



July 11, 2022

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

**Re: California Independent System Operator Corporation  
Docket No. ER15-2565-\_\_\_\_  
May 2022 Informational Report  
Western Energy Imbalance Market – Transition Period Report –  
Tacoma Power WEIM Entity**

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) hereby submits its report on the transition period of Tacoma Power WEIM Entity during its first six months of participation in the Western Energy Imbalance Market (WEIM) for May 1, 2022 through May 31, 2022. The Commission also directed the Department of Market Monitoring (DMM) to submit an independent assessment of the CAISO's report, which the CAISO's DMM will seek to file within approximately 15 business days.

Please contact the undersigned with any questions.

Respectfully submitted

**By: /s/ John Anders**

Roger E. Collanton  
General Counsel  
John Anders  
Assistant General Counsel  
California Independent System  
Operator Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Tel: (916) 608-7182  
Fax: (916) 608-7222  
[janders@caiso.com](mailto:janders@caiso.com)



# California ISO

**Western Energy Imbalance Market**

**May 1 - May 31, 2022**

**Transition Period Report**

**Tacoma Power (TPWR) WEIM Entity**

July 11, 2022

## I. Introduction and Background

On October 29, 2015, the Federal Energy Regulatory Commission (Commission) approved the California Independent System Operator Corporation's (CAISO) proposed tariff amendments to allow a transition period for new Western Energy Imbalance Market (WEIM) entities during the first six months of WEIM participation, effective November 1, 2015.<sup>1</sup> Tacoma Power (TPWR), the prospective WEIM Entity entered the WEIM on March 02, 2022, and the transition period will apply to the TPWR balancing authority area (BAA) until August 31, 2022.<sup>2</sup>

During the six-month transition period, the price of energy in the new WEIM entity's BAA is not subject to the pricing parameters that normally apply when the market optimization relaxes a transmission constraint or the power balance constraint. Instead, during the six-month transition period, the CAISO will clear the market based on the marginal economic energy bid (referred to herein as "transition period pricing"). In addition, during the six-month transition period, the CAISO sets the flexible ramping constraint relaxation parameter for the new WEIM entity's BAA between \$0 and \$0.01, but only when the power balance or transmission constraints are relaxed in the relevant WEIM BAA. This is necessary to allow the market software to determine the marginal energy bid price.

Consistent with the Commission's October 29 Order, the CAISO and the Department of Market Monitoring (DMM) will file informational reports at 30-day intervals during the six-month transition period for any new WEIM entity. The CAISO provides this report for TPWR to comply with the Commission's requirements in the October 29 Order. The CAISO anticipates filing these reports on a monthly basis. However, because the complete set of data is not available immediately at the end of the applicable month,<sup>3</sup> and depending on the market performance each month, along with the need to coordinate with the WEIM entity, the CAISO expects to continue to file the monthly reports approximately 25 days after the end of each month in order to provide the prior full month's data.

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<sup>1</sup> *California Indep. Sys. Operator Corp.*, 153 FERC ¶ 61,104 (2015) (October 29 Order).

<sup>2</sup> This follows from the application of CAISO Tariff section 27(b)(1), which refers to a number of months rather than a number of days.

<sup>3</sup> The earliest the CAISO can start gathering the data is 10 business days after the last day for the reporting month since this is when the price correction window expires.

## II. Highlights

Overall, TPWR's third month of WEIM operation was uneventful. The market performance highlights for May are as follows:

