

CAISO FRAC MOO Phase 2 9/26/2017 Work Group Comments

Submitted by	Company	Date Submitted
Aimee Higby anhigby@bpa.gov	Bonneville Power Administration	October 10, 2017

The Bonneville Power Administration (BPA) appreciates the opportunity to provide comments on the Flexible Resource Adequacy Criteria and Must Offer Obligations (FRAC MOO) Phase 2 September 26, 2017 working group meeting. BPA is supportive of the California Independent System Operator (CAISO) changing its FRAC MOO framework to be prepared for operational needs as the generation fleet evolves to meet state policies. BPA understands the latest work group was on the conceptual framework for Flexible Resource Adequacy (RA). It would be helpful for CAISO to provide more clarity on the changes it would like to make for the upcoming year and what it views as longer term changes. BPA is supportive of expanding FRAC MOO to include external resources, and creating products that can meet ramping needs and uncertainty in different timeframes. BPA sees continued opportunity for the CAISO to help parties better understand how the current fleet of flexible resources are offered and used in the market. In determining the mix of eligibility requirements in the RA program, the CAISO should also consider the market signals that will ensure the most efficient resources are being brought and made available to the market.

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.

The transmission assets that make up the interties between the Northwest and California can be described by how flexible they can be: 400 MW are flexible within 5-minute intervals to support 5-minute dispatch and delivery of regulating resources; 4,800 MW are flexible from one 15-minute scheduling interval to the next; and, with the 3,100 MW direct current intertie from the Northwest to Los Angeles included, 7,900 MW are flexible from one hourly scheduling interval to the next.

General Comments

BPA understands the CAISO conceptual framework as creating new categories of Flexible RA capacity and developing a new Effective Flexible Capacity (EFC) for each category of product based on the ramping rate of the resource. It is unclear which aspects of the current Flexible RA rules the CAISO is proposing to change in this stakeholder process. Therefore, it would be helpful if the CAISO would identify the changes in the Flexible Capacity Needs Assessment proposed for 2019 from the 2018 Assessment and state when the CAISO expects these changes could be implemented. BPA urges the CAISO to separately identify 2019 changes from ones it would like to consider in future years.

External Resources: Equitable access for internal and external resources

BPA remains supportive of allowing external resources the opportunity to meet flexible resource adequacy qualifications and is pleased to see it is part of the conceptual FRAC MOO framework. Equal access for external and internal resources through a non-discriminatory and competitive process will increase the efficacy of Flexible RA resources offered into the Day-Ahead Market (DAM), and Real-Time Market (RTM).

Flexible RA fleet analysis and new products are necessary for CAISO to adapt to its changing needs

As discussed in the 9/26/17 presentation, the CAISO's ramping needs are increasing and managing uncertainty needs to occur in all of the markets. BPA is supportive of expanding Flexible RA outside of the RTM and into the Fifteen Minute Market (FMM) and DAM. BPA is pleased to see that the CAISO is proposing Flexible RA products to address uncertainty and variability in multiple timeframes, including a day-ahead shapeable product and a 15-minute product. BPA also believes development of EFC calculations that reflect the actual ramping capability of resources will allow California entities to make better economic decisions in acquisition, commitment and dispatch of resources to meet the variability of net load ramps through the day, and the intra-hour uncertainty.

In order to facilitate the development of the eligibility criteria for the proposed Flexible RA products there are areas where more information would be helpful. To ensure that the new products help meet the CAISO's flexible capacity needs it will be important to understand any gaps the current fleet has in meeting the ramping needs. It would be helpful to see analysis on how the current Flexible RA fleet is being bid into the Must Offer hours, their respective ramp rates, and the proportion of the Minimum Online Commitment (MOC) from the Flexible RA fleet. On this note, on the August 2nd conference call, CAISO staff indicated that the Brattle Group would be conducting a study of the flexible RA needs. Sharing the information from that study in this stakeholder process would help illuminate the need for changes.

The CAISO presented on the large deviation from the DA forecast to the FMM forecast and the smaller deviation of the FMM forecast to the RT dispatch. Insight into how the current Flexible RA fleet would fit into the new product categories would help identify resource gaps for the CAISO in upcoming years. Refining the eligibility criteria for RA is one step to ensure that the different products and resources eligible to qualify are used in the most efficient and effective manner.

In addition to refining the eligibility criteria for Flexible RA, the CAISO's ability to meet the increasing amounts of uncertainty will also be improved if CAISO sends market signals to incentivize resources that are not in the Flexible RA market to provide firm bids when forecasts are inaccurate or Flexible RA resources are unavailable. More detail on what FRAC MOO changes and market design changes CAISO is considering would be helpful as the Straw Proposal is designed.

Sources of Uncertainty: Understand the Source of Uncertainty and the Gaps from Load Forecast Errors

BPA recommends clearly identifying the sources of uncertainty the CAISO is facing. As forecasted net load is dropping and upward and downward ramps are increasing, clarity on the amount of uncertainty created by utility level Variable Energy Resources (VERs), Behind-the-Meter distributed resources, dispatchable resources, and uncertainty in gross load forecast will

help to create the whole picture of the CAISO's flexible needs. In addition to understanding how VERs and dispatchable resources are affecting CAISO's flexibility needs, understanding how an individual LSE's resource mix is affecting the CAISO's flexibility needs is important. Such understanding will help ensure that the Flexible RA requirement is allocated to the parties creating uncertainty, and also allows those Flexible RA costs to be included in decisions regarding new resources. While the CAISO currently provides this information to allocate its needs to its local regulatory authority (LRA), providing the information by LSE will assist the LRA in making cost allocation decisions.

BPA supports the CAISO proposal to forecast future amounts of uncertainty that the Flexible RA fleet needs to meet. Scaling historical observed amounts of uncertainty by an estimate in the growth of sources of uncertainty is a good starting point.