MARKET SURVEILLANCE COMMITTEE

Load Conformance Adjustments and the Resource Sufficiency Test

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Load Conformance Adjustments

There has been discussion of including typical load conformance adjustments in load for the resource sufficiency test

- The discussion has not been clear on whether it is envisioned whether such an adjustment would be based on typical RTD load conformance or typical HASP or RTPD load conformance adjustments

- Load conformance adjustments in HASP and RTPD appear to generally reflect operator efforts to ensure that adequate balancing energy is available, not to account for net load forecast error

- RTD load conformance adjustments have typically been much lower than the load conformance adjustments in the HASP and in RTPD

Load Conformance Adjustments

DMM reports show that most of the load conformance adjustments are in HASP and RTPD
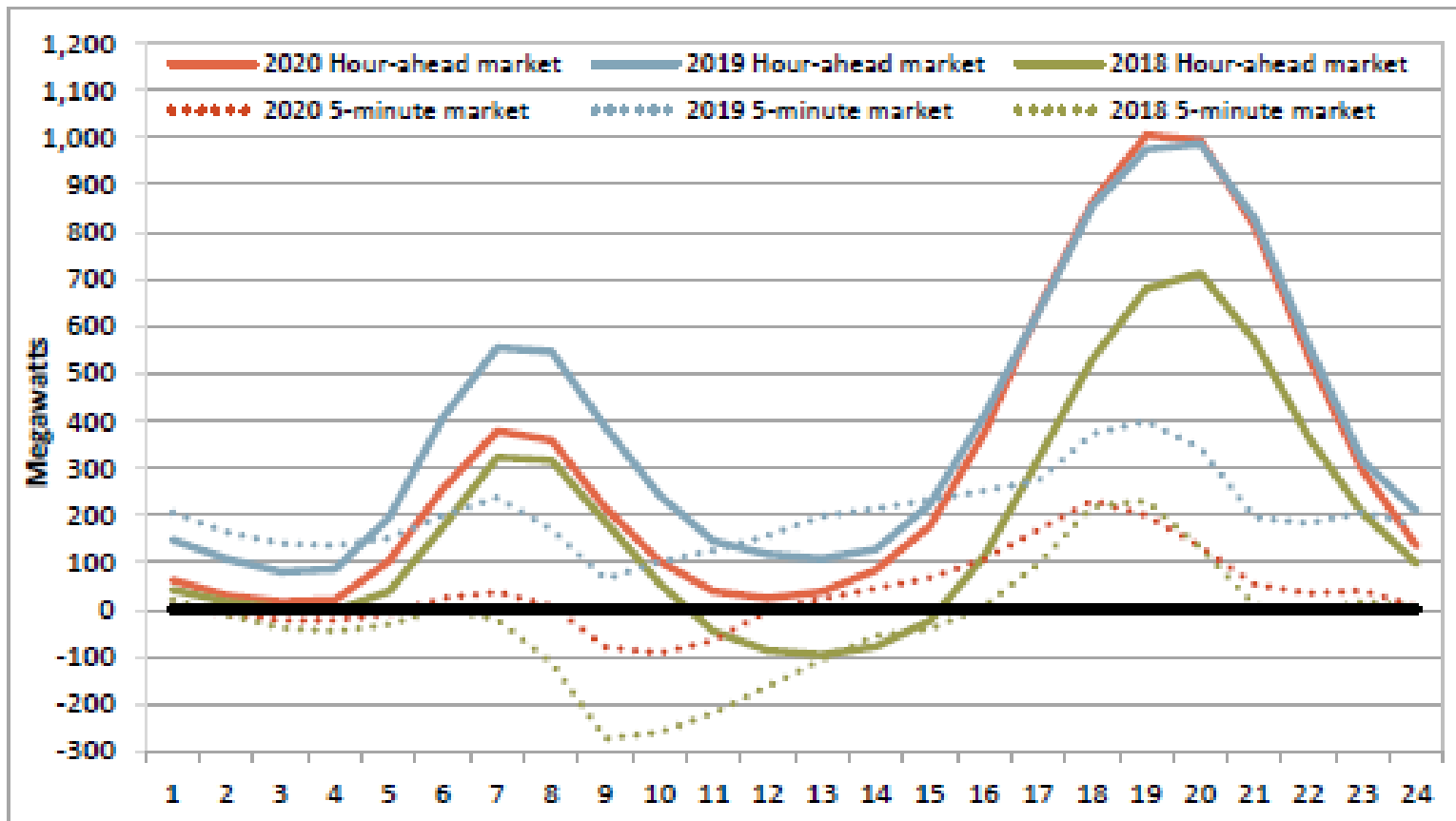
Source: California ISO, Department of Market Monitoring, Annual Report on Market Issues & Performance, August 2021, Figure E7 p. 11.

