

Stakeholder Comments Template

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Comments:

The Center for Energy Efficiency and Renewable Technologies (CEERT) and Renewable Northwest (RNW) appreciate the opportunity to comment on the Flexible Resource Adequacy Criteria and Must Offer Obligations 2 Revised Straw Proposal. The California Independent System Operator (CAISO) should begin assessing its long-term flexibility needs now. While it may be beneficial to remove the long-start and long-run resources from the EFC list, this step alone is merely a Band-Aid and does not advance a more accurate identification of the products and services necessary to meet the flexible ramping needs of the grid. The CAISO and the California Public Utilities Commission (CPUC) must develop a structure to incentivize and compensate resources for being available to provide flexible ramping services and this structure must be sensitive to the impacts it has on cost effectively meeting the state’s climate and renewable energy goals. CEERT and RNW respectfully request that the CAISO and the CPUC expedite the release of a joint process and timeline for developing a durable solution for addressing the flexibility challenge.

CEERT and RNW do not believe the proposed changes will technically “set back” addressing the flexibility issue but further delaying a long term solution will. Without generator statistics, such as start up and minimum runs times, or analysis from the CAISO supporting the proposal, it is challenging to make informed comments on the proposed changes. If it is assumed that long-start and long-run resources are primarily the once-through-cooling (OTC) fleet, upon examination of the March 2017 gas generator production profiles available through the EPA Air Market Program Data, it does not appear that the OTC fleet provides significant ramping support¹. None of the OTC plants appear to run more than 50% of the days of the month, let alone be frequently relied upon to meet the evening ramping needs. The only OTC plant that appears to consistently ramp is AES Alamos. While CEERT and RNW strongly recommend the CAISO move forward on long term solutions, we do not believe limiting long start and long run resources will have a negative impact on meeting the morning and evening ramp. CEERT and RNW recommend that the CAISO provide analysis on how the grid flexibility needs are

¹The Environmental Protection Agency Air Markets Program Data includes hourly generator load profiles and is available at: <https://ampd.epa.gov/ampd/>

currently being met to provide insight to stakeholders to make informed comments on the FRAC MOO proposals moving forward.

While CEERT and RNW are in agreement with and have previously stated support for “aligning resource adequacy requirements with operational needs”, it is essential that the CAISO determine and define the operational needs as the grid resources evolve with California’s mandated climate and energy goals. While it is not the CAISO’s responsibility to carry out the State objectives, it is essential that CAISO be a platform that allows state-jurisdictional LSEs to cost-effectively meet their RPS and carbon targets without jeopardizing reliability. The CAISO, in coordination with the CPUC, should endeavor to understand what the true operational needs of the grid are as clean resources comprise upwards of 50% of energy production. CEERT and RNW recommend evaluating the needs of the grid with 60-70% renewables to provide insight into what resource capabilities will become more valuable as the grid is decarbonized.

In defining the “flexibility” needs of the grid, it seems immediately clear that there are multiple flexibility needs in terms of magnitude and duration that would therefore justify multiple products. A single 3-hour product with a real-time market must-offer obligation is not reflective of the true flexibility need for a low-carbon grid or even an efficient proxy. This is evidenced by the oversupply EFC resources while at the same time there are concerns about the flexibility needs not being met. The evening net-load ramp need is largely known a day or multiple days in advance. In comparison, the inherently variable renewable generation adds to the uncertainty of forecasted net-load throughout the day, even as forecasting methods continue to improve, and creates smaller “ramps” in the hour and 5-min time periods throughout the day as generation fluctuates with changing weather. The evening net-load ramp and intra-hour net-load variability are two different needs and should be evaluated and met as such. CEERT and RNW recommend the CAISO undertakes, in coordination with CPUC, a transparent and data-driven stakeholder process to redefine flexibility as two products: 1) a firm contract for 3-5 hours of shaped energy at the morning and evening ramps and 2) a shorter length, smaller capacity ramping to account for forecast error, forced outages, transmission outages, etc. CEERT and RNW recommend that the CAISO focus on developing separate criteria to meet the forecastable multi-hour ramps and the intra-interval to intra-hour ramping needs.

CEERT and RNW are supportive of providing opportunities for intertie resources to provide flexible capacity. As reported in CEERT, RNW, NRDC, and WGG’s Flexible Capacity Needs Assessment Comments, imports already provide a significant portion of ramping capacity, even more so on days with significant curtailment². While the CAISO likely has greater insight as to what resources comprise “imports”, it can be speculated that a significant amount is gas, or even coal, from the desert Southwest. Developing a product that would allow intertie resources to participate would create certainty around what the utilized resources are and whether they are in alignment with the State’s climate and energy goals.

² <https://www.caiso.com/Documents/CEERTRenewableNorthwestNRDCWGGJointComments-2018DraftFlexibleCapacityNeedsAssessment.pdf>

In order to utilize clean inertia resources, a different framework must be used that allows transactions in the day-ahead market. This would likely enable both inertia resources and in-state resources that require advanced notice to provide flexibility. Much of the morning and evening ramps are forecastable and can be scheduled into the day ahead market. For example, instead of a must offer obligation, needed certainty could take the form of a firm contract, still ensuring the ISO's system will have the resources needed to maintain reliability. Separately, a way to address the intra-interval to intra-hour uncertainty could be to forecast uncertainty and enhance the Flexible Ramping Product, or more simply the regulation reserves, to allow the flexibility to be committed in advance to mitigate any uncertainty associated with the ramp. This type of structure would provide a means for entities such as those with zero-carbon large hydro resources, such as in-state entities like the Department of Water Resources or the Northern California Power Agency, or out-of-state entities in the Pacific Northwest to better provide flexible capacity.

In summary, CEERT and RNW respectfully offer the following recommendations:

- The CAISO and the CPUC should expedite the release of a joint process and timeline for developing a durable solution for addressing the flexibility challenge.
- CAISO should provide analysis on how the grid flexibility needs are currently being met to provide insight to stakeholders to make informed comments on the FRAC MOO proposals moving forward.
- The CAISO and CPUC should evaluate the needs of the grid with 60-70% renewables to provide insight into what resource capabilities will become more valuable as the grid is decarbonized.
- The CAISO focus on developing separate criteria to meet the forecastable multi-hour ramps and the intra-interval to intra-hour ramping needs.
- The CAISO should develop a framework that allows transactions in the day-ahead market to meet the flexibility needs of the grid.