Stakeholder	Comments	Template
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Submitted by	Company	Date Submitted
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Please use this template to provide your comments on the FRACMOO Phase 2 stakeholder initiative Revised Draft Framework Proposal posted on January 31, 2018.

Submit comments to InitiativeComments@CAISO.com

Comments are due February 21, 2018 by 5:00pm

The Revised Draft Framework Proposal posted on January 31, 2018 and the presentation discussed during the February 7, 2018 stakeholder web conference may be found on the <u>FRACMOO</u> webpage.

Please provide your comments on the Revised Draft Framework Proposal topics listed below and any additional comments you wish to provide using this template.

The ISO is in the process of updating the data provided in the Revised Draft Framework Proposal. The ISO will include additional observations for 2016 and 2017. Additionally, the ISO will estimate the impacts of 15-minute IFM scheduling. The ISO will release this updated analysis as soon as possible.

The Bonneville Power Administration (BPA) appreciates the opportunity to provide comments on the Revised Flexible Capacity Framework for the Flexible Resource Adequacy Criteria and Must Offer Obligations – Phase 2 Initiative (FRAC MOO). BPA is generally supportive of the direction the ISO is taking in this proposal. BPA awaits the ISO's analysis of the impacts of the 15-min IFM scheduling. BPA also has some clarifying questions on how growth of the ISO's needs are being calculated and how the uncertainty obligation is being allocated.

BPA Background

BPA 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. BPA currently supplies 30% of the power consumed in the Northwest. BPA also operates 15,000 miles of high voltage transmission that interconnects most of the other transmission systems in the Northwest with Canada and California. BPA 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. Nearly all of the Federal Columbia River Power System (FCRPS) and other Pacific Northwest hydroelectric resources are part of an interdependent system of dams, whose operation is bound together by the physics of hydrology. In addition, there are several non-generation uses of these hydro-resources with priorities set higher than the production of electricity (flood control, navigation, fish and wildlife preservation, etc.).

The Pacific Northwest-Pacific Southwest Intertie was constructed in 1964 to provide the benefits of coordinated markets to the two regions. One of the products BPA is authorized to sell – surplus peaking capacity – could potentially meet several of California's resource adequacy needs and help integrate renewables in the following ways:

- Provide energy to California during the daily peak hours of use;
- Provide a load to use surplus California renewable energy when the peaking energy is returned to the Pacific Northwest (PNW);
- Provide the above benefits without exacerbating California's net load ramping concerns through must run requirements in hours when not needed; and
- Meet those requirements with surplus capacity produced by primarily hydroelectric resources that have no or minimal carbon use.

Identification of ramping and uncertainty needs

The ISO has identified two drivers of flexible capacity needs: General Ramping needs and uncertainty. The ISO also demonstrated how these drivers related to operational needs.

Comments:

Accurate identification and quantification of the ISO's flexible capacity needs is an important step in ensuring FRAC MOO is a robust and reliable program. BPA supports the ISO's break out of general ramping needs and uncertainty. BPA would like to recommend the benchmarking of the ramping and uncertainty forecast needs against the actuals to confirm the flexible capacity needs methodology is accurately capturing the need. BPA would also like to better understand the growth factor the ISO uses when calculating the total need and how flexible capacity needs for uncertainty from new sources connecting in the next RA compliance period are factored into the ISO's analysis.

BPA reiterates our earlier comment that creating an obligation for uncertainty in the ISO's cooptimization algorithm will assist in ensuring that the flexible RA resources can be dispatched in the most efficient and effective manner. Developing the day-ahead imbalance reserve product will allow the ISO to adjust for its capacity needs on a daily basis and adjust its RA quantification methodology in a future cycle.

Definition of products

The ISO has outlined the need for three different flexible RA products: Day-ahead load shaping, a 15-minute product, and a 5-minute product.

Comments:

BPA is generally supportive of the different flexible RA products the ISO has proposed. BPA would suggest limiting the Day Ahead Load Shaping (DALS) product to 16 hour blocks as opposed to 24 hour availability, as the product is meant to shape the known three-hour ramps. It should be noted that a 24 hour availability obligation requirement may limit or eliminate any exchange products from the Northwest due to fuel limitations.

Additionally, BPA is interested in clarifying whether the ISO will preserve hourly energy schedules for those willing to be price takers in the day-ahead energy markets.

Quantification of the flexible capacity needs

The ISO has provided data regarding observed levels of uncertainty, in addition to previous discussions of net load ramps.

Comments:

To reiterate our earlier comment, BPA is interested in understanding the growth factor the ISO uses when calculating the total need and how flexible capacity needs for uncertainty from new sources are factored into the ISO's analysis.

Eligibility criteria and must offer obligations

The ISO has identified a preliminary list of resource characteristics and attributes that could be considered for resource eligibility to provide each product. Additionally, the ISO is considering new counting rules for VERs that are willing to bid into the ISO markets.

Comments:

BPA supports the pre-qualification process proposed by the ISO for qualifying resources eligible to provide flexible capacity, but urges the ISO to develop business practices in a timely manner allowing suppliers sufficient time to pre-qualify. Energy imbalance costs for failure to perform are generally a small percentage of annual capacity payments, to further deter performance issues the ISO should assess resource performance and decertify resources that significantly underperform for a sufficient period of time.

Equitable allocation of flexible capacity needs

The ISO has proposed a methodology for equitable allocation of flexible capacity requirements. The ISO seeks comments on this proposed methodology, as well as any alternative methodologies.

Comments:

BPA would like to note that in our experience load has been a relatively predictable amount of uncertainty with increases occurring when there is a high penetration of variable resources. We would appreciate clarification on whether the ISO is using gross load or load net of distributed resources of the LSE in its load ratio share. BPA suggests that the ISO develop two measures for load uncertainty (both gross load and load net of distributed resources) and allocate load uncertainty to LRAs based on the load ratio share of each measure.

Additional detail on how the ISO is treating behind-the-meter resources would be helpful in understanding how uncertainty is being allocated to the LRAs. BPA supports the equitable allocation of flexible capacity needs based on an LRA's gross load, load net of distributed resources, solar, and wind uncertainty contribution.

<u>Other</u>

Please provide any comments not addressed above, including comments on process or scope of the FRACMOO2 initiative, here.

Comments:

BPA believes the ISO has developed a sound framework for meeting flexible capacity needs with its energy markets and improving its dispatch of energy resources. BPA does not support delay in the implementation of provision of flexible resource adequacy capacity by external resources beyond the proposed implementation date of January 1, 2020.