November 13, 2019

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
July 1 through October 31, 2019

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits the attached informational report to include Exceptional Dispatch data from the period from July 1, 2019 through October 31, 2019. The informational report also provides the status of the CAISO's development of operational and product enhancements that would reduce reliance on Exceptional Dispatch.

In its 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.[1] The 120-day informational report is in addition to the two monthly Exceptional Dispatch reports (Chart 1 and Chart 2 data) the CAISO files in the above-referenced dockets.[2]

[1] *Cal. Indep. Sys. Operator Corp.*, 128 FERC ¶ 61,218, at PP 50-51 (September 2009 Order). 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.

[2] *Id.,* and *Cal. Indep. Sys. Operator Corp.,* 131 FERC ¶ 61,100 (2010).

Please contact the undersigned with any questions regarding this filing.

Respectfully submitted,

By: /s/ Sidney L. Mannheim

Roger E. Collanton
General Counsel
Sidney L. Mannheim
Assistant General Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 608-7144
Fax: (916) 608-7222
smannheim@caiso.com

120-day
Exceptional Dispatch Report

Prepared by

California Independent System Operator

November 13, 2019

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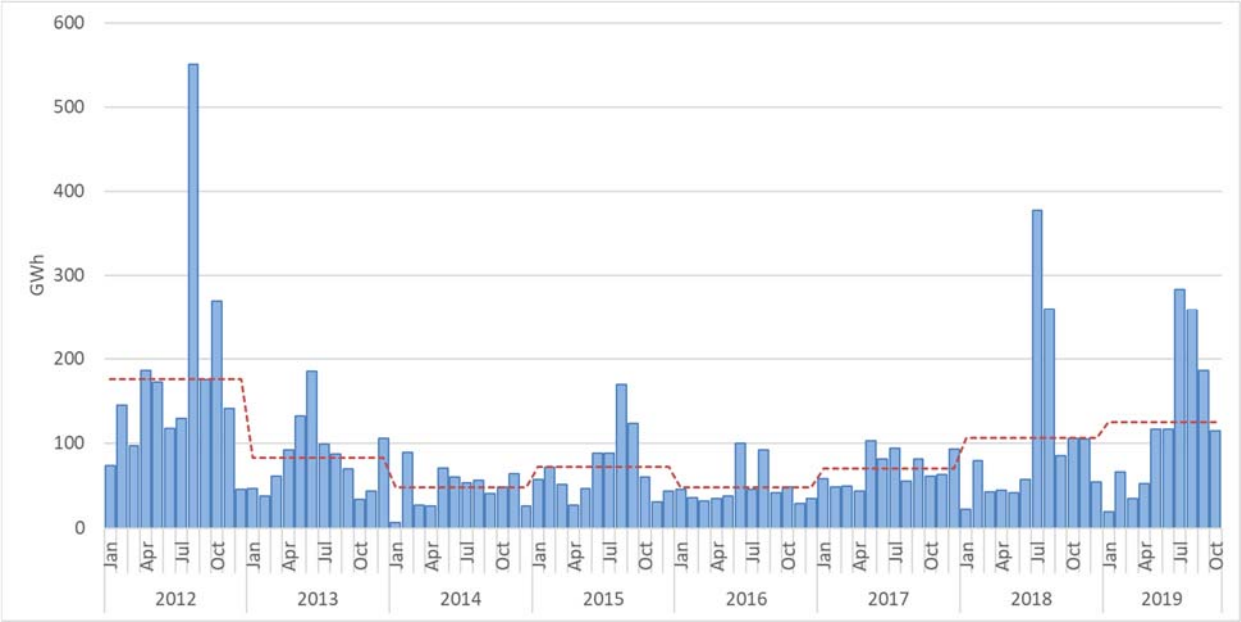
1. Introduction

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 January 2012 through October 2019. This report covers the period of July 1, 2019 through October 31, 2019.[1]

2. Exceptional Dispatch Data and Reports

As shown in Figure 1 below, the average volume of exceptional dispatches for 2019 (through October) is slightly higher than 2018. The yearly average volume has remained relatively stable at low levels for recent years with the exception of peak summer conditions when exceptional dispatches are necessary to manage contingencies as evident from the July – August 2019 volume.

