Submitted by	Company	Date Submitted
Christine Kirsten christine.kirsten@pacificorp.com 916-207-4693	PacifiCorp	August 2, 2018

PacifiCorp's Comments on the Energy Imbalance Market
July 19, 2018 Offer Rules Workshop

PacifiCorp appreciates the California Independent System Operator ("ISO") hosting the July 19, 2018 follow-up technical workshop. Please see the below comments from PacifiCorp on the workshop presentations and discussions.

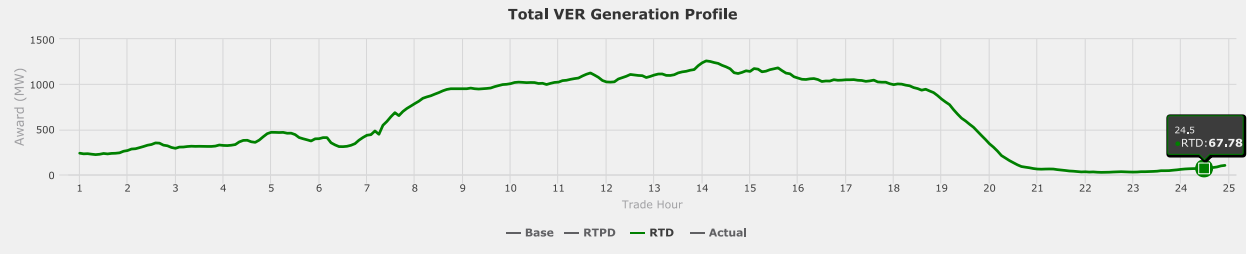
Implementation of Resource Sufficiency Test Enhancements

The ISO has stated that it does not intend to conduct a separate stakeholder process on possible enhancements to the resource sufficiency tests ("RSTs"), but proposes to address the issues in its Day-Ahead Market Enhancements ("DAME") initiative, which is scheduled to be implemented in the fall of 2020. PacifiCorp disagrees with this proposal and urges the ISO to conduct a stakeholder process this year to identify potential enhancements that can be implemented sooner than the DAME implementation.

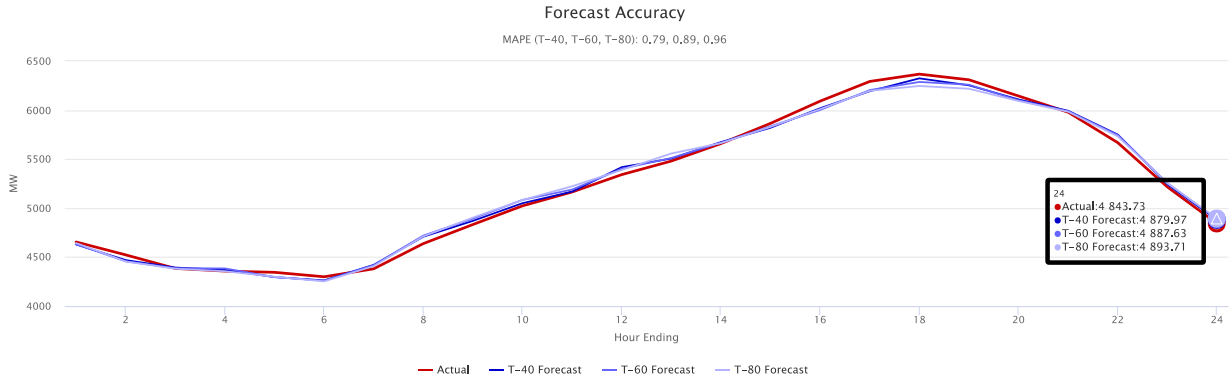
PacifiCorp and the other Energy Imbalance Market ("EIM") entities have been advocating for enhancements to the RSTs since 2015 when NV Energy joined the market. While the ISO has been diligent in working through several issues with the RSTs, as well as implementing certain fixes, PacifiCorp believes that it is important that the overall test be evaluated for efficacy. With the expansion of the EIM and the addition of new entities with varying portfolios and transmission constraints, it is important that the flexible ramping sufficiency test ("FRST") is evaluated to make sure that the requirements are accurately capturing actual uncertainty. For example, PacifiCorp has seen a marked increase in changes in the FRST's requirements between the T-55 and T-40 tests each time a new entity has joined the market. This variability can be due to the timing of when an entity is entering in its base schedules on an energy transfer system resource, differing tagging deadlines, etc. Regardless, the variability in requirements between the T-55 and T-40 tests has caused PacifiCorp to carry additional resources into the hour to ensure it has enough flexibility to pass the test. Planning for a volatile test requirement is inefficient and costly for PacifiCorp and it is therefore critical that these issues be resolved in a more immediate time frame.

