June 30, 2020

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 2020 Informational Report
Energy Imbalance Market – Transition Period Report –
Seattle City Light EIM Entity

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) hereby submits its report on the transition period of Seattle City Light EIM Entity during its first six months of participation in the Energy Imbalance Market (EIM) for May 2020. 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/ Anna A. McKenna*

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Energy Imbalance Market
May 1 – May 31, 2020

Transition Period Report
Seattle City Light (SCL) EIM Entity

June 30, 2020

California ISO Department of Market Analysis and Forecasting

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 Energy Imbalance Market (EIM) entities during the first six months of EIM participation, effective November 1, 2015.[1] Seattle City Light (SCL), the prospective EIM Entity entered the EIM on April 1, 2020, and the transition period will apply to the SCL balancing authority area (BAA) until October 1, 2020.

During the six-month transition period, the price of energy in the new EIM 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 EIM entity's BAA between $0 and $0.01, but only when the power balance or transmission constraints are relaxed in the relevant EIM 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 EIM entity. The CAISO provides this report for SCL 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,[2] and depending on the market performance each month, along with the need to coordinate with the EIM 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.

[1] *California Indep. Sys. Operator Corp*., 153 FERC ¶ 61,104 (2015) (October 29 Order).

[2] 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, SCL's transition into the EIM was smooth and without significant issues. The second month's market performance highlights are as follows:

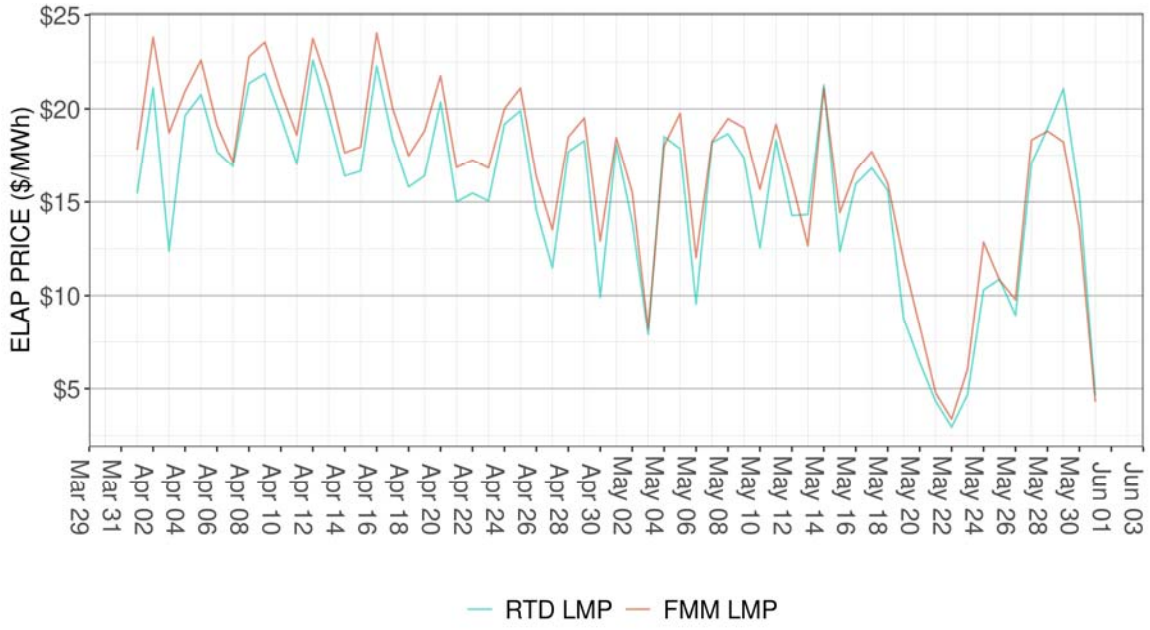
- SCL passed over 99.73 percent of its balancing tests and 99.87 percent of its bid-range capacity tests.
- SCL passed 99.87 percent of its upward flexible ramping sufficiency tests.
- Prices were stable and within reasonable ranges, with the monthly average SCL BAA price at $14.17/MWh in the fifteen-minute market (FMM) and $13.42/MWh in the real-time dispatch (RTD).
- Power balance constraint infeasibilities for the under-supply conditions were minimal for the SCL BAA with zero percent of the total intervals in the FMM, and with 0.056 percent of the total intervals in the RTD.
- The price for upward flexible ramping capacity in FMM for the SCL BAA averaged at $0.011/MWh, while prices for the downward flexible ramping product were $0.032/MWh.