Figure 1: Exceptional Dispatch Volume from January 2012 to October 2019



Specifically, the exceptional dispatch volume increased during the 2019 July – early September time frame due to high temperatures and loads across the system along with fires and ramp conditions in the ISO system. The volume of exceptional dispatches has been reduced since early September 2019. The exceptional dispatch volume then increased slightly during late October 2019 primarily due to planned transmission outages and fire threats, as shown in figure 3.

Other than contingencies, the majority of the exceptional dispatch volumes in July – October 2019 driven by software limitation, load forecast uncertainty, planned transmission outage followed by load pull and operating procedure as shown in the figure 4.

[1] The ISO's 120-day reports are available on the ISO website at: http://www.caiso.com/informed/Pages/RegulatoryFilingsAndOrders.aspx.

Figure 2: Daily Exceptional Dispatch Volume from July 2019 to October 2019

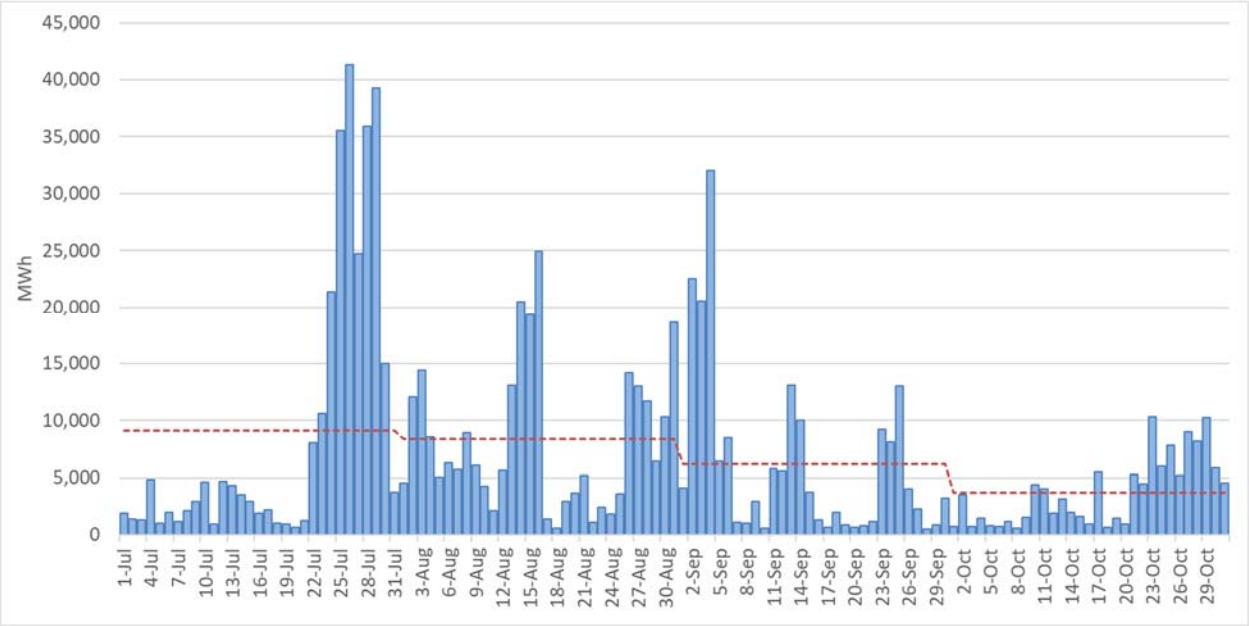


Figure 4, shows the hourly pattern of exceptional dispatch volume for July 2019 to October 2019 and it is shows that load forecast uncertainty is primarily during the evening peak hours from hour ending 15 to 22.

