

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

California Independent System) Docket No. ER15-____-000
Operator Corporation)

PETITION FOR LIMITED TARIFF WAIVER

The California Independent System Operator Corporation (“CAISO”) respectfully requests that the Commission grant a waiver, from November 1, 2014, through November 13, 2014, inclusive, of the applicability of section 27.4.3.2 and the second sentence of section 27.4.3.4 of the CAISO tariff to constraints that are within PacifiCorp’s balancing authority areas or otherwise affect Energy Imbalance Market (or “EIM”) transfers between those balancing authority areas.¹ The waiver, if granted, would provide the same relief during this period as the tariff waiver that the Commission previously granted for a 90-day period beginning November 14, 2014.² This new petition, however, is distinct from the petition the CAISO filed on November 13, 2014, because it covers a time period that was not within the scope of the CAISO’s initial request. The CAISO proposed the initial waiver request to address future price excursions that it anticipated based on initial market outcomes observed from commencement of the full market operation of the Energy Imbalance Market on November 1, 2014,

¹ The CAISO submits this petition for waiver pursuant to Rule 207 of the Commission’s Rules of Practice and Procedure, 18 C.F.R. § 385.207. Capitalized terms not otherwise defined herein have the meanings set forth in the CAISO tariff.

² See *Cal. Indep. Sys. Operator Corp.*, 149 FERC ¶ 61.194 (“December Waiver Order”).

through November 13, 2014. When it filed its first petition, the CAISO had not completed price corrections for the November 1 through 13 period and the CAISO understood that it was possible the observed price impacts could be addressed through price corrections. The CAISO has now completed all the price corrections it is authorized to make under its existing tariff authority for that period, and it has determined that, but for the waiver requested in this petition, prices for the November 1 through 13 period will continue to remain high and not reflective of actual market and operational conditions.

The tariff provisions for which the CAISO seeks a waiver establish the price for energy in circumstances where the CAISO's market clearing software must relieve modeled constraints, such as transmission or system balance constraints, in order to clear the market using effective economic bids. The requested waiver allows the CAISO to price energy in PacifiCorp's balancing authority areas using the economic pricing mechanism that normally governs under the CAISO tariff (sections 27.1.1, 34.20 and Appendix C) in such circumstances, *i.e.*, to clear the real-time market based on the marginal economic bid instead of the \$1000/MWh pricing parameter specified in Sections 27.4.3.2 and 27.4.3.4. The CAISO believes this limited waiver is necessary to address the remaining unjust and excessive prices.

I. Summary

As the CAISO explained in its previous request for a waiver, during the initial implementation of the Energy Imbalance Market, which commenced on November 1, 2014, there were transitional conditions that restricted the timing

and amount of capacity available through the market clearing process. These conditions caused the transmission and system energy-balance constraints described in sections 27.4.3.2 and 27.4.3.4 of the CAISO tariff to bind more frequently than expected, producing atypically high prices in the fifteen-minute and five-minute markets in the PacifiCorp EIM entity's balancing authority areas. The CAISO determined that system conditions, operations processes, the current level of EIM participating resources, and the new operating environment were complicating the timing of, and restricting the amount of, effective economic bids necessary to relieve the constraints. As explained below, when these constraints are binding, the market optimization applies the pricing parameters specified in sections 27.4.3.2 and 27.4.3.4 of the CAISO tariff, which are pegged to the maximum energy bid cap, thereby creating high prices during some intervals. These anomalies caused significant price excursions during the first two weeks of Energy Imbalance Market full operation. Granting the requested waiver will avoid imposing these unnecessary and unrepresentative high prices on Energy Imbalance Market participants, which includes PacifiCorp's transmission customers taking imbalance service pursuant to Schedules 4 and 9 of PacifiCorp's Open Access Transmission Tariff ("OATT").

As demonstrated below, this request satisfies the Commission's requirements for tariff waivers. Granting the waiver will address a specific market issue that has caused the unnecessary and unrepresentative high prices. The waiver will also be of limited scope and will have no undesirable consequences; nor will it impact other aspects of the market clearing process or results.

