Stakeholder Comments Template

FRACMOO 2 Stakeholder Working Group

This template has been created for submission of stakeholder comments on the FRACMOO 2 Working Group Call that was held on August 2, 2017. The working group presentations and other information related to this initiative may be found at: http://www.caiso.com/informed/Pages/StakeholderProcesses/FlexibleResourceAdequacyCriteria-MustOfferObligations.aspx

Submitted by	Company	Date Submitted
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Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **August 18, 2017.**

The Bonneville Power Administration (BPA) appreciates the opportunity to provide comments on the August 2, 2017 FRAC MOO Stakeholder Working Group call and presentation. 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 nearly always several non-generation uses of these systems 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 California needs for integrating 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.

BPA is supportive of the CAISO's holistic, operationally-focused approach to address its flexible capacity initiative and needs.

Please provide your organization's comments on the following items:

1. Operational issues discussed during the working group related to flexible capacity needs.

   BPA appreciates the CAISO's presentation on the operational challenges it faces as more renewable resources are integrated into the grid. The CAISO appears to face increasing challenges of balancing real-time supply and demand. Ensuring that the CAISO has access to resources that can provide the operational flexibility and ramping capabilities necessary to ensure grid reliability is important to all stakeholders.

   The information presented suggests that the intra-hour variability and uncertainty of the resources provided by the existing flexible resource adequacy metrics often results in an inability to meet load/resource balance in real-time using the resources provided by the existing flexible resource adequacy metrics. As the CAISO goes through the process of revising those metrics and faces increasing renewable resource development, it should look at market design changes that would allow access to resources that can minimize the need for regulation reserves to address uncertainty that is not resolved in the 5-minute market. Developing a means to access flexibility from all resources in both the 5-minute and 15-minute time frames would allow California to access resources to control interconnection frequency at the least cost to California ratepayers.

   BPA would like to better understand any issues the CAISO may have with meeting the Balancing Authority ACE Limit requirement R2 (BAL-001-2). BPA sees the Control Performance Standard (CPS1) as a valuable standard but since compliance is based on a one year average, this is a standard that can be met in the hours an entity does not experience difficulties in meeting the hourly average 100% limit for CPS1; whereas, with BAL-001-2 any 30 minute timespan can be non-compliant with the standard.

2. Proposed flexible capacity procurement framework presented by The Brattle Group.

   The Brattle Group framework for flexible capacity procurement appears to address many of the issues that BPA has commented on in the current FRAC MOO process, including identification of flexible capacity needs and flexible capacity product requirements. BPA supports an iterative operational assessment and procurement process. Expanding the flexible capacity initiative to account for differences in ramping need timeframes, and to account for different types of uncertainty and variability, is an important step in ensuring that the CAISO has the flexible capacity needed for a reliable system. Gaining a better understanding of how the current flexible resource adequacy fleet is being used and identifying operational and ramping gaps is a first step in developing a more robust and stable flexible capacity program.

3. Proposed flexibility metrics and any additional metrics that you believe the CAISO should consider.

Expanding the flexibility metrics to account for the contributions of resources in different time frames for meeting forecasted variability, uncertainty, and ramping needs will: 1) minimize the amount of ramping needs served in the five minute energy and regulation markets; 2) make the flexible capacity initiative a more robust program; and 3) result in lower costs for California consumers. BPA is supportive of identifying the forecast variability contributing to system flexibility needs outside of the 5-minute time frame in both upward and downward directions. Accessing flexibility outside the 5-minute time frame will provide greater access to flexible resources and allow the CAISO system to be positioned to meet uncertainty needs entering the 5-minute and shorter timeframe. As more renewables and behind-the-meter resources are expected to come online, the CAISO should look into the effect that these resources will have on its flexible capacity needs and its ability to meet daily ramps. As the CAISO discusses re-thinking its approach to flexible and inflexible capacity, BPA thinks that better understanding of the resources and loads that contribute to forecast variability and uncertainty would be useful information.

4. Plan to move the flexible capacity initiative forward.

   BPA supports the CAISO's efforts to conduct a comprehensive review and overhaul of the flexible capacity initiative as well as the entire Resource Adequacy program. Further, BPA continues to support equal access for external and internal resources through a non-discriminatory and competitive process and is encouraged to see that allowing external resources to qualify as flexible capacity is a part of the overhaul of the flexible capacity initiative.

   BPA is supportive of the holistic approach the CAISO is taking in the flexible capacity initiative. In earlier comments BPA identified the need to look at flexible capacity products beyond the 5-min market and look at forecasted variability in different timeframes. We are encouraged that the CAISO is open to exploring other products in various timeframes to address operational needs created by forecasted variability and uncertainty.

   BPA also supports the recognition by the CAISO that not all issues surrounding the need for flexible capacity need be solved only in the Resource Adequacy process. Modifications to the market design of the day ahead market will allow efficient solutions that provide access to all resources to meet needs for flexible capacity that are not met by the existing Resource Adequacy resources. Reform of the day-ahead market would provide additional means to obtain access to flexible capacity when it is needed and inform the design of the flexible resource adequacy products based on the proposed evaluation process.

5. Any other comments.

   BPA encourages the CAISO to keep moving forward with creating a flexible capacity program that is able to adequately address operational needs due to forecasted variability and uncertainty. One item that wasn't addressed in the August 2 call was the issue of cost causation as the resource mix changes and results in increases in forecast variability and uncertainty. The CAISO should review its rate designs and whether costs are just allocated to loads or whether a portion of the costs should be allocated to the resources that create the variability and uncertainty. As existing resources retire, an important purpose of the resource adequacy program is to develop a new fleet of resources to meet the reliability needs while meeting the State's renewable policy goals. Ensuring that the correct cost allocation is made

to resources that contribute to the variability and uncertainty will help select the right resources for future investments. For example, BPA currently allocates its costs to meet forecast variability and uncertainty needs in varying amounts to loads, dispatchable generation, and variable generation based on their contributions to the creation of flexibility needs. While the CAISO would likely create additional categories of cost contribution (i.e. distributed generation), the principle will help minimize costs in meeting the State policy goals.

The State of California has articulated a policy of using the Resource Adequacy program to ensure reliable electric service. BPA supports the concept of a broader resource adequacy review beyond flexibility. In particular, BPA believes the Resource Adequacy program should establish requirements for load serving entities to provide resources or other means of meeting the frequency response requirements of the CAISO balancing authority area. A robust review of the engineering requirements to meet reliability needs and a commercial program that results in actual investments or business processes to meet those needs are essential components of meeting the State's policy goals.