III. Market Performance during the Transitional Period

a. Prices

Figure 1 shows the daily average Fifteen-Minute Market (FMM) and Real-Time Dispatch (RTD) prices in the SCL EIM Load Aggregation Point (ELAP) for April 1, 2020 through May 31, 2020. The May's monthly average price in FMM was $14.17/MWh and $13.42/MWh in the RTD.

Figure 1: Daily average prices for the SCL 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 SCL 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 thus 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 power balance infeasibilities in the SCL BAA

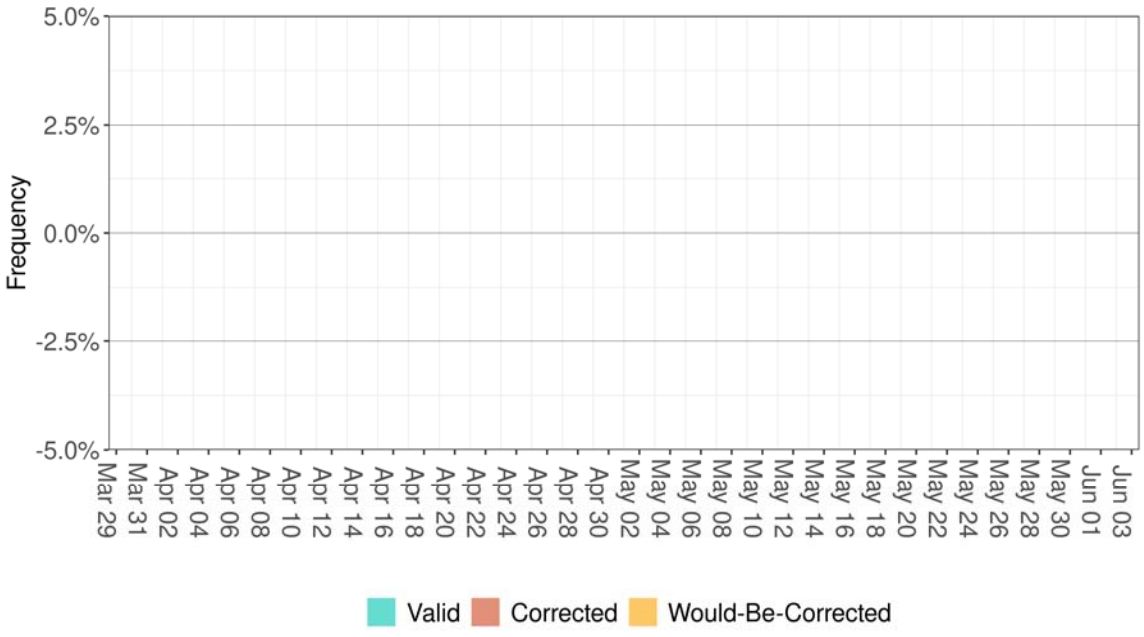
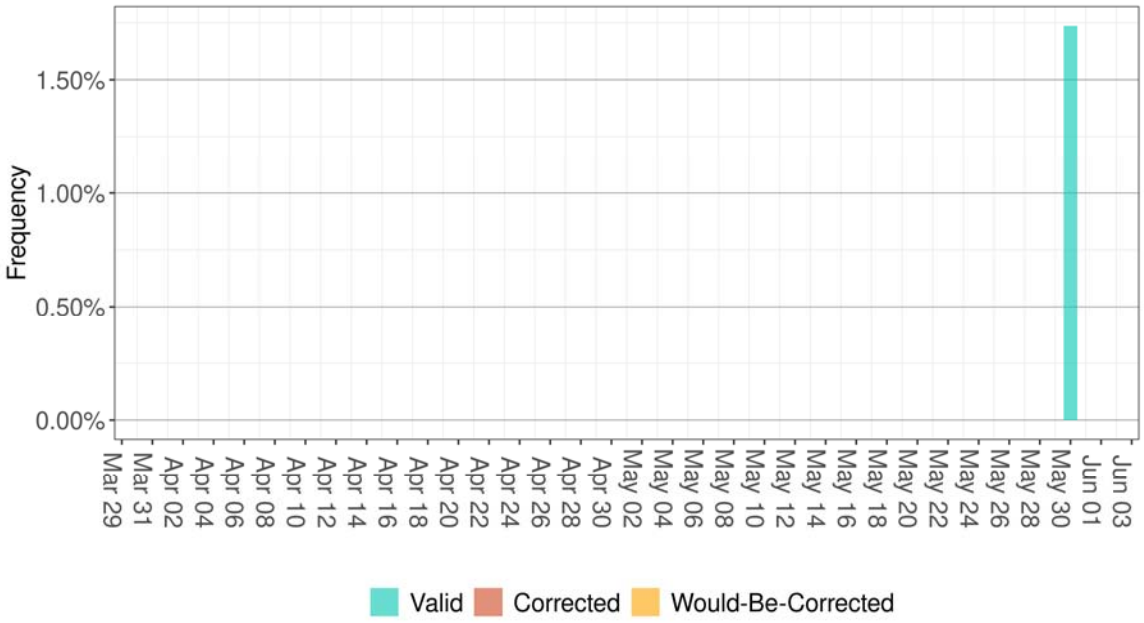