II. Background

A. Relevant Pricing Parameters under the CAISO Tariff

As the CAISO explained in its first waiver request, the CAISO operates the series of CAISO markets processes that include a day-ahead and real-time market, using a set of integrated optimization programs. These programs include security constrained unit commitment and security constrained economic dispatch.³ In instances where effective economic bids are sufficient to allow a feasible market solution, CAISO market participants pay or receive the applicable fifteen-minute market or real-time dispatch locational marginal price (“LMP”). The market clearing software determines these prices using the dispatch interval LMPs.⁴ In some cases, however, because of transmission constraints or insufficient supply, there are insufficient effective economic bids to allow a feasible solution. In such cases, based on certain scheduling parameters, the optimization software will adjust non-priced quantities, which may include relaxation of the transmission constraints or system energy-balance constraint, to enable the software to reach a feasible solution with effective economic bids.⁵

The CAISO tariff specifies pricing parameters that are the basis for pricing energy in instances where the market clearing software adjusts one or more non-

³ Tariff section 27.4.

⁴ Tariff section 34.20.1. Real-time market transactions are settled at the dispatch interval LMPs in accordance with tariff section 11.5. Tariff section 34.20.2.2.

⁵ Tariff section 27.4.3.

priced quantities.⁶ This petition for limited tariff waiver concerns the following two sections of the CAISO tariff, which specify pricing parameters:

- (1) Tariff section 27.4.3.2 states that, for the purpose of determining how the relaxation of a transmission constraint will affect the determination of prices in the integrated forward market and real-time market, the pricing parameter of the transmission constraint being relaxed is set to the maximum energy bid price specified in tariff section 39.6.1.1.⁷
- (2) Tariff section 27.4.3.4 states that, in the real-time market, if energy offers are insufficient to meet the CAISO forecast of CAISO demand, the software will relax the system energy-balance constraint and use a pricing parameter set to the maximum energy bid price specified in tariff section 39.6.1.1 for price-setting purposes.⁸

Tariff section 39.6.1.1 states that the maximum energy bid price is \$1,000/MWh.

⁶ *Id.* The pricing parameters are specified in tariff sections 27.1.2.3, 27.4.3.2, 27.4.3.3, and 27.4.3.4. The complete set of pricing parameters used in all CAISO markets is maintained in the Business Practice Manuals. *Id.*

⁷ Also, the second sentence of tariff section 27.4.3.2 states that the corresponding pricing parameter used in the residual unit commitment is set at the maximum residual unit commitment availability bid price specified in tariff section 39.6.1.2. However, this petition for tariff waiver does not seek waiver of that provision in section 27.4.3.2.

⁸ This petition for tariff waiver does not seek waiver of the first sentence of section 27.4.3.4, which states that, in the real-time market, in the event that energy offers are insufficient to meet the CAISO forecast of CAISO demand, the software will relax the system energy-balance constraint.

B. Effects of the Relevant Pricing Parameters on the Implementation of the Energy Imbalance Market

The Energy Imbalance Market 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 authority areas (PacifiCorp East and PacifiCorp West), both of which are administered by the PacifiCorp EIM entity, are the first two to join the Energy Imbalance Market. To prepare for implementation of the Energy Imbalance Market, the CAISO and PacifiCorp established operations and technology implementation teams in addition to preparing and training the personnel that would operate the systems. The CAISO's market rules went into effect on October 24, 2014, for the first trading day November 1, 2014,⁹ and the teams have been effectively deployed on a 24-hour/7-day basis since implementation.

The CAISO and PacifiCorp subsequently identified three primary types of circumstances that affected market outcomes, as well as the timing and amount of resource capability and flexibility that PacifiCorp was able to provide to the Energy Imbalance Market. These factors were particularly significant because, unlike some of the data or software concerns identified during startup and subsequent intervals, these sorts of circumstances were less likely to be subject to the CAISO's normal price correction procedures.

⁹ See *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,231 (2014) (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).

Although the implementation teams had adjusted their respective operational and business processes to conform to the requirements of the Energy Imbalance Market and had undertaken market simulations and operation in non-production environment to prepare their operations for the requirements of the Energy Imbalance Market structure, they had not identified all of the process changes, procedures, and tools necessary to sustain stable market operations in this new environment.

In addition, the resources available to PacifiCorp for use at start-up of the Energy Imbalance Market were limited. Several resources had not yet received the necessary metering upgrades due to various outage schedule limitations, which prevented PacifiCorp from making these resources available in the initial pool of resources participating in the Energy Imbalance Market. For instance, some resources are subject to multiple ownership rights and have contractual issues that needed to be resolved to enable their participation in the Energy Imbalance Market. Further, third-party participating resources in PacifiCorp's balancing authority areas have not yet begun participating in the Energy Imbalance Market, which further limits the pool of available resources.