Load Conformance Adjustments

Including typical HASP and RTPD adjustments intended to increase interchange schedules in the resource sufficiency test load would materially overstate actual CAISO load and cause the CAISO to fail the test when it should not

The potential for overstated load can be illustrated with an example

- Expected CAISO load is 35,000 MW

- The CAISO flexible ramp requirement is 1000MW, 600MW of which is located within the CAISO balancing area

- Suppose CAISO operators expect only 500 MW of the flexi ramp capacity scheduled in RTPD to be deliverable so they increase the HASP and RTPD load forecast to obtain additional deliverable ramp

- Suppose that the CAISO operators expect that if they increased the load forecast in RTPD by 500MW, 250 MW of the additional ramp supply would be phantom ramp

Load Conformance Adjustments

The CAISO operators therefore increase the load forecast by 1000 above the actual expected load, to 36,000MW, expecting to thereby have 1000 MW of deliverable 15 minute ramp and another 500 MW of phantom ramp capacity deliverable in a longer time frame

- The CAISO would therefore have 1500 MW of capacity in excess of its 35,000 MW real-time load to meet its meet its sufficiency test obligation, 500 MW in excess of its obligation based on a 1000 MW uncertainty requirement

- If the sufficiency test load forecast were increased to 36,000, the CAISO would fail the sufficiency test despite having more than enough capacity

Consideration could be given to including the typical RTD load adjustment in hours ending 18 and 19 in the load forecast but it would be necessary to confirm that the net load variations reflected in RTD load conformance is not included in the calculation of the uncertainty requirement

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Flexi Ramp and Load Conformance

- The nodal delivery test is apparently scheduled for implementation in spring 2022
    - We understand there has been no testing of how well this design would perform in operation
    - We should not assume that the nodal delivery test will work so well that operators will no longer need to use load conformance adjustments to maintain deliverable ramp capacity
- The quantile regression methodology test is apparently scheduled for implementation in spring 2022
    - We understand that there is therefore little point in analysis of the current method for setting the uncertainty requirement
    - However, we also understand that there has been no testing of how well the quantile regression method will perform in operation in setting the uncertainty requirement
    - Shouldn't the CAISO be assessing how well the quantile methodology will work in evaluating the resource sufficiency test and considering the implications of continued erroneous targets?

Flexi Ramp and Load Conformance

Has the CAISO studied the performance of the historic 2.5% intertie deviation calculation based on a 90 day lookback period?

- Is value produced by the current look back period a good predictor of the range of intertie deviations in the current period?

- Is intertie deviation coverage based on the 2.5% threshold appropriate in combination with 97.5% coverage of net load variations?

- Are these deviations perfectly correlated, partly correlated or uncorrelated?

Sufficiency test principles

Other principles to consider in modifying the sufficiency test:

The sufficiency test should not incent inefficient behavior

- In particular, the test should not incent the commitment of excess thermal generation during hours when the WECC is awash in intermittent resource output and the price of flexi ramp is zero

- An important benefit of the Western EIM is that the real-time EIM dispatch is able to shift excess intermittent resource output around the West to a degree that is not possible with hourly interchange schedules

The sufficiency test should be workable

- The test should not require undue CAISO and EIM entity resources to apply, should not be so complex to apply that it is difficult to identify erroneous outcomes, and should not be so complex that it is prone to erroneous outcomes