Stakeholder Comments Template

Reactive Power Requirements and Financial Compensation
Draft Final Proposal

Submitted by	Company	Date Submitted
Nancy Rader phone: 510-845-5077 / 310-858-1174 Michael Goggin phone: 720-244-3153 / 202-383-2535 Dariush Shirmohammadi phone: 510-845-5077 / 310-858-1174	California Wind Energy Association (CalWEA) American Wind Energy Association (AWEA) California Wind Energy Association (CalWEA)	December 3, 2015

This template has been created for submission of stakeholder comments on the draft final proposal for the Reactive Power Requirements and Financial Compensation initiative that was posted on November 12, 2015. The draft final proposal and other information related to this initiative may be found at: http://www.caiso.com/informed/Pages/StakeholderProcesses/ReactivePowerRequirements-FinancialCompensation.aspx.

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **December 3, 2015.**

1. Please indicate whether you support reactive power requirements for all resources.

The wind industry continues to support all CAISO initiatives that reasonably and cost-effectively improve the reliability and efficiency of the electric power system. By participating in the development of all of the requirements of FERC Order 661A and the interconnection requirements of the CAISO and other transmission operators, the wind industry has consistently played its part in putting this support statement into action. The wind industry has also taken the initiative to provide needed reliability services, including meeting voltage and frequency ride-through standards that are more aggressive than can be met by most conventional generators. At the same time, it is important to evaluate whether the desired capabilities are optimally obtained by imposing uniform requirements on all generators, or whether a need may be better met with solutions that are less costly overall and less burdensome on market participants.

With the above preamble, the wind industry has stated that it supports the universal reactive power requirements for asynchronous resources, provided that:

- Clarity is achieved on the application of reactive power requirements to existing asynchronous resources who are refurbishing or repowering (we are satisfied with the clarifications provided in CAISO Draft Final Proposal);
- Clarity is reached on the feature of the CAISO proposal that will allow interconnection customers, CAISO and PTOs to seek and find alternative and creative solutions to providing reactive support (unfortunately every successive version of the CAISO proposal has reduced, rather than increased, clarity on this critical issue); and
- Comparability is achieved in the application of the reactive power requirements to synchronous and asynchronous resources (unfortunately, this feature of the CAISO proposal is far from satisfactory as we explain below).

2. Please indicate whether you support the proposed technical requirements for asynchronous resources.

The wind industry broadly supports the proposed technical requirements for asynchronous resources provided that comparability is achieved in the application of these requirements to synchronous and asynchronous resources. In this regard, the CAISO Final Draft Proposal is lacking in the following areas:

- The proposal fails to allow asynchronous generators to choose to meet the same reactive power requirements as synchronous generators, namely, a 0.9 lagging to 0.95 leading power factor range at the generator high-side terminal. As part of this comparability feature, synchronous generators should be allowed to choose to provide 0.95 lagging to 0.95 leading power factor range at their point of interconnection (POI).
- The proposal fails to treat synchronous and asynchronous generators comparably when it comes to compensating asynchronous generators for providing reactive power capability beyond the reactive power capability that these generators can naturally provide as part of providing their real power capability. Synchronous generators have been fundamentally designed and constructed for decades to provide their required reactive power requirement as part of their real power provision. In other words, a synchronous generator is able to meet its reactive power requirements at no incremental cost. However, asynchronous generators will incur additional costs in meeting the CAISO's new universal reactive power capability requirements and this additional cost should be compensated in order to establish comparability between the reactive power requirements imposed on synchronous and asynchronous generators.

3. Please indicate whether you support the current provision payments for providing reactive power outside of the standard required range.

Assuming that asynchronous generators are subject to meeting an appropriate reactive power requirement (see response to question 2), they will be able to provide reactive power within the required range without incurring any significant cost. Hence, under that circumstance, we can support the CAISO's current provision payment that compensates asynchronous resources for providing reactive power outside their reactive power requirements range. Otherwise, the compensation would not be sufficient for the additional cost that asynchronous generators would incur for providing reactive power outside of their reactive power requirement range.

4. Please indicate whether you support the proposal to not provide administrative payments for reactive power capability.

As CalWEA and AWEA articulated in response to Question 2, the wind industry, on comparability grounds, does not support the CAISO Draft Final Proposal due to its failure to compensate asynchronous generators for providing reactive power capability beyond the reactive power capability that the generators provide as part of providing their real power capability.

5. If you have any other comments, please provide them here.

In its Straw Proposal on asynchronous generators' reactive power requirements, CAISO had presented some innovative ideas on collaboration between the interconnection customer(s), CAISO and the PTOs to develop creative reactive power provision solutions that would better meet the reliability needs of the power system while also resulting in cost saving for all parties involved and eventually the ratepayers. Unfortunately, every subsequent version of the CAISO proposal reduced, rather than increased, the clarity of this important feature of the CAISO Straw Proposal. The wind industry wishes to stress the usefulness of such a feature in any reactive power requirement proposal and stands ready to work with the CAISO and the PTOs on developing the details of processes and procedures for such creative ideas.

Finally, FERC has initiated a Notice of Proposed Rulemaking (NOPR) intended to enact national requirements for asynchronous (wind) generators to provide reactive power. (https://www.ferc.gov/whats-new/comm-meet/2015/111915/E-3.pdf). In that regard, we would note that many of the issues we are raising in our comments, including payment for reactive power capability and provision, are raised for discussion in the FERC NOPR. As we understand it, wind industry's position stated in these comments are not far from the initial position presented in the FERC NOPR.