Moreover, the PacifiCorp East and PacifiCorp West balancing authority areas experienced several forced outages of PacifiCorp's large EIM participating resources during the initial market operation, which led to short-term supply deficiencies in the market. While outages are not necessarily uncommon, these outages quickly exacerbated an already tight supply and contributed to price increases in the associated intervals. In addition, while PacifiCorp operations

accounted for the outages by responding to system conditions, these actions were not always communicated in a timely manner to the market. Without such information, the market results did not necessarily reflect physical conditions on PacifiCorp's system.

C. Initial Request for Limited Waiver

To address the circumstances described above, on November 13, 2014, the CAISO requested that the Commission grant a limited waiver of CAISO tariff section 27.4.3.2 and the second sentence of 27.4.3.4 such that the CAISO would retain the ability to relax the constraints described in those sections but would not apply the pricing parameter establishing the price at the maximum energy bid price of \$1,000/MWh. Instead, under the requested waiver the CAISO would use the pricing mechanism that applies when effective economic bids are sufficient to allow a feasible market solution, *i.e.*, market participants will pay or receive the applicable fifteen-minute market or real-time dispatch locational marginal price, as determined using the dispatch interval locational marginal prices, consistent with Sections 27.1.1, 34.20, and Appendix C of the CAISO tariff.¹⁰ The CAISO requested that the waiver be restricted to constraints within the PacifiCorp East and PacifiCorp West balancing authority areas, and those that affect EIM transfers between those two Energy Imbalance Market areas. The waiver would not apply to constraints within the CAISO balancing authority area or to EIM

¹⁰ To effectuate this price discovery, it is also necessary to adjust the penalty price for the flexible ramping constraint parameter for the EIM balancing authority area in order to allow the market software to discover the marginal energy bid price that will set the locational marginal price, to avoid otherwise setting the price at the constraints parameter.

transfers between the CAISO balancing authority area and any of the EIM balancing authority areas.

In comments on the CAISO's waiver request, three intervenors asked that the Commission make the waiver effective November 1, 2014, coincident with the commencement of Energy Imbalance Market full operation. The CAISO itself had not requested that the waiver apply to the November 1 through 13, 2014 period, but responded in its answer that it did not object to the earlier effective date. On December 1, 2014, the Commission granted the CAISO's requested waiver, but did not make it effective on November 1, 2014, because the CAISO had not requested that the waiver be made effective on that date in its petition.¹¹ The Commission noted its expectation that some of the pricing anomalies would be subject to correction under CAISO's existing price correction procedures, and that this could mitigate the impacts of pricing anomalies experienced during the first two weeks of EIM operations.¹²

D. Impact of Price Excursions during the November 1 through 13 Period

The CAISO has now completed the price corrections for that time period to the extent permissible under its existing tariff authority and has determined that a substantial portion of the pricing anomalies could not be mitigated through

¹¹ December Waiver Order at P 22.

¹² *Id.* at p 24. Because the CAISO did not previously request a waiver for the period of November 1 through November 13, 2014, this filing does not challenge the Commission's previous denial of the intervenors' requests. In the event that the Commission nonetheless concludes otherwise, the CAISO requests that the Commission deem this filing a request for rehearing of the December Waiver Order. The demonstration in this petition that waiver for that period is just and reasonable also constitutes sufficient grounds for the Commission to conclude that it erred when it failed to grant the requests of intervenors Deseret Generation & Transmission Co-operative, Utah Associated Municipal Power Systems, and PacifiCorp to grant that request in the Order.

the existing tariff provisions. Prices during the first two weeks of Energy Imbalance Market implementation were significantly different than prices would be if they more closely reflected actual system and market conditions. Figures 1 and 2 show the hourly prices as they currently stand for PacifiCorp East and West, respectively, and what they would be like if adjusted under the requested waiver. The blue line shows the prices as they are currently posted on Open Access Same-time Information System (OASIS). The red line shows prices calculated by the market software per the waiver received on December 1, which was implemented on December 1, and adjusted back to November 14 consistent with the December Waiver Order. The red line also shows what the prices for the November 1 through 13 period would be if corrected based on estimates using the pricing data for the November 14 through 30th period that were already adjusted per the December Waiver Order.