Figure 3: Frequency of RTD under-supply power balance in feasibilities in the SCL BAA



Tables 1 and 2 list the FMM and RTD intervals with infeasibilities observed in May. There was no under-supply infeasibility in the FMM and there were five valid under-supply infeasibilities in the RTD. All the RTD under-supply infeasibilities were due to forced outages for two resources.

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

Trade Date	Trade Hour	Trade Interval	MW Infeasibility

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

Trade Date	Trade Hour	Trade Interval	MW Infeasibility
30-May-20	22	5	134.19
30-May-20	22	6	135.21
30-May-20	22	7	112.5
30-May-20	22	8	95.11
30-May-20	22	9	16.4

c. Balancing and Sufficiency Test Failures

The EIM provides an opportunity to a participating BAA to serve its load while realizing the benefits of increased resource diversity. Since the EIM 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. Also, 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 April 1, 2020, through May 31, 2020, and Figure 5 shows the pattern of bid-range capacity test outcomes for the period of April 1, 2020, through May 31, 2020.[3] If a balancing test or the bid-range capacity test is affected by data input failures or software failures, those test results are shown as correctable events. In May, the SCL BAA passed the balancing test in 99.73 percent of the intervals, which is within the acceptable range of balancing test failures. On May 30, the SCL BAA failed the balancing test due to resource outages. The SCL BAA passed the bid-range capacity test in 99.87% percent of the intervals. On May 4, SCL failed the bid-range capacity test due to missing load forecast in the Real-time Balancing Test (RTBS) application; the lack of load forecast resulted in an unusually high requirement for the downward bid capacity. Since a data input failure affected the capacity test, it is shown as a correctable event in Figure 5. On May 30, the SCL BAA failed the upward bid-range capacity test due to resource outages.