Lastly, PacifiCorp's current uncertainty requirement may be overly influenced in certain hours by its large wind fleet, previous days' forecast uncertainty and current forecast levels.

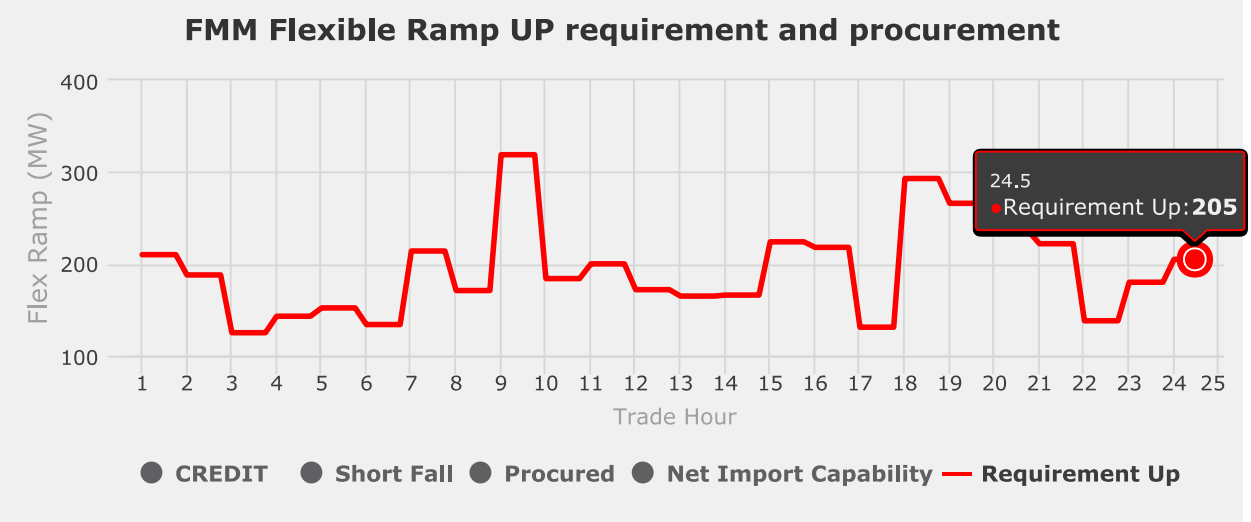
Observe an actual day of operations (June 24, 2018) in the PacifiCorp East system. As illustrated below, total variable energy resource ("VER") output for hour ending 24 is approximately 68 MW – closer to zero in the preceding hours:



Load forecast accuracy is high during this hour, as is consistently the case for this time of night, regardless of day:



Yet, PacifiCorp observed an uncertainty requirement of 205 MW which, permitting a 5% deadband, is one of the 8th highest observed requirements for the day:



Conceptually, the VER output during hour ending 24 cannot conceivably possess more than 68 MW of uncertainty in the up direction, as 68 MW is the most by which the output may fall in real-time. This leaves 137 MW of uncertainty to be allocated to load during an hour in which the load forecast is relatively predictable. In this instance, this implies a mean absolute percentage error ("MAPE") of 2.8%. Contrast this to the max day's MAPE of 0.96% as illustrated in the forecast accuracy chart.

It becomes highly probable that the uncertainty requirement of 205 MW in hour ending 24, is not due to load forecast error, but is reflective of the inability of the current uncertainty requirement's methodology to incorporate forecast levels of wind and solar - note that there can be no solar output during hour ending 24. Ultimately, a higher uncertainty requirement related to wind has significant impacts on PacifiCorp over the peak hours and can have little relevance to the forecast wind in that period.

Due to all of the significant costs and inefficiencies of an inaccurate uncertainty requirement to EIM Entities, the ISO should establish a separate stakeholder process, not contingent on the DAME initiative, to resolve this issue now rather than waiting over two years.

EIM Market Power Mitigation Initiative

The ISO stated that it would conduct a policy stakeholder process, beginning with an issue paper to be published in late August, 2018, related to Powerex's request for a fourth default energy bid ("DEB") option to address EIM market power mitigation issues with its hydro resource. The ISO further stated that rather than designing a fourth DEB option for the EIM, it plans to address potential enhancements to the EIM market power mitigation processes. PacifiCorp generally supports this new initiative and looks forward to working with the ISO and stakeholders to develop mutually beneficial enhancements to the EIM market power mitigation processes.

Conclusion

PacifiCorp appreciates the ISO's consideration of these comments and looks forward to more formal stakeholder proceedings in the future to further advance potential improvements.