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Joint Parties' Comments on the Flexible Ramping Product Refinements Revised Straw Proposal

PacifiCorp, Idaho Power Company, Arizona Public Service and Puget Sound Energy ("Joint Parties") submit the following comments to the California Independent System Operator Corporation ("CAISO") on the Flexible Ramping Product ("FRP") Refinements revised straw proposal published March 16, 2020 ("Proposal"). The Joint Parties appreciate the opportunity to provide comments for the CAISO's consideration.

General Comments

The Joint Parties are generally supportive of the CAISO's proposed refinements to the FRP and appreciate the CAISO's consideration during this initiative of incorporating forecast levels of load, wind and solar in the determination of the real-time FRP requirement. Below are the Joint Parties' specific comments on the CAISO's Proposal.

Methodology to Determine FRP Requirement

The Joint Parties support the CAISO's quantile regression proposal which will incorporate forecasts for load, wind, and solar into the FRP requirement formulation. The Joint Parties appreciate the CAISO's efforts to implement this refinement in parallel with the other objectives in this initiative and look forward to working with the CAISO and stakeholders on the required business practice manual changes.

Nodal Procurement

The Joint Parties support the nodal approach for procuring FRP. However, the CAISO states in the Proposal that the implementation complexity and computational requirements necessary to move to a nodal flexible ramping product are significant and that nodal procurement would not ensure 100% deliverability. The Joint Parties would like to understand what the CAISO's plans are in the event that implementing nodal procurement fails. If alternate plans are to implement a zonal approach, the Joint Parties recommend that the CAISO work closely with each EIM entity to determine the appropriate zonal boundaries in each EIM entity balancing authority area ("BAA").

FRP Demand Curve and Scarcity Pricing

In general, the Joint Parties are supportive of the proposed stepped scarcity pricing methodology that would be applied if the CAISO implements the nodal FRP procurement. However, similar to the Joint Parties' comment described in the preceding section, what are the CAISO's plans for this issue should nodal procurement not be operationally feasible?

Ramp Management between fifteen minute market and real-time dispatch
The Joint Parties request that the CAISO clarify language in the *Flexible Ramping Product Refinements: Appendix B* document regarding the import/export constraint in the event that an EIM BAA fails the flexible ramping sufficiency test. In both Section 1.1, Current FRP Procurement Implementation and Section 1.2 Proposed Enhancement, the CAISO states the following:

> An additional constraint is enforced for each BAA that has failed the FRU/FRD sufficiency test to limit its net transfer import/export below/above its net base transfer to prevent leaning on other BAAs in the EIM Area.

The Joint Parties believe that this language is inconsistent with the current implementation of the import/export capacity constraint in the event that an EIM BAA fails the flexible ramping sufficiency test. The Business Practice Manual for the Energy Imbalance Market, Version 18, Section 11.3.2, Resource Sufficiency Evaluation states:

> For each BAA in the EIM Area that fails its Flexible Ramping Up or Flexible Ramping Down sufficiency test for a 15-minute interval in the next trading hour, the market shall limit the net EIM transfer from below (import) for upward failure and from above (export) for downward failure, to the less-restrictive of the following values:
>
> - Base Transfer Schedule for the failed 15-minute interval; or
> - Net EIM transfer schedule for the interval prior to the failed 15-minute interval as provided by the last successful FMM market run (i.e. the "last previous" 15-minute interval)

Does the CAISO intend to change the language in the BPM and the current implementation of this constraint in the event that a BAA fails the flexible ramping sufficiency test?

Minimum FRP Requirement for CAISO
In the Proposal, the CAISO proposes to enforce a minimum FRP requirement in the CAISO BAA and further proposes to evaluate if similar minimum requirements are needed for other BAAs. In their previous comments, the Joint Parties sought to understand the methodology the CAISO intends to use to calculate a minimum requirement for other EIM entity BAAs and whether or not the CAISO is contemplating any changes to the current diversity benefits. In response, the CAISO explains that it will consider the diversity benefit in the methodology to calculate the minimum requirement. In the Proposal, the CAISO has determined that the proposed minimum for a pivotal area would be the maximum value of the diversity benefit of that area or the difference between the uncertainty requirement and the diversity benefit.

In addition, the CAISO proposed that in order to determine the minimum requirement for EIM entity BAAs, it will perform the same historical evaluation used to determine the minimum requirement in the CAISO's BAA and discuss its findings through the regularly held Market Performance and Planning Forum meetings. Any changes to such requirements will be proposed to stakeholders through the business practice manual change management process. The Joint Parties are concerned that the CAISO's proposed process for review of an EIM entity's minimum requirement may not provide an ability to collaborate or provide feedback in a manner that is meaningful. It seems prudent that if the CAISO believes an historical evaluation will need to

occur for an EIM entity BAA that the information should be made available in this stakeholder process, similar to the information provided on the CAISO BAA proposal, so that entities can provide more meaningful feedback and ensure the minimum FRP requirement is needed and properly calculated.

Further, the CAISO proposes to simplify the FRP procurement and no longer consider the net import capability/net export capability ("NIC/NEC") credit. The current individual EIM entity BAA requirements for the flexible ramping sufficiency test are calculated using the following formulas (pursuant to section 11.3.2.1 of the CAISO's EIM BPM):

$$FRUR'_i = \Delta D_i + \max\left(FRUR_i - NIC_i, FRUR_i \frac{FRUR}{TFRUR} - FRUC_i\right)$$

$$FRDR'_i = \Delta D_i + \min\left(FRDR_i + NEC_i, FRDR_i \frac{FRDR}{TFRDR} - FRDC_i\right)$$

The Joint Parties request that the CAISO confirm that it is not proposing to change how the NIC/NEC is applied in the flexible ramping sufficiency test. If the CAISO is proposing a change to the flexible ramping sufficiency test, the Joint Parties request that the CAISO describe specifically what would change in the formulas shown above.

Finally, in the Proposal, the CAISO states that it plans to implement the minimum FRP requirement in fall of 2020, and nodal procurement is expected to be implemented in fall of 2021. The Joint Parties understand that the minimum requirement would no longer be needed once nodal procurement is implemented, and would like clarification regarding whether or not the minimum requirement will be needed if a zonal procurement approach is implemented.

Real-Time FRP Horizon

In its November 22, 2019, comments on the CAISO's extended day-ahead market ("EDAM") issue paper[1], the Department of Market Monitoring ("DMM") conveyed its concern that, "if the ISO does not extend the uncertainty horizon of the real-time flexible ramping product (RT FRP), DMM is concerned that the imbalance reserves that are procured in the day-ahead market will provide limited benefit in terms of increased ramping capacity in real-time or reduced real-time market costs" and require out-of-market operator interventions.

The Joint Parties share DMM's concern and request that the CAISO consider this issue in the EDAM to extend the real-time FRP uncertainty horizon to address net load uncertainty 1-4 hours from the current interval, which could resolve the need for many of the out-of-market operator interventions.

Conclusion

The Joint Parties are generally supportive of the CAISO's objectives in this initiative and urge the CAISO to ensure that all of the policy items currently in the stakeholder process for both the day-ahead and real-time markets are conceptually and technically aligned throughout. The Joint Parties appreciate the CAISO's consideration of these comments and look forward to further dialog.

[1] http://www.caiso.com/InitiativeDocuments/DMMComments-ExtendedDay-AheadMarket-IssuePaper.pdf