[3] 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 SCL BAA

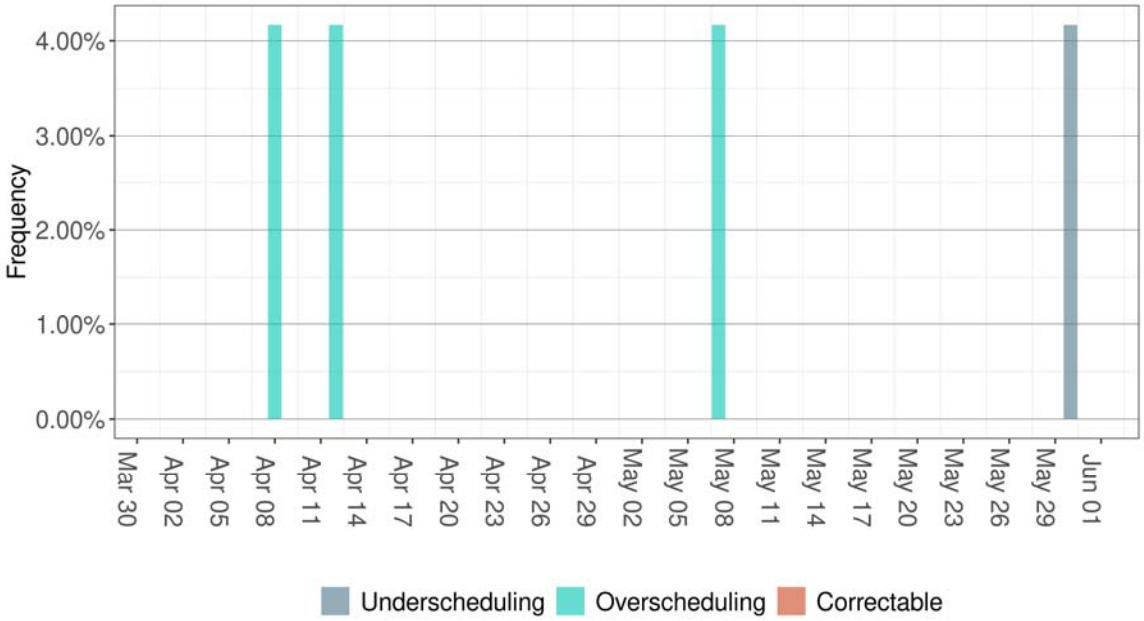
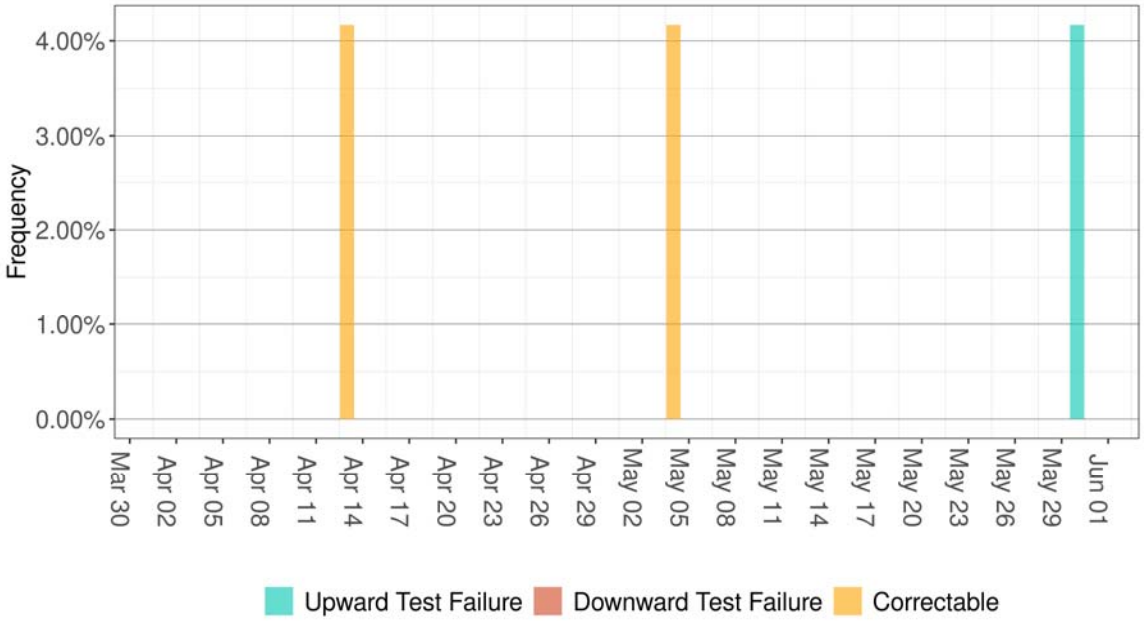


