Department of Energy

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CAISO Local Market Power Mitigation Enhancements
Issue Paper/Straw Proposal , September 13, 2018
Bonneville Power Administration Comments

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Bonneville Power Administration (Bonneville) appreciates the CAISO's timely initiation of a formal stakeholder process on Local Market Power Mitigation. The robust discussion in the EIM Offer Rules Workshop of July 19, 2018 revealed multiple perspectives regarding the issues of market power, mitigation of the exercise of market power, and default energy bids. These are clearly important issues, the details of which may significantly influence market outcomes for end-users and market participation from generating resources. Bonneville appreciates CAISO's initial issue paper and straw proposal and believes many of the principles and general features presented therein are largely consistent with our previous comments on these issues.

Bonneville offers these comments on the current proposal in the hopes of ensuring that use-limited resources, such as hydro, can effectively participate in the EIM. Bonneville also looks forward to deeper discussions at the Local Market Power Mitigation Working Group meeting on October 10th.

Bonneville 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. Bonneville currently supplies 30 percent of the power consumed in the Northwest. Bonneville also operates 15,000 miles of high voltage transmission that interconnects most of the other transmission systems in the Northwest with Canada and California. Bonneville 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.

EIM Use-Limited Default Energy Bid

Bonneville appreciates the general features of the proposed default energy bid formulation for use-limited resources. The inclusion of (potentially) multiple months of forward on-peak indices acknowledges the forward-looking nature of the opportunity cost of use-limited resources with temporal energy storage. The proposed differentiation of this forward horizon across resources recognizes the varied constraints faced by different resources. The application of a scalar multiple highlights the inherent flexibility of many use-limited resources in targeting the most economic hours in which to generate. Bonneville believes these features of a use-limited resource default energy bid are workable in spirit, but highlight several areas in which the initial proposal can be enhanced.

The proposed default energy bid formula is a welcome improvement over the CAISO proposal presented at the EIM Offer Rules Workshop. Bonneville strongly supports the use of an index or multiple indices in the use-limited default energy bid formulation, and appreciates CAISO's suggestion of using publicly accessible, verifiable, and forward-looking energy indices. A notable shortcoming of the proposed methodology is that it fails to account for variation in prices within the operational month. This is of particular importance for use-limited resources, since stressed grid conditions are often forecastable up to a week in advance, and application of inappropriately low default energy bids prior to stress events may prematurely deplete these resources. Such premature depletion increases the risk to load service during extreme system events. There are several potential solutions to this issue, which may include using imperfect proxies for within-month forward pricing – a balance-of-month index value or daily forward ICE settlement values – or rigorous consideration of a scalar, or perhaps some combination of both.

CAISO proposes that "the CAISO will determine which trading hub index will be appropriate for use based on the location of the resource." Bonneville stresses that it interprets this part of the proposal to mean that determination of the appropriate index will be a collaborative effort of the CAISO and the resource operator. Additionally, Bonneville wishes to clarify that the appropriate location-based trading hub index for a resource may not necessarily be the resource's most proximate trading hub.

To expand on the trading hub index concept, pricing at trading hubs across the west may exhibit significant seasonality; for the index to be linked to a single trading hub across the entire year (or in perpetuity) ignores the ability of market participants to market surplus energy at the most economic trading hub. Bonneville suggests that a reasonable methodology would allow for inclusion of multiple locations in the formula to be determined jointly by the CAISO and resource operator.

Finally, the suggested scalar multiple appears overly simple and should be supported by empirical analysis. Bonneville is supportive of the idea of a scalar multiple in principle and believes it is an important component of the proposed default energy bid formulation for two reasons. First, it recognizes the value that use-limited resources with energy storage bring to mitigate systematic within-day variation in prices. Second, it acknowledges that the fundamental conditions that result in variation in prices within future months are inherently unforecastable. Bonneville asserts that rather than a static number this scalar should be based on some proxy of

expected variation (perhaps historical observations) unique to each of the resource's applicable trading hubs. Most importantly, Bonneville believes that CAISO should seek a use-limited default energy bid formulation that is robust to changing market conditions. Application of a scalar multiple that is static, regardless of evolving market fundamentals, is myopic. Instead, CAISO should adopt a methodology to determine the appropriate scalar multiple on a reasonable, regular, mutually agreeable cadence.

Local Market Power Mitigation

Bonneville supports the efforts of the CAISO in eliminating the problem of flow reversal caused by local market power mitigation (LMPM). The examples put forward in the proposal helped identify some of the key issues associated with mitigation and highlighted several principles that Bonneville believes should inform the ultimate revision to the LMPM methodology. Bonneville looks forward to more discussion on the nuances of presented examples and a deliberate exploration of their perturbations that many stakeholders appeared to find compelling.

Relating to CAISO's stated principle that "supply should not be forced to sell energy at a mitigated price beyond what is needed to resolve market power," the ultimate LMPM methodology should consider both the *mitigated price* and the *amount of supply that is mitigated*.

Bonneville believes the proposed use-limited default energy bid enhancements represent positive initial steps in addressing mitigated prices. It was evident from the presentation of the straw proposal that stakeholders appreciate a change to the LMPM methodology that, in part, focuses specifically on the amount of mitigated supply. Bonneville recognizes the potential difficulty in balancing the competing objectives of enabling *voluntary, economic* flow between EIM entities and limiting outsized market impacts that may result from the exercise of market power. Bonneville strongly supports a solution that delineates market supply that is necessary for reliable operations from that which is available for strictly voluntary market transactions that improve the economic efficiency of market outcomes.

Multiple stakeholders in various venues have raised the issue of the conduct and impact tests utilized by ISOs in other regions. With various market enhancements yielding increasingly complex optimization problems and placing greater burdens on computational resources, these tests have the potential for beneficial reductions in the solution space and market run times. Bonneville encourages CAISO to allocate time in this stakeholder process to a fuller exploration and discussion of the merits and potential market impacts of these tests.