Figure 1: Real-time Dispatch Hourly Prices (PacifiCorp East)

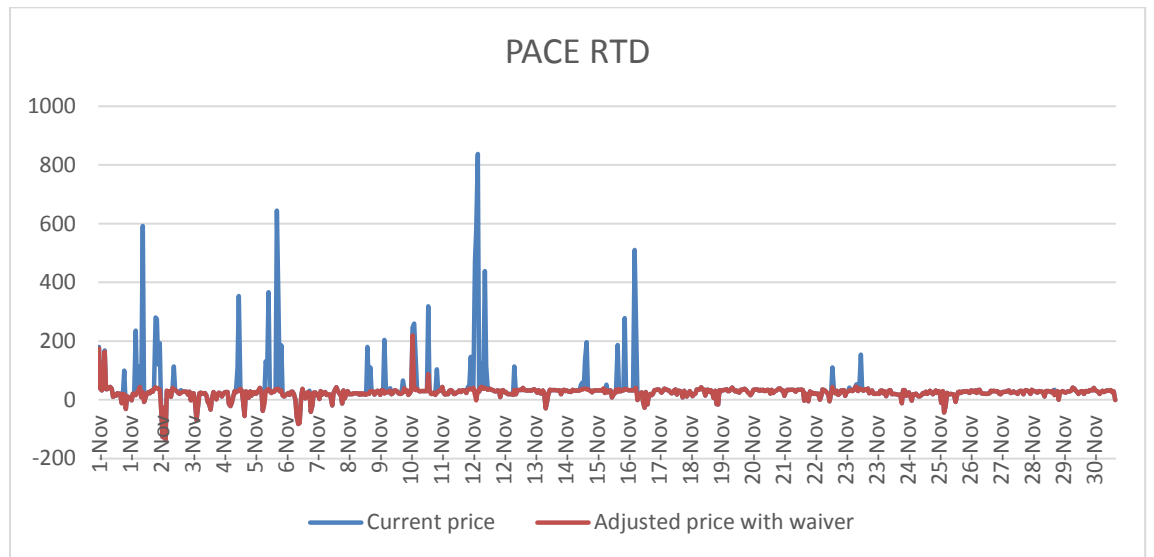
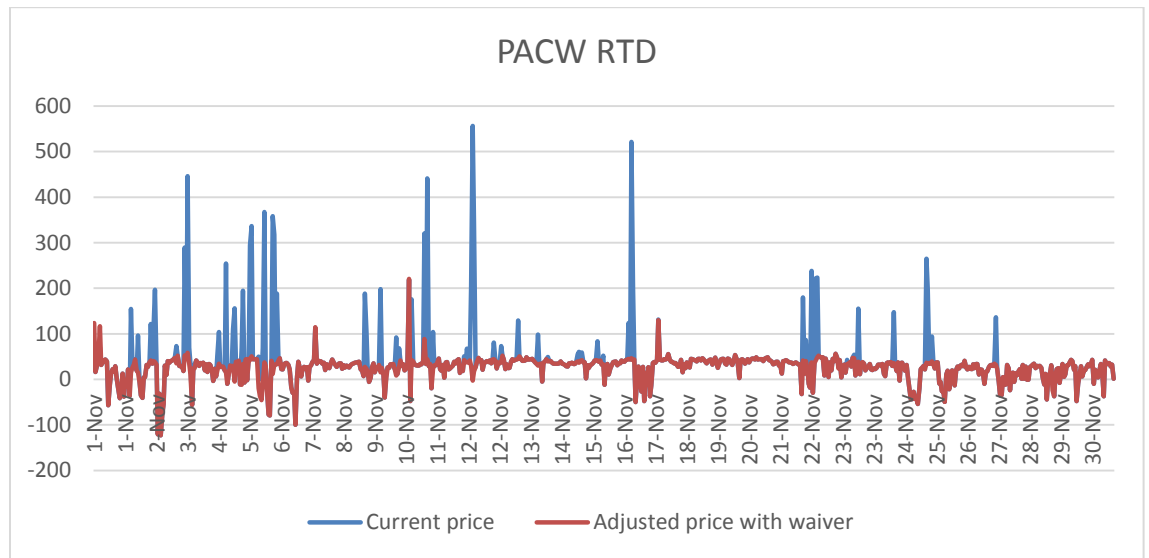


Figure 2: Real-time Dispatch Hourly Prices (PacifiCorp West)



PacifiCorp’s third-party transmission customers taking service under Schedules 4 and 9 of PacifiCorp’s OATT do not have the option to decline service pursuant to PacifiCorp’s Schedule 4 for load imbalance or Schedule 9 for generator imbalance. These customers are subject to the cost of imbalance energy based on the LMPs produced by the CAISO through the Energy Imbalance Market. As such, absent the pricing relief being requested here, it is CAISO’s understanding that these customers will have no other pricing mitigation available to them and will be subject to significant imbalance settlements.