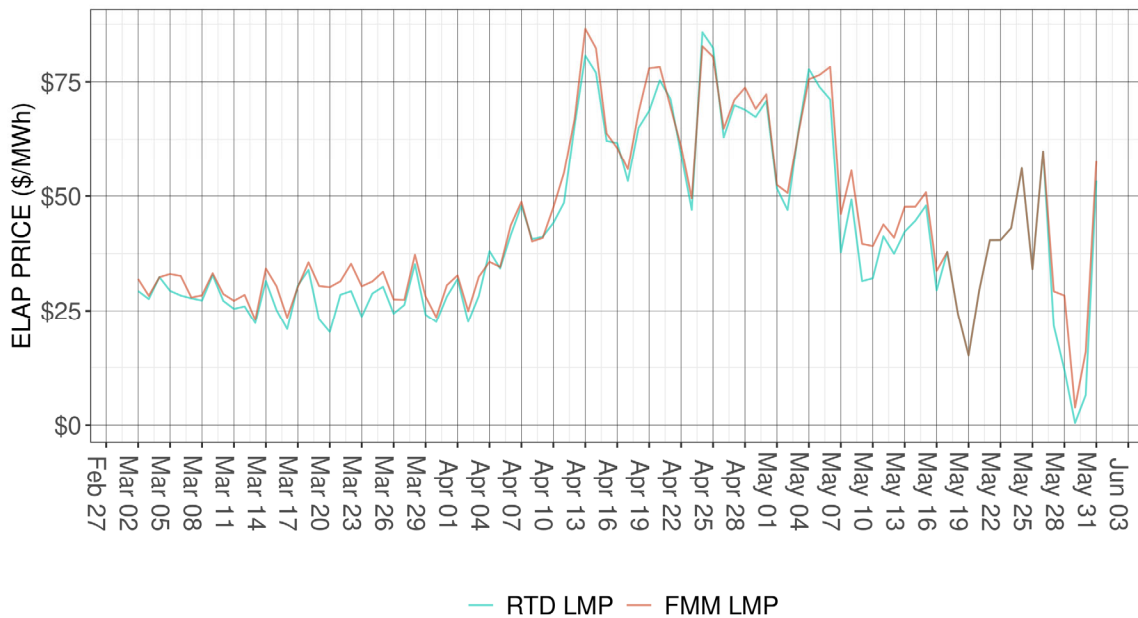
- Prices were stable and within reasonable ranges for TPWR BAA, with a monthly average price of \$43.8/MWh in the fifteen-minute market (FMM) and \$40.45/MWh in the real-time dispatch (RTD).
- TPWR BAA observed no infeasibility for undersupply in the fifteen-minute and five infeasibilities in the five-minute market.
- As part of the resource sufficiency test performed for each WEIM entity prior to the real-time markets, TPWR successfully passed over 99.6 percent of its balancing tests and 99.83 percent of its bid-range capacity tests.
- As part of the resource sufficiency test, TPWR passed successfully 99.87 percent of its upward flexible ramping sufficiency tests.
- The price for upward flexible ramping capacity in the FMM for the TPWR BAA averaged at \$0.26/MWh, while prices for the downward flexible ramping product averaged \$0.06/MWh.

**III. Market Performance Related to the Transitional Period**

**a. Prices**

Figure 1 shows the daily average Fifteen-Minute Market (FMM) and Real-Time Dispatch (RTD) prices in the TPWR WEIM Load Aggregation Point (ELAP) for March 02, 2022 to May 31, 2022. May’s monthly average price in the FMM was \$43.8/MWh and \$40.45/MWh in the RTD.

