

California Independent System Operator

**Comments of the California Wind Energy Association CAISO Issue Paper on  
Frequency Response Phase 2**

January 11, 2017

**Contact Information:**

|  |  |
|--|--|
| Nancy Rader<br>e-mail: <a href="mailto:nrader@calwea.org">nrader@calwea.org</a><br>phone: 510-845-5077 | Dariush Shirmohammadi<br>e-mail: <a href="mailto:dariush@gridbright.com">dariush@gridbright.com</a><br>phone: 310-858-1174 |
|--|--|

The California Wind Energy Association (“CalWEA”) appreciates the opportunity to comment on the California Independent System Operator Corporation’s (“CAISO”) Frequency Response Phase 2 Issue Paper (the “Paper”). In the Paper, CAISO responds to a new FERC standard aimed at maintaining the reliability of an interconnected power system that obligates each Balancing Area (“BA”) to achieve a specific performance level called its Frequency Response Obligation (“FRO”). CAISO proficiently discusses the need for frequency response (particularly fast primary response), and discusses some of the solutions available to CAISO to meet its FRO using supply- and demand-side resources within its footprint.

The frequency response service discussed here is for upward frequency response (the capability to increase system frequency) in the face of a system frequency drop due to the occurrence of a system contingency. Notably, it is generally not economic for renewable energy technologies with intermittent fuel sources, known as variable energy generators (“VERs”), to provide this type of service for the reasons accurately discussed in the Paper and supported by the studies that it cites: in most circumstances, solar and wind resources would either need to add costly storage capability or operate inefficiently by reducing their output below the level that their variable fuel source would allow.

While the FERC's November 17, 2016, Notice of Proposed Rulemaking ("NOPR") proposes a requirement that all new and certain reconfigured existing generators adhere to frequency response capability requirements, such a requirement would be highly inefficient. CalWEA very much appreciates the thrust of CAISO's Paper that suggests that the FRO can best be met by introducing long-term market design measures that incentivize sufficient capability and performance levels to maintain grid reliability as the resource mix evolves, but that does not require all new and certain reconfigured existing resources<sup>1</sup> to provide frequency-response service. A market-based approach is superior to a uniform requirement in situations such as this, where different resources face drastically different costs for providing a service and not all resources need to provide a service at any one point in time. This market-based approach would obviate the need for an indiscriminate obligation on all subject resources, particularly for the provision of frequency response service. CalWEA strongly encourages the CAISO to make such a proposal to FERC, which would be the most efficient and appropriate approach for the following reasons:

- Obtaining frequency response service from renewable resources requires reducing their output below the level that their fuel source would allow, meaning that free and carbon-free fuel would be wasted. Not only is this inefficient, it is inconsistent with achieving California's Renewables Portfolio Standard and greenhouse-gas reduction goals.
- As discussed in the Paper, supported by the studies that it references, it will be relatively expensive for VERs to provide frequency response service. The Paper appropriately identifies the need to compensate generators for the capital cost of adding the capability

---

<sup>1</sup> The FERC and CAISO appropriately propose to apply any requirement only to existing resources that change their configuration to an extent that would require them to enter new interconnection studies.

to provide frequency response service and for the opportunity (operating) cost of actually providing the service, if CAISO were to require the provision of that service.

- A well-designed market can incentive the provision of frequency response service from all generators, including VERs, in circumstances where it may be economic to do so. For example, if curtailment of solar generation during certain times of the year becomes the norm, it may make sense for some of these generators to participate in the market for frequency response services during curtailment periods. Requiring all VERs to be equipped with frequency response capabilities that may not be needed or competitive would be unnecessary in the presence of a market mechanism that would allow resource owners to determine whether it is more economic for their resource relative to other resources to provide the service.
- The ability to provide frequency response is inherently built into most non-VER supply-side resources (e.g., gas generators) or can be efficiently built into demand-side and storage resources. At the same time, these non-VER resources, especially supply-side resource, which are critically needed to provide a range of grid-reliability services (such as flexibility), are becoming commercially non-viable due to the loss of RA capacity revenue. Hence, creating a market mechanism that incentivizes, but does not require, all resources to provide frequency response service is not only cost-effective (there would likely be no need to pay for adding frequency response capability as the need can be readily met by resources with an intrinsic capability to provide the service) but will also provide these non-VER resources with added revenue to help them to remain commercially viable. In that regard, CalWEA believes that all resources (existing and

new) should be compensated for offering frequency response services to the market, even those that are acquired intrinsically (such as inertial response).

For these reasons, CalWEA strongly encourages the CAISO to make a proposal to FERC that relies on a well-designed market to encourage a sufficient and efficient supply of frequency response services, rather than placing a costly obligation on all market participants, particularly VERs, that are ill-suited to provide it.

We note that FERC does make clear in the NOPR that it is not proposing to require the provision of primary frequency response service.<sup>2</sup> This distinction between provision and capability is important, as the actual provision of frequency response service by reserving headroom to respond in an upward direction would be very costly cost for renewable resources. CAISO should applaud FERC for its determination to not impose such a requirement.

---

<sup>2</sup> FERC NOPR at page 2, “the Commission does not propose in these reforms to impose a headroom requirement for new generating facilities.”