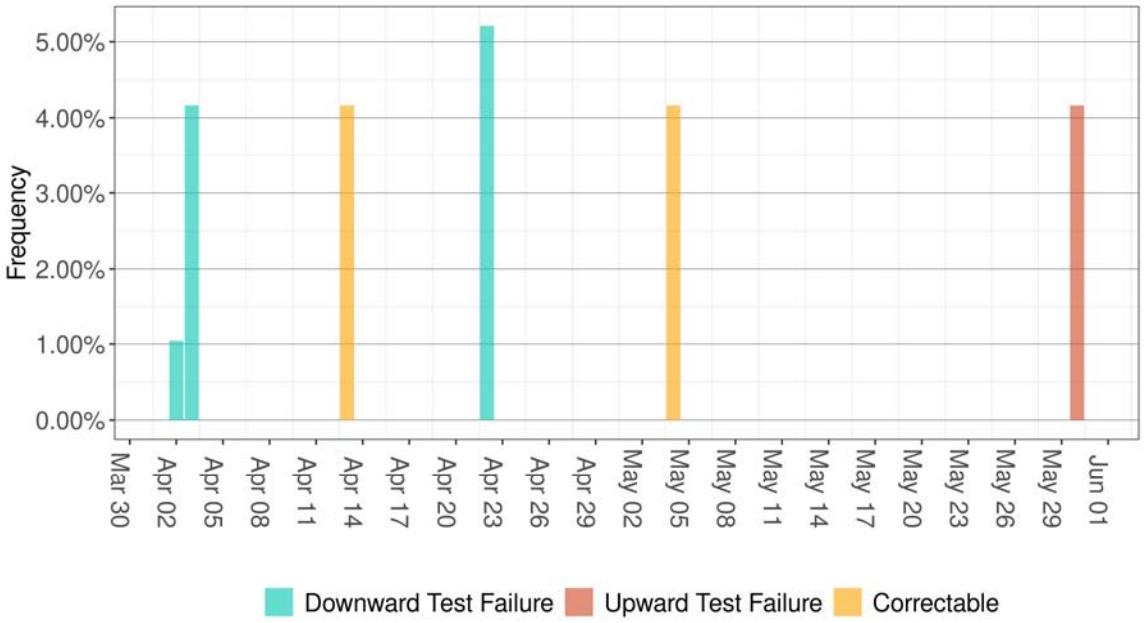
Figure 5: Frequency of Bid Range Capacity test failures in the SCL BAA



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 April 1 through May 31. The SCL BAA passed the flexible ramp down test in 100 percent of the intervals in May and passed the flexible ramp up test in 99.87 percent of the intervals. When an EIM BAA fails the bid-range capacity test in either up or down direction, it automatically fails the flexible ramp sufficiency test for that interval in the same

direction. Since on May 4, 2020, the SCL BAA failed the bid-range down capacity test, it also failed the flexible ramp down test. Considering the bid-range capacity test was affected by the missing load forecast, the test result is classified as a correctable event in figure 5. The flexible ramp down test failure for the same timeframe is also shown as a correctable event in figure 6. On May 30, SCL failed the upward flexible ramp test due to the failed upward bid-range capacity test.