**Figure 1: Daily average prices for the TPWR BAA**

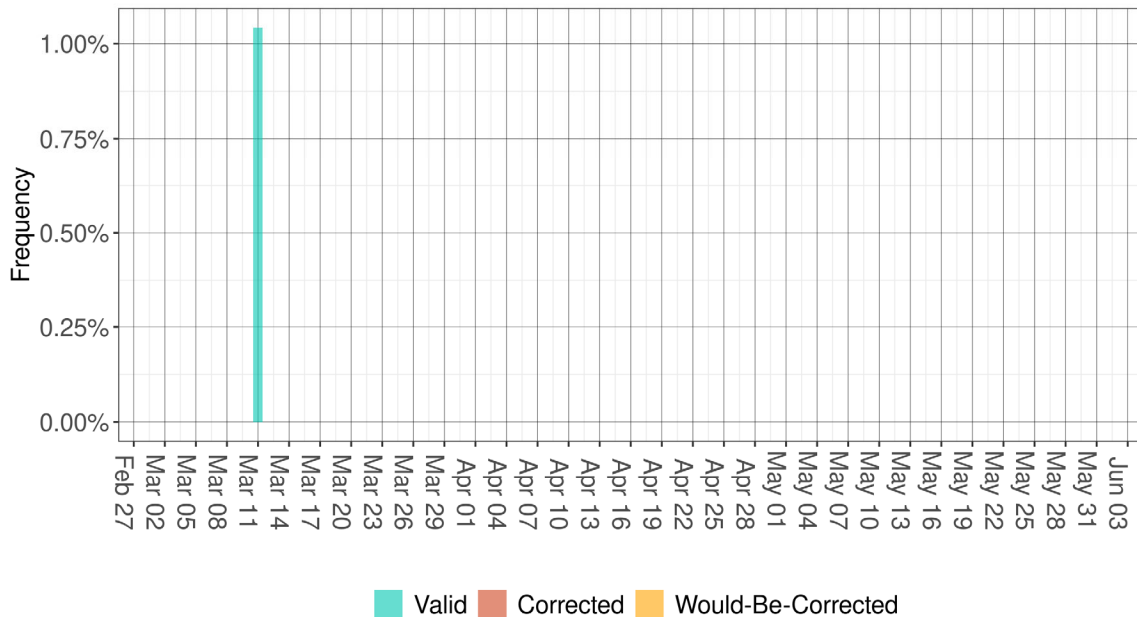


Under the CAISO’s price correction authority in Section 35 of the CAISO tariff, the CAISO may correct prices posted on its Open Access Same-Time Information System (OASIS) if it finds: (1) that the prices were the product of an invalid market solution; (2) the market solution produced an invalid price due to data input failures, hardware or software failures; or (3) a result that is inconsistent with the CAISO tariff. The prices presented in Figure 1 include all prices produced by the CAISO consistent with its tariff requirements. That is, the trends represent: (1) prices as produced in the market that the CAISO deemed valid; (2) prices that the CAISO could, and did, correct pursuant to Section 35 of the CAISO tariff; and (3) any prices the CAISO adjusted pursuant to the transition period pricing reflected in Section 29.27 of the CAISO tariff.

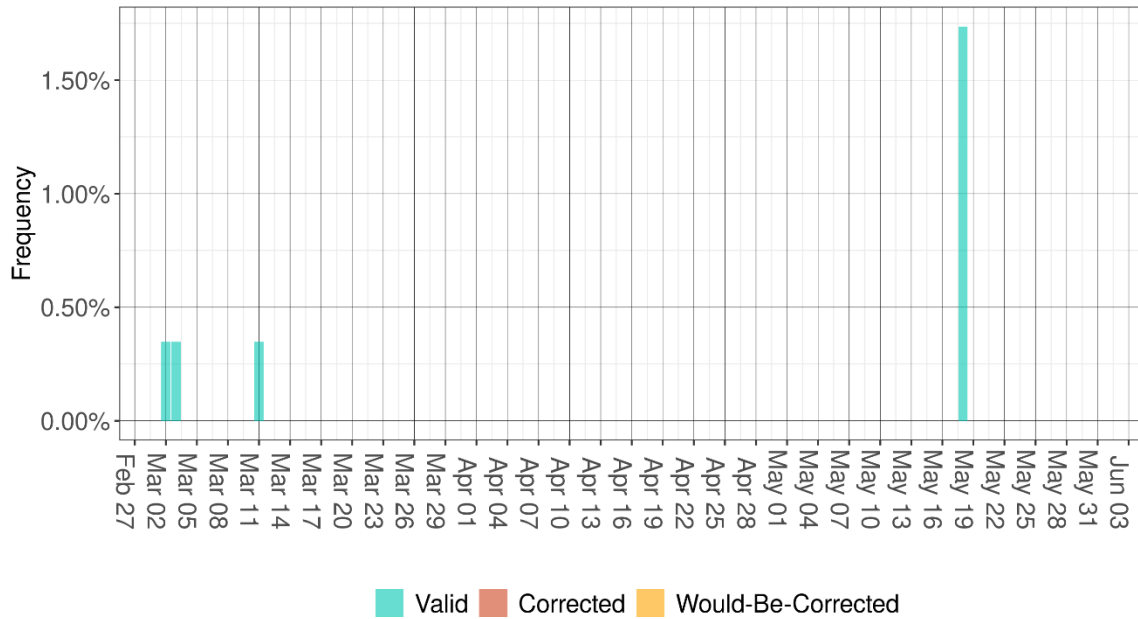
**b. Frequency of Power Balance Constraint Infeasibilities**

