



March 2, 2021

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

INFORMATIONAL FILING-NO NOTICE REQUIRED

**Re: California Independent System Operator Corporation
Informational Readiness Certification for the Los Angeles Department of
Water and Power's Participation in the EIM
Docket No. ER15-861-000**

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits this informational filing in compliance with section 29.2(b)(6) of the CAISO tariff.¹ The CAISO, in consultation with the Los Angeles Department of Water and Power (LADWP), has determined that, following market simulation and an adequate period of parallel operations, the CAISO and LADWP have met all readiness criteria specified in section 29.2(b)(7). In support of this determination the CAISO hereby submits the sworn CAISO affidavit of Khaled Abdul-Rahman, Vice President of Power System and Market Technology, and the sworn LADWP affidavit of Paul R. Schultz, Director of Power External Energy Resources. This filing certifies the readiness of the CAISO and LADWP to proceed with LADWP's participation in the CAISO's Energy Imbalance Market (EIM) on April 1, 2021, without exception, consistent with the requirement to do so at least 30 days prior.

I. Background

The EIM provides other balancing authority areas the opportunity to participate in the real-time market for imbalance energy that the CAISO operates in its own balancing authority area. PacifiCorp's balancing authorities were the first two balancing

¹ The Commission has determined that readiness certifications are considered informational filings and will not be noticed for comment. See *Cal. Indep. Sys. Operator Corp.*, 153 FERC ¶ 61,205 at P 86 and n.173 (2015); see also *Cal. Indep. Sys. Operator Corp.*, 155 FERC ¶ 61,283 at P 8 (2016).

authorities to join the EIM beyond the CAISO balancing authority area. The CAISO's EIM tariff provisions went into effect on October 24, 2014, in time for the first trading day of November 1, 2014.² In a March 16, 2015 order,³ the Commission concluded that certain readiness safeguards are necessary prior to activating a prospective EIM entity in production.⁴ Accordingly, the Commission directed the CAISO to include provisions in its tariff to ensure the readiness of any new EIM entity. The Commission further required that the certification of market readiness include a sworn affidavit from an officer of the CAISO and an officer of the prospective EIM entity attesting that both have prepared and made ready the systems and processes for the new EIM entity to commence financially binding participation in the EIM.⁵ Following two compliance filings, the Commission accepted the CAISO's proposed readiness criteria.⁶ These criteria appear in section 29.2(b)(7) of the CAISO Tariff.

II. Readiness Reporting, Determination, and Attestations

The CAISO and LADWP ran market simulation scenarios from November 3, 2020 to January 29, 2021. Parallel (*i.e.*, financially nonbinding) operations, which began on January 30, 2021, will run through at least March 2, 2021 and, in any event, will continue to be supported and available to LADWP until April 1, 2021. During market simulation and parallel operations the CAISO and LADWP have engaged in daily discussions to track progress and confirm the status of each readiness criterion, and the CAISO has regularly reported on readiness status in market forum discussions and publicly posted a table or "dashboard," showing progress towards meeting the readiness criteria.⁷ The process of updating the readiness dashboard through this joint effort involved representatives from both organizations, including the senior officers who have attested that the parties' processes and systems are ready for LADWP's participation in the EIM.

The market simulation confirmed system functionality and connectivity by identifying issues and software variances in advance of implementation that have since

² See *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,231 (2014) (June 19 Order) (conditionally accepting tariff revisions to implement Energy Imbalance Market); *Cal. Indep. Sys. Operator Corp.*, 149 FERC ¶ 61,058 (2014) (order denying requests for rehearing, granting in part and denying in part requests for clarification, and conditionally accepting tariff revisions on compliance with regard to order listed above); Commission Letter Order, 149 FERC ¶ 61,005 (Oct. 2, 2014) (order granting CAISO request to extend effective date of Energy Imbalance Market tariff revisions from September 23, 2014, to October 24, 2014, for trading day November 1, 2014).

³ *Cal. Indep. Sys. Operator Corp.*, 150 FERC ¶ 61,191 (2015) (March 16 Order).

⁴ *Id.* at P 30.

⁵ *Id.* n.85.

⁶ *Cal. Indep. Sys. Operator Corp.*, 153 FERC ¶ 61,205 (2015).

⁷ More information on the status of these other reports consistent with CAISO tariff section 29.2(b)(8) is available on the CAISO website under the EIM Entities LADWP entry for 2021 at: <http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>.

been resolved. In addition, market simulation permitted the CAISO and LADWP to validate performance of the systems and processes under a variety of structured scenarios. The market simulation dashboard dated January 29, 2021 demonstrated that the CAISO and LADWP were ready to enter parallel operations. Having achieved the benefits from market simulation, the CAISO and LADWP transitioned to parallel operations on January 30, 2021.