Figure 3: Daily Exceptional Dispatch Volume for July 2019 to October 2019 by Reason

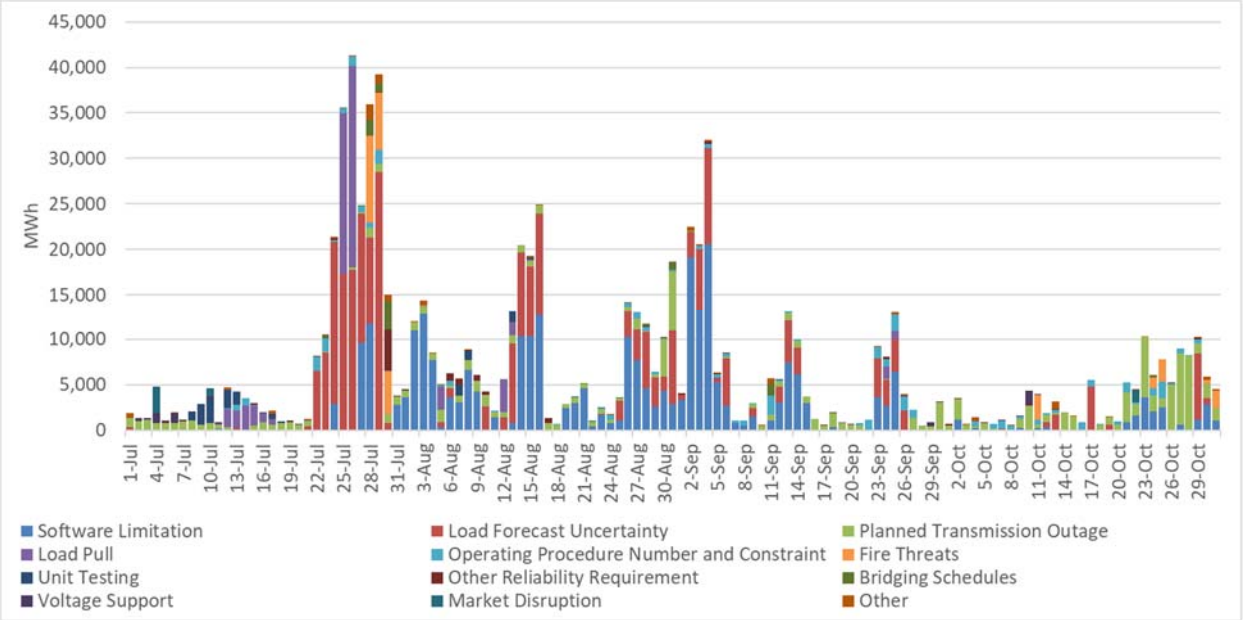
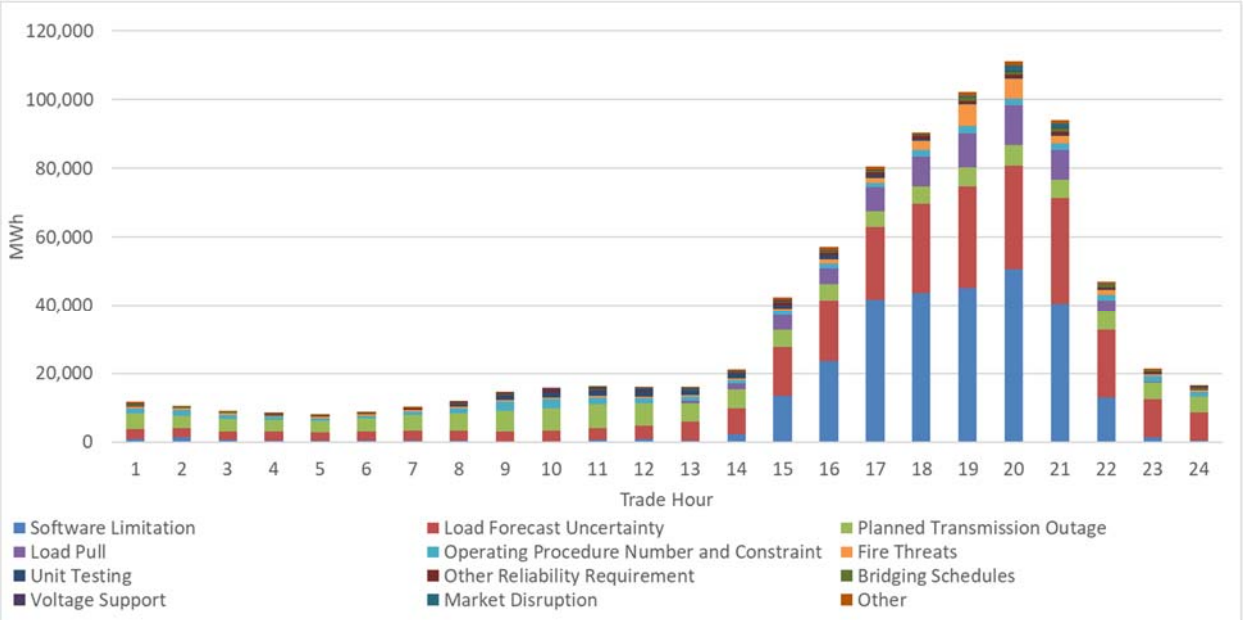