Figures 2 and 3 show the frequency of intervals in which the power balance constraint was relaxed for under-supply conditions in the TPWR BAA for the FMM and RTD, respectively. The under-supply infeasibilities are classified into three categories: Valid, Corrected and Would-Be-Corrected. Those under-supply infeasibilities, which are impacted by either data input failures or software failures where the ISO performed price correction pursuant to Section 35 of the CAISO tariff, are classified as Corrected. There are other under-supply infeasibilities that were impacted by data input failures or software failures; and which would be subject to price correction, but were not corrected because the price after correction would be the same price as that obtained by the transition period pricing. These instances are classified as Would-Be-Corrected. All remaining under-supply infeasibilities, which were driven by system conditions, are classified as Valid.

**Figure 2: Frequency of FMM under-supply infeasibilities in the TPWR BAA**



**Figure 3: Frequency of RTD under-supply infeasibilities in the TPWR BAA**



Tables 1 and 2 list the valid FMM and RTD intervals with infeasibilities observed in May. There was no under-supply infeasibility in the FMM and 5 valid under-supply infeasibility in the RTD. The RTD under-supply infeasibility on May 18 was because of a delay in the submission of bids into the systems.

**Table 1: List of valid FMM under-supply infeasibilities in the TPWR BAA**

Trade Date	Trade Hour	Trade Interval	MW Infeasibility

**Table 2: List of valid RTD under-supply infeasibilities in the TPWR BAA**

Trade Date	Trade Hour	Trade Interval	MW Infeasibility
18-May-22	13	5	12.48
18-May-22	13	6	50.53
18-May-22	13	7	62.1
18-May-22	13	8	60.99
18-May-22	13	9	62.38

**c. Balancing and Sufficiency Test Failures**

The WEIM provides an opportunity for various BAAs to serve their load while realizing the benefits of increased resource diversity. Since the WEIM does not include resource adequacy requirements or obligations for resources to submit bids, the CAISO performs a series of resource sufficiency tests comprised of: (i) a balancing test; (ii) a capacity test; and (iii) a flexible ramping sufficiency test. These tests occur prior to the real-time market.

Performance of a balancing test before each trading hour ensures that each participating BAA submits a balanced base schedule of generation and a net schedule interchange to meet its demand. In addition, the participating BAA is required to submit bids with enough ramping capability to meet its net load forecast uncertainty and net load movement requirements.