One example of such a customer that faces such exposure is Deseret Generation & Transmission Co-operative, Inc. (“DGT”). While PacifiCorp has not yet issued a settlement statement to collect these charges, it has estimated that DGT’s imbalance service settlement charges for the November 1 through November 13 period using the current posted prices total approximately

\$770,000. In contrast, for November 14 through the 30th, when prices were adjusted based on the December Waiver Order, DGT is subject only to an estimated \$22,000 charge for the two-week period. The stark difference in imbalance energy cost exposure is due to the abnormal prices still in place for November 1-13.¹³ Further, it is estimated that if the prices were allowed to be adjusted as requested, DGT imbalance energy costs for the period of November 1 through 13 would be approximately \$160,000, indicating there was at least a \$610,000 cost exposure during the November 1 through 13 period.

While CAISO understands that PacifiCorp's calculations are preliminary, limited to an example customer, and subject to revision for final invoicing, these preliminary calculations nevertheless illustrate the magnitude of the impacts at issue on certain of PacifiCorp's captive transmission customers subject to PacifiCorp's Schedule 4 and 9 service. There may be transmission customers whose actual loads were less than what was included in their base schedules, and these customers would receive payments based on the current anomalous prices, based on PacifiCorp's estimates. As an example, based on PacifiCorp's estimates, one customer would receive a payment of approximately \$66,000 for the November 1 through 13 period and, if adjusted similarly to how prices were adjusted for the November 14 through 30 period, they would receive a lower payment of approximately \$43,000. However, the higher payment is based on

¹³ The information in these two examples was provided to the CAISO by PacifiCorp. With their representation that DGT has authorized the use of these preliminary settlement estimates for the purpose of this filing.

anomalous pricing, the burden of which is borne by a small number of customers such as DGT.

III. Waiver Request

This determination, based on operational experience, that a substantial portion of the pricing anomalies could not be mitigated through the existing tariff provisions, constitutes a significant change of facts and circumstances, from what was known or could have been presented at the time of the original petition for a tariff waiver. Furthermore, at the time of the original waiver, the estimated impact of original pricing anomalies on all parties was not known. In light of the extent of the impact of the price excursions remaining after price correction, the Commission should grant the waiver and allow parties to be subject to more reasonable pricing and avoid the undue harm that would otherwise remain for entities such as DGT.

The prices posted on the CAISO's OASIS are no longer subject to price corrections, consistent with Section 35.2 of the CAISO's tariff. Section 35.3 of the CAISO tariff states that the CAISO will correct prices and further modify published prices after the timelines specified in Section 35.2, if so directed by the Federal Energy Regulatory Commission. If granted, this Commission's order granting the requested waiver will serve as the requisite order to modify the prices posted on OASIS outside of the time-frames specified in Section 35.2 of the CAISO tariff.

A. The Request Is Consistent with the Commission's Criteria for Granting a Waiver.

The Commission has previously granted requests for tariff waivers in situations where (1) the waiver is of limited scope; (2) a concrete problem needed to be remedied; and (3) the waiver did not have undesirable consequences, such as harming third parties.¹⁴ This request, like the previous request, satisfies all three elements. Therefore, good cause exists to grant the CAISO's request for waiver.

First, the waiver will be of limited scope. It will only affect the pricing of energy during those intervals when the CAISO relaxed a transmission constraint or system-energy balance constraint in or between the EIM balancing authority areas. Further, the waiver applies only for a 13-day period in the past.

Second, the waiver will address a concrete problem that needs remedying. The circumstances that the CAISO and PacifiCorp have identified resulted in pricing anomalies in the PacifiCorp EIM Entity's balancing authority areas during the period for which the CAISO seeks a waiver. Granting the waiver will allow the CAISO to resettle the price of energy during the intervals in which the market application relaxed a transmission constraint or system-energy balance constraint in the real-time Energy Imbalance Market using the applicable fifteen-minute market or real-time dispatch locational marginal price, as determined using the dispatch interval locational marginal prices, rather than the

