



Department of Energy

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EIM Resource Sufficiency Test Enhancements (PRR 1142), March 5, 2019 Bonneville Power Administration Comments

Submitted by	Company	Date Submitted
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Bonneville Power Administration (Bonneville) appreciates the opportunity to participate in the CAISO's Business Practice Manual (BPM) change management process regarding PRR 1142 titled EIM Resource Sufficiency Test Enhancements. Given the complexity and importance of the resource sufficiency evaluation, Bonneville recommends that the BPM include additional details of the resource sufficiency tests to reduce possible ambiguity surrounding the tests. To this end, Bonneville offers comments to seek clarity on the proposed BPM changes in PRR 1142 as well as suggestions of additional details that could be included in the BPM to provide a more thorough description of the resource sufficiency tests.

Bonneville is a federal power marketing administration within the U.S. Department of Energy that markets electric power from 31 federal hydroelectric projects and some non-federal projects in the Pacific Northwest with a nameplate capacity of 22,500 MW. Bonneville currently supplies 30 percent of the power consumed in the Northwest. Bonneville also operates 15,000 miles of high voltage transmission that interconnects most of the other transmission systems in the Northwest with Canada and California. Bonneville is obligated by statute to serve Northwest municipalities, public utility districts, cooperatives and then other regional entities prior to selling power out of the region.

Bonneville provides the following comments and questions in response to the proposed BPM changes in PRR 1142:

- Bonneville provides the following question in response to the BPM language under the section titled "Under-Scheduling and Over-Scheduling Penalties and Resource Balancing Provisions" that reads, "For each trade hour, the EIM Balancing Test determines whether the BAA's sum of base schedules (generation, net scheduled interchange) is within a 1% margin (over or under) of the hourly demand forecast."

- Does the CAISO’s hourly demand forecast for the Balancing Test equal the average of the four 15-min load forecasts used in the Capacity Test and the Flexible Ramping Sufficiency Test?
- Bonneville provides the following comment to aid the CAISO in revising or clarifying the BPM language under the section titled “Under-Scheduling and Over-Scheduling Penalties and Resource Balancing Provisions” that reads, “If an EIM balancing authority uses the CAISO forecast but does not schedule resources within one percent of the forecasted demand, then it will be subject to over-scheduling or under-scheduling penalties if its actual load is five percent more or less than its load Base Schedule, respectively. If an EIM balancing authority does not use CAISO’s forecast, then it will be subject to over-scheduling or under-scheduling penalties for actual load imbalances.”
 - CAISO’s presentation on resource sufficiency during the EIM Offer Rules Workshop held on July 19, 2018, states that, “If the EIM Entity elects their own demand forecast, then the EIM balancing authority will always be subject to over-scheduling or under-scheduling penalties if its actual load is five percent more or less than its load Base Schedule for that hour.” Bonneville believes the current language in the BPM differs from the language in the presentation, and asks that the CAISO clarify in the BPM whether or not the five percent tolerance threshold applies to an EIM BA that does not use the CAISO’s hourly demand forecast.
- Bonneville provides the following comments to aid the CAISO in revising or clarifying the BPM language under the section titled “Capacity Test,” that reads, “If the EIM balancing authority fails the capacity test for a 15-minute interval, it will automatically fail the flexible ramp sufficiency test for the same 15-minute interval in the same direction (Failed over capacity test will auto-fail upward flexible ramping sufficiency test. Failed under capacity test will auto-fail downward flexible ramping sufficiency test).”
 - According to the examples provided in this section, if an EIM BA fails the Capacity Test in the “under” direction, it’s Bonneville’s understanding that the EIM BA lacked sufficient upward energy bid range capacity to cover the demand forecast. If this is the case, why would the EIM BA automatically fail the flexible ramp sufficiency test (FRST) in the downward direction (as described above) rather than in the upward direction? Bonneville would expect that the EIM BA would fail the FRST in the upward direction due to a lack of upward energy bid range, not a lack of downward mobility.
 - Similarly, according to the examples provided in this section, if an EIM BA fails the Capacity Test in the “over” direction, it’s Bonneville’s understanding that the EIM BA lacked sufficient downward energy bid range capacity to cover the demand forecast. If this is the case, why would the EIM BA automatically fail the FRST in the upward direction (as described above) rather than in the downward direction? Bonneville would expect that the EIM BA would fail the FRST in the downward direction due to a lack of downward energy bid range, not a lack of upward mobility.

- Bonneville asks that the CAISO clarify whether failing the Capacity Test in the over direction should result in failing the FRST in the downward direction, rather than in the upward direction, and whether failing the Capacity Test in the under direction should result in failing the FRST in the upward direction, rather than in the downward direction.
- Bonneville's understanding is that the Capacity Test also requires that the EIM BA have sufficient energy bid range to cover the historical over/under inertia scheduling. Bonneville asks that the CAISO consider including in the "Capacity Test" section a description of the historical over/under inertia scheduling requirement and its effect on failing the Capacity Test in the over or under direction.
- Bonneville provides the following comments to aid the CAISO in revising or clarifying the valuable examples provided under the section titled "Capacity Test".
 - Bonneville asks that the CAISO clarify why the examples for the Capacity Test use the "Base Transfer Schedule" and not the "BAA sum of base schedules" used in the examples for the Balancing Test. Bonneville's understanding is that the Base Transfer Schedule is the net of all base ETSR schedules for a given BAA, that is, the base net scheduled interchange with other EIM BAAs.
 - Bonneville noticed that the examples for the Capacity Test use a "15-min Load Forecast," while the examples for the Balancing Test uses a "BAA Hourly Demand Forecast." Bonneville asks that the CAISO clarify why the Capacity Test uses a load forecast, while the Balancing Test uses a demand forecast. Bonneville's understanding is that the demand forecast includes transmission losses, while the load forecast does not.
 - For clarity, Bonneville asks that CAISO provide the formulas for the calculation of the "insufficiency percentage" and the "insufficiency amount."
- Bonneville provides the following comment to aid the CAISO in revising or clarifying the BPM language under the section titled "Flexible Ramping Sufficiency Test," that reads, "The flexible ramping requirement is based upon the historical error in the CAISO load forecast, and the CAISO variable energy resource forecast. The test assesses whether there is sufficient ramping capability among all resources in the BAA to meet the forecasted demand change across intervals plus a high/low percentile of the historical uncertainty."
 - In the language above, CAISO states it uses a load forecast for calculating the historical error, and a demand forecast for calculating the forecasted demand change across intervals. Bonneville asks that the CAISO clarify whether the historical error is calculated using a demand forecast rather than a load forecast.
 - Bonneville asks that the CAISO clarify whether the forecasted demand change is also net of variable energy resource forecasts, as is done for the historical error calculation.

- Bonneville provides the following comment to aid the CAISO in revising or clarifying the valuable example provided under the section titled “Flexible Ramping Sufficiency Test”.
 - Bonneville notes that the EIM Transfers for the FMM at T-82.5’ are missing values. Bonneville’s understanding is that the Transfer Limits for the failed intervals of the FMM at T-67.5’ are calculated using the EIM Transfers from the FMM at T-82.5’ (which are missing) and the Base Transfer at T-75’. As such, for completeness, Bonneville asks that CAISO provide values for the empty cells.
 - Although not discussed in this example, Bonneville asks that CAISO confirm whether the flexible ramp up and down credits will continue to be calculated in the same manner as they are currently determined, which is relative to the last 15-minute interval of the current hour.