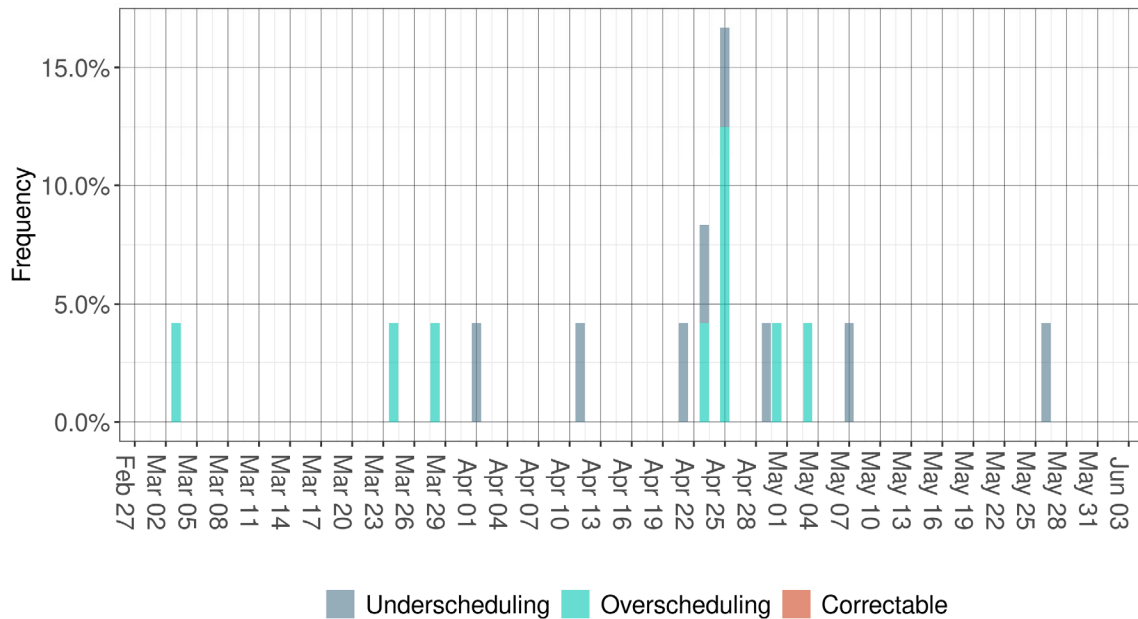
Figure 4 shows the trend of balancing test outcomes for the period of March 02, 2022, through May 31, 2022, and Figure 5 shows the pattern of bid-range capacity test outcomes for the same period.<sup>4</sup> If a balancing test or the bid-range capacity test is affected by data input failures or a software failures, those test results are shown as correctable events. The TPWR BAA passed the balancing test in 99.6 percent of the intervals in May, which is within the acceptable range of balancing test failures. The TPWR BAA passed the bid-range capacity test in 99.83 percent of intervals.

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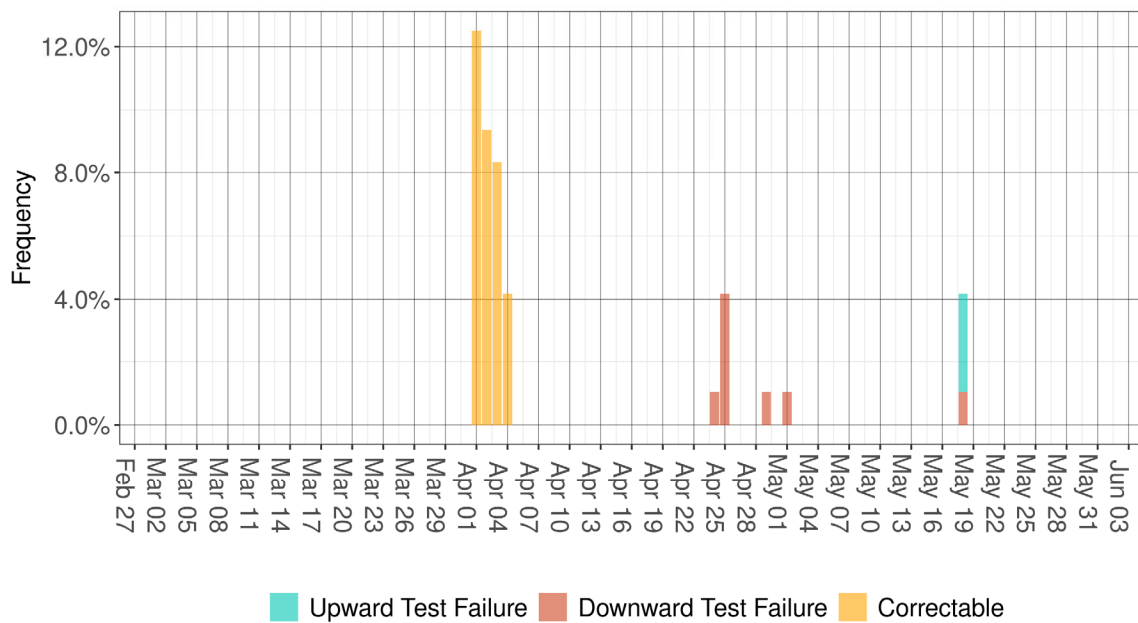
<sup>4</sup> The CAISO performs resource sufficiency tests pursuant to Section 29.34(k) of the CAISO tariff.