Figure 6: Frequency of flexible ramping sufficiency test failures in the SCL BAA



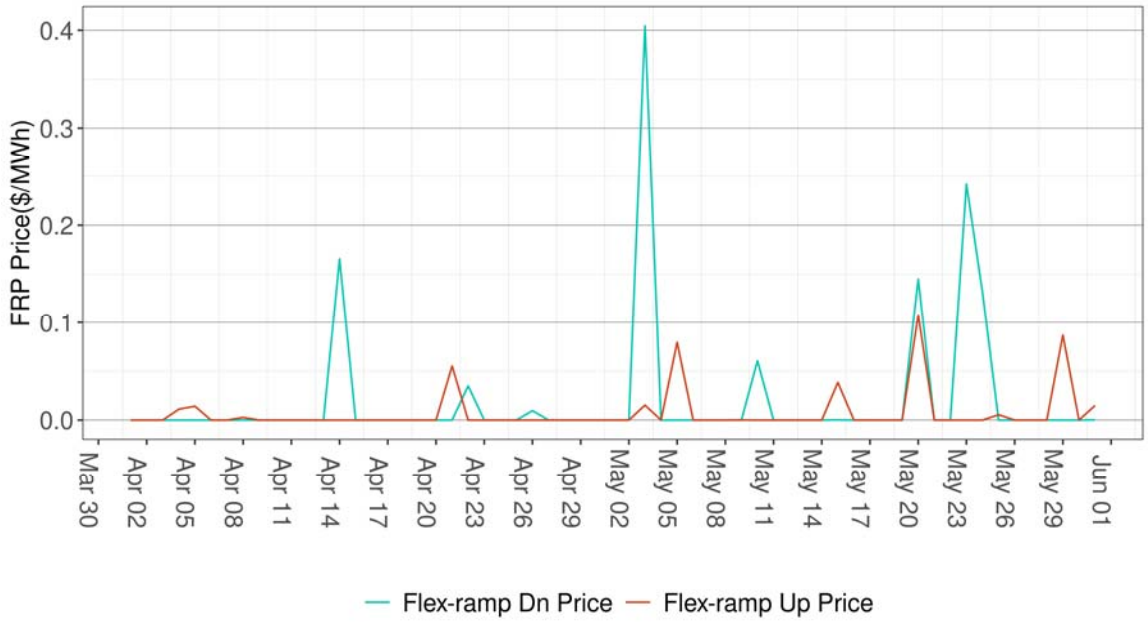
d. Flexible Ramping Product

Figure 7 shows the daily average of the upward and downward flexible ramping constraint requirement and procurement in the FMM, the positive portion of a bar represents flexible ramp up and the negative portion of a bar represents flexible ramp down. 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 SCL BAA has to procure and, generally, the EIM system-wide area (which includes all the BAAs in the EIM, including the CAISO BAA) will drive the requirements. The market clearing process may result in procuring the SCL BAA capacity towards meeting the overall EIM-system-wide area requirement. This is the main reason why the individual SCL procurement may generally not match exactly the individual SCL flex ramp requirement.

Figure 7: Daily Average flexible ramping up and down requirement and procurement in the FMM for the SCL BAA

In addition, the price trend provided in Figure 8 is the nested price determined by the summation of the shadow price of the individual SCL BAA plus the shadow price of the EIM system-wide area. In May, the average upward flexible ramping capacity price was $0.011/MWh and the average downward flexible ramping capacity price was $0.032/MWh. For most of the time, the flexible ramping up procurement was above the area requirements.

Figure 8: Daily Average price of flexible ramping up and down in the FMM for SCL BAA



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 30th day of June 2020.

/s/ Anna Pascuzzo
Anna Pascuzzo