is planning to file this initiative with Commission later this year. CME will explicitly model the reliability requirement in the CAISO market to address the post-contingency 30-minute system operating limit requirement established by the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC). The CAISO currently relies on exceptional dispatch or MOCs to meet the requirement.<sup>2</sup>

The CAISO also completed another policy initiative to model remedial action schemes, which is another market-based solution to address specific transmission and generator outages that otherwise may require the use of exceptional dispatches.<sup>3</sup> In November 2016, the CAISO implemented the flexible ramping product, which is a product for ramping capability procured and dispatched in the real-time to manage the system demand and supply uncertainty or variability.<sup>4</sup> As with the CME and the initiative to model remedial action schemes, the flexible ramping product can obviate the need for exceptional dispatches.

With the growing level of renewable integration, the system needs to accommodate the variable nature of supply from renewable resources with new market tools. In this area, the CAISO implemented two improvements allow for better management and accounting of such resources. The first is an operational enhancement in the residual unit commitment (RUC), the expected production of renewable resources is now based on a forecast instead of being based solely on the bids submitted by such resources; this ensures that RUC will account as closely as possible for the forecasted generation of renewable resources and the RUC commitment may be more accurate, which consequently may allow the CAISO to issue fewer exceptional dispatch commitments. Second, the CAISO amended the tariff to lower the minimum bid price for energy bids to negative \$150 per megawatt-hour, with the expectation that this change will incent resources to provide more decremental bids in the real-time market.<sup>5</sup> . Additional decremental bids reduce the need to rely on exceptional dispatch in curtailing generation to manage potential over-generation conditions.

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<sup>2</sup> Information on CME can be found at: <http://www.caiso.com/informed/Pages/StakeholderProcesses/ContingencyModelingEnhancements.aspx>.

<sup>3</sup> Information on the modeling of remedial action schemes can be found at: [http://www.caiso.com/informed/Pages/StakeholderProcesses/GeneratorContingency\\_RemedialActionSchemeModeling.aspx](http://www.caiso.com/informed/Pages/StakeholderProcesses/GeneratorContingency_RemedialActionSchemeModeling.aspx).

<sup>4</sup> Information on the flexible ramping product can be found at: <http://www.caiso.com/informed/Pages/StakeholderProcesses/CompletedClosedStakeholderInitiatives/FlexibleRampingProduct.aspx>.

<sup>5</sup> Tariff section 39.6.1.4, as revised in Docket No. ER13-2452.

More recently, the CAISO has implemented additional forecast enhancements. Specifically, the CAISO has implemented a persistency-based real-time forecast for renewable resources with the aim of reducing the latency of the forecast; this is expected to better account for the renewable production closer to the real-time, which in turn may reduce the need for exceptional dispatches due to the uncertainty in dispatches of renewable resources.

Currently, the CAISO is exploring enhancements to its day-ahead market. The contemplated enhancements include proposals to consolidate the integrated forward market with the RUC to better commit resources and reduce the conditions for oversupply. The CAISO is also planning to introduce more granular time intervals in the day-ahead market in order to evolve it from its current hour-by-hour basis to a 15-minute basis; this increased granularity will allow the market to commit and dispatch resources more precisely and account for the steep ramps introduced with the dispatch of renewable resources.<sup>6</sup>

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<sup>6</sup> Information on the day-ahead market enhancements can be found at: <http://www.aiso.com/informed/Pages/StakeholderProcesses/Day-AheadMarketEnhancements.aspx>.



## CERTIFICATE OF SERVICE

I 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 19<sup>th</sup> day of July, 2018.

*/s/ Grace Clark*  
Grace Clark