**Figure 4: Frequency of Balancing test failures in the TPWR BAA**

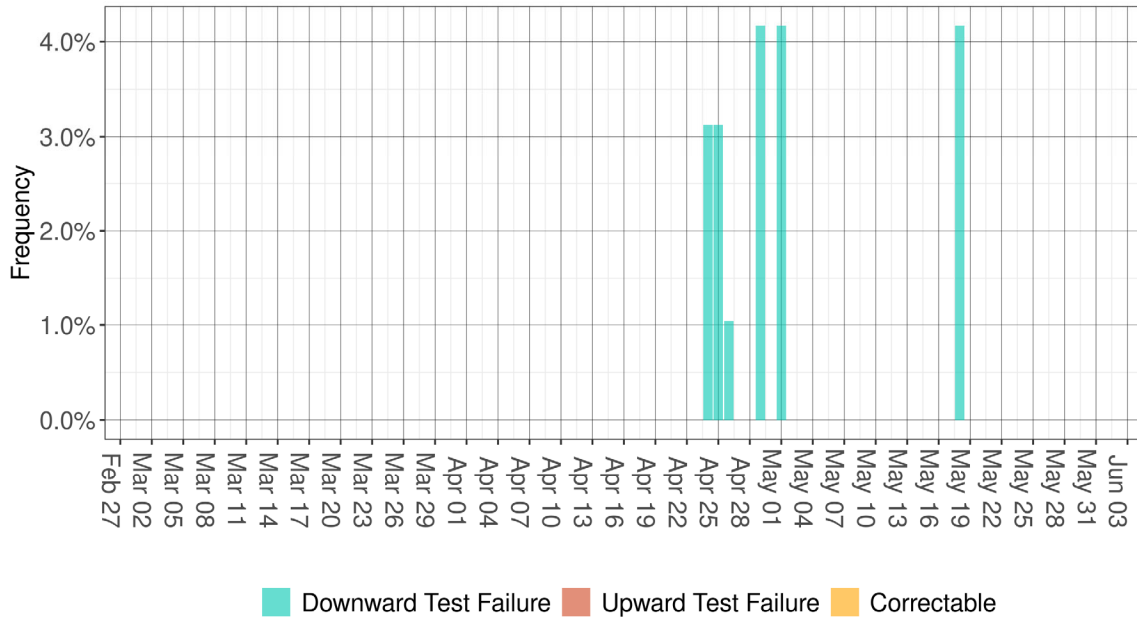


**Figure 5: Frequency of Bid Range Capacity test failures in the TPWR BAA**



The CAISO also performs the flexible ramping sufficiency test as specified in Section 29.34(m) of the CAISO tariff. Figure 6 shows the trend of the test failures for flexible ramping for the period of March 02, 2022 through May 31, 2022. The TPWR BAA passed the flexible ramp up and down tests in 99.6 percent of the intervals in May.