Figure 4: Hourly Exceptional Dispatch Volume for July - October 2019 by Reason



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 15th day of every month and the other report (the Table 2 report) is filed on the 30th 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 July

2019. 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.

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.caiso.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.caiso.com/market/Pages/ReportsBulletins/Default.aspx.

In addition, in order to comply with the FERC Order No. 844, CAISO publishes three reports in order to provide greater transparency regarding how prices reflect the marginal cost of serving load and the operational constraints of reliably operating the system. The monthly reports provide the following information 1) uplift payments by transmission area, 2) uplift payments for each resource, and 3) operator initiated commitments. The uplift payments reflect the exceptional dispatch payments made to the resource. It also includes the excess cost payments that reflect the uplifts associated with exceptional dispatches to address emergency conditions, to avoid market disruption, or to avoid an imminent system emergency. These uplift reports also includes the monthly exceptional dispatch CPM payments. It reflects the payment associated for capacity services under the CPM mechanism for the trading month. The operator initiated commitment report reflects each operator- initiated commitment made during the month by

transmission zone along with the size of the commitment, commitment reason and time period of the commitment.

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.caiso.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 the last 120-day report as well as actions that are currently underway or planned for future implementation.

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 modes 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.[2]

With FERC approval in February, 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.[3] This functionality has been activated in the CAISO markets effective March, 2019. 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.[4] As with the CME and the initiative to model remedial action schemes, the flexible ramping product can help 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

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

[3] Information on the modeling of remedial action schemes can be found at: http://www.caiso.com/informed/Pages/StakeholderProcesses/GeneratorContingency_RemedialActionSchemeModeling.aspx. FERC accepted the tariff amendment to implement the residual action schemes in letter order dated February 28, 2019. *Cal. Indep. Sys. Operator Corp.,* 166 FERC 61,158 (2019).

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

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.[5] Additional decremental bids reduce the need to rely on exceptional dispatch in curtailing generation to manage potential over-generation conditions.

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.[6]

Additionally, CAISO has better defined the reasons regarding exceptional dispatches that would reflect the system conditions more accurately.

[5] Tariff section 39.6.1.4, as revised in Docket No. ER13-2452.

[6] Information on the day-ahead market enhancements can be found at: http://www.caiso.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 13th day of November, 2019.

/s/ Anna Pascuzzo

Anna Pascuzzo