¹⁴ See, e.g., *N.Y. Indep. Sys. Operator, Inc.*, 146 FERC ¶ 61,061, at P 19 (2014); *PJM Interconnection, L.L.C.*, 146 FERC ¶ 61,041, at P 5 (2014); *PJM Interconnection, L.L.C.*, 141 FERC ¶ 61,103, at P 8 (2012); *N.Y. Indep. Sys. Operator, Inc.*, 139 FERC ¶ 61,108, at P 14 (2012); *ISO New England Inc.*, 134 FERC ¶ 61,182, at P 8 (2011); *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,004, at P 10 (2010).

maximum energy bid price of \$1,000/MWh. This will allow the CAISO, as with the previous waiver, “to price energy in the PacifiCorp [balancing authority areas] in a manner that better reflects actual physical and competitive situations.”¹⁵

The waiver is the only mechanism available to CAISO to address this problem. In denying the intervenors’ requests for an earlier effective date, the Commission noted that “some of the pricing anomalies will be subject to correction under CAISO’s existing price correction procedures, which may mitigate the impacts of pricing anomalies experienced during the first two weeks of EIM operations.”¹⁶ As discussed above, the CAISO has now completed price corrections for that period, and the impact of the price excursions on PacifiCorp’s customers remains very significant. The CAISO and PacifiCorp continue to work to resolve the circumstances that gave rise to the price excursions, some of which continue to exist. The CAISO is also currently considering with stakeholders a similar approach for all EIM entities as part of its year-one enhancement effort.¹⁷ To avoid the same issues experienced with the implementation of the first EIM, the transitional period would apply for all EIM entities during their respective first year of operations under the EIM. Neither resolution of the existing issues or implementation of the transitional period (if approved by the Commission), however, would provide relief to PacifiCorp’s

¹⁵ December Waiver Order at 23.

¹⁶ *Id* at P 24.

¹⁷ See *CAISO Draft Final Proposal: Energy Imbalance Market Transition Period*, December 15, 2014, http://www.caiso.com/Documents/DraftFinalProposal_EIMTransitionPeriod.pdf.

customers such as DGT from the financial consequences, now observed, of the anomalous pricing for the November 1 through 13, 2014, period.

Finally, the waiver will have no undesirable consequences, such as harming third parties. The waiver will affect prices in EIM Entity balancing authority areas only and will not apply to prices in the CAISO balancing authority area. To date, the price excursions described above have resulted in EIM transfers of energy to or from PacifiCorp's balancing authority areas, as intended by the design, but the EIM transfers have not propagated price excursions in other balancing authority areas. In addition, to the extent parties receive lower payments for their imbalance energy, the current payments are unjust and unreasonable as they are based on prices that do not reflect system and market conditions. Moreover, to allow such windfalls when entities such as DGT bear the burden of these anomalous pricing outcomes, is not just and reasonable.

IV. Retroactive Application Is Consistent with Commission Precedent.

The CAISO requests that the Commission make the waiver effective from November 1, 2014, to November 13, 2014. The retroactivity is necessary to correct the unjust and unreasonable pricing anomalies resulting from the transition to the EIM. In a similar situation, the Commission retroactively waived penalties for violation of the CAISO's new demand forecast requirements when unexpected technical issues precluded Scheduling Coordinators from compliance with the requirements.¹⁸ In another instance, when the CAISO sought to investigate the reasons that so many resources were failing its

¹⁸ *Cal. Indep. Sys. Operator Corp.*, 121 FERC ¶ 61,011 (2007).

minimum performance criteria, the Commission agreed to retroactively waive those criteria in order to avoid the decertification of numerous resources.¹⁹

Relieving PacifiCorp and its customers of the financial consequences of unforeseeable circumstances that arose during the initial implementation of the EIM is consistent with this precedent.

V. Service

The CAISO has served copies of this filing upon the California Public Utilities Commission and all parties with effective scheduling coordinator service agreements under the CAISO tariff. In addition, the CAISO has posted this filing on its website.

VI. Correspondence

The CAISO requests that all correspondence, pleadings, and other communications concerning this filing be served upon the following:

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VII. Conclusion

For the foregoing reasons, the CAISO requests that the Commission grant a limited waiver of CAISO tariff section 27.4.3.2 and the second sentence of

¹⁹ *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,132 (2014).

section 27.4.3.4 as discussed above effective from trade day November 1, 2014,
through trade day November 13, 2014.

Respectfully submitted,

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Counsel for the California Independent System Operator Corporation

Dated: December 31, 2014

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all of the parties listed on the official service list for the above-referenced proceeding, 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 31st day of December, 2014.

/s/ Sarah Garcia
Sarah Garcia