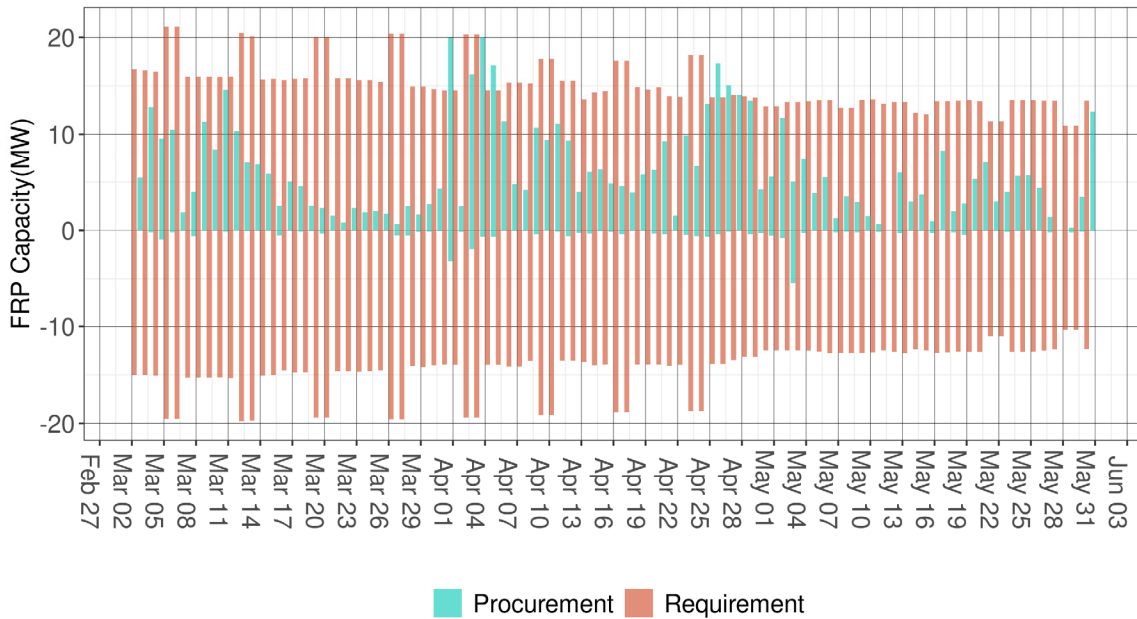
**Figure 6: Frequency of Flexible Ramping Sufficiency test failures in the TPWR BAA**



**d. Flexible Ramping Product**

Figure 7 shows the daily average of the upward and downward flexible ramping constraint requirement and procurement in the FMM. Figure 8 shows the daily average of the upward and downward flexible ramping constraint prices in the FMM. With the implementation of the flexible ramping product on November 1, 2016, calculation of the requirements consists of historical data for uncertainty with any applicable net import/export capability or credit. This effectively reduces the amount of flexible ramping the TPWR BAA has to procure and, generally, the WEIM system-wide area (which includes all the BAAs in the WEIM, including the CAISO BAA) will drive the requirements. The market clearing process may result in procuring the TPWR BAA capacity towards meeting the overall WEIM-system-wide area requirement. This is the main reason why the individual TPWR procurement may generally fall below or be above the individual TPWR flex ramp requirement.

**Figure 7: Daily average requirement and procurement of upward and downward flexible ramping in FMM**



In addition, the price trend provided in Figure 8 is the nested price determined by the summation of the shadow price of the individual TPWR BAA plus the shadow price of the WEIM system-wide area. In May, the average upward flexible ramping capacity price was \$0.26/MWh and the average downward flexible ramping capacity price was \$0.06/MWh.

**Figure 8: Daily average price for upward and downward flexible ramping in FMM**



## CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service list in 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, California, this 11<sup>th</sup> day of July 2022.

*Is/ Anna Pascuzzo*  
Anna Pascuzzo