The parallel operations phase is designed to test performance of the systems and processes in a financially non-binding environment using historical data and information from production systems to the maximum extent possible. The CAISO and LADWP have engaged in parallel operations to examine capabilities at different times and conditions (morning ramp, evening ramp, low load and peak load). Doing so has permitted LADWP to understand the interaction between resource plans, base schedules, outage management, manual dispatch, and the CAISO full network model. This period has also allowed the CAISO and LADWP to identify and resolve software issues. The dashboard dated February 15, 2021 showed the progress during initial parallel operations as additional readiness criteria were met. The final dashboard, dated February 26, 2021, is included as Attachment A. The dashboard sets forth each of the readiness criteria in the tariff, the metrics by which the CAISO measures satisfaction of the criteria, and the actions or status that demonstrate LADWP's compliance with criteria. The dashboard shows that all readiness criteria have been satisfied or will be satisfied by April 1, 2021.

Section 29(b)(6) requires that a senior officer of the CAISO and a prospective EIM entity attest (1) that the processes and systems of the prospective EIM Entity have satisfied or will have satisfied the readiness criteria set forth in section 29.2(b)(7) as of the Implementation Date; (2) to any known issues requiring resolution prior to the Implementation Date in accordance with section 29.2(b)(8); (3) to any exceptions from the established thresholds specified in the Business Practice Manuals, and that despite such exceptions the criteria were met or will be met as specified in 29.2(b)(7); and (4) that the Implementation Date is conditional on the resolution of the known issues identified in the certificates and any unforeseen issues that undermine the satisfaction of the readiness criteria. Attachments B and C, respectively, contain the sworn CAISO affidavit of Khaled Abdul-Rahman, Vice President of Power System and Market Technology and the sworn LADWP affidavit of Paul R. Schultz, Director of Power External Energy Resources in satisfaction of this requirement.

The affidavits are based upon the engagement by these senior officers in assessing the readiness criteria as reported in the dashboard, including supporting documentation. The CAISO believes that the market simulation and parallel operations to date demonstrate that LADWP is prepared to enter financially binding production EIM operations on April 1, 2021. As discussed in the Market Quality Report included as Attachment D, any issues identified in the parallel operations have been resolved or will be resolved. Neither the CAISO nor LADWP has identified any exception to any of the readiness criteria.

III. Market Quality Report on Parallel Operations

Parallel operations allowed the CAISO and LADWP to identify and resolve numerous input, process, and software issues prior to the commencement of financially binding operations.⁸ The CAISO and LADWP worked diligently during parallel operations to identify the cause of the infeasibilities that arose. The attached Market Quality Report indicates that the majority of the power balance infeasibilities identified during the period of parallel operations associated with the readiness determination were valid. These infeasibilities largely appear to have resulted from the challenge of operating a parallel environment while balancing the system in real-time, and will benefit from the six-month transition period for new EIM entities when the operators have the opportunity to fully understand the EIM dynamics and focus their response in a more timely manner. The report also demonstrates that the remainder of power balance infeasibilities were caused by input data issues, some of which are unique to the parallel operations environment and software issues, all of which have been or will be resolved by the implementation date.

The CAISO validated both prices and schedules based on the data input to the market systems throughout the first 17 days of parallel operations. This validation demonstrates that the market solution produced is as expected and consistent with the market rules as designed based on the input data. The analysis conducted for the report accounts for the fact that input data may be influenced by limitations inherent in the parallel operations environment and these limitations may affect the quality of the solution. When factors affecting the input data are controlled for, the numerical quality of the market solution is good and indicates that the systems and processes of LADWP are ready to operate in production.

⁸ The market quality report on parallel operations dated February 26, 2021 explains how each of these issues impacted the market results and how they were resolved by the CAISO and LADWP or will be resolved prior to the implementation date.

IV. Attachments

Besides this transmittal letter, this filing includes these attachments:

- Attachment A: Readiness Dashboard Report
- Attachment B: Affidavit of Khaled Abdul-Rahman
- Attachment C: Affidavit of Paul R. Schultz
- Attachment D: Parallel Operations Market Quality Report

V. Conclusion

The CAISO respectfully requests that the Commission accept this certification as consistent with section 29.2(b)(6) of the CAISO tariff. The CAISO or LADWP will notify the Commission in the event of any subsequent determination that the implementation of LADWP into the EIM on April 1, 2021 should be delayed, the reason for the delay, the new implementation date if it can be determined, and whether a portion or all of this certification needs to be reissued.

Respectfully submitted,

By: /s/ John C. Anders

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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, CA this 2nd day of March, 2021.

/s/ Jacqueline Meredith

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