California Independent System Operator
Renewables Integration - Market and Product Review Phase 2

Comments of the California Wind Energy Association on the CAISO February 5, 2013, FERC Order 764 Implementation Revised Straw Proposal

Contact Information: Dariush Shirmohammadi
e-mail: dariush@shirconsultants.com
phone: 310-858-1174

Nancy Rader
e-mail: nrader@calwea.org
phone: 510-845-5077

Submitted On: March 4, 2013

The California Wind Energy Association appreciates the opportunity to comment on the California Independent System Operator's (CAISO) revised straw proposal on the FERC Order 764 Compliance market reform proposal. CAISO's latest market reform proposal has evolved from compliance with FERC Order 764 (addressing inter-Balancing-Area ("Inter-BA") scheduling intervals from 1 hour to 15 minutes) into a comprehensive plan intended to cover a number of critical issues for renewables. CAISO's market reform proposal covers all the following features:

- Implementation of a new Day-Ahead (DA) market structure by combining the DA Integrated Forward Market (IFM) and Residual Unit Commitment (RUC) and creation of the integrated DA Market (iDAM);
- Implementation of 15-minute inter-BA scheduling as well as 15-minute intra-CAISO scheduling at 37.5 minutes before real-time;
- Procurement of a short-term Flexible Ramping Product (FRP) intended to provide the CAISO grid with some of the added flexibility capability that may be needed to address the increased penetration of renewable resources and for other reasons; and

- Elimination of Participating Intermittent Resource Program (PIRP), as we know it, given the availability of more granular scheduling closer to real-time.

1. Comments on New Market Features

As we have noted before, CalWEA very much appreciates the evolution in thinking that has occurred at the CAISO regarding how system flexibility needs should be addressed, which began with the notion that renewable energy projects should invest in technologies to enable them to perform as fossil-fuel resources but has now evolved into these comprehensive market reforms which aim to create a market that can more efficiently integrate variable generation. We also appreciate that CAISO has consolidated several initiatives relating to system flexibility needs into a single initiative under the banner of market reforms for FERC Order 764 Compliance.

Again as we have noted before, we believe that the essential component that is still missing in the CAISO's new reform proposals is the capability to enable market participants to optimize long-term procurement and scheduling of resources in light of system flexibility needs. When it comes to cost allocation, as we have explained before, we have no fundamental objection to accurately assigning the cost of providing a service to the source of the cost. However, to the extent that the assigned costs can be tied to a specific generation resource, the cost should be allocated and billed to the Load Serving Entity (LSE) that has contracted with that resource. Further, such costs should be estimated for future resources and made available to LSEs so that they can use them as part of their Least-Cost/Best-Fit (LCBF) bid evaluation process. Once such costs are attributed to specific generation resources at the time of LCBF procurement, those costs have been taken into account in the total cost of the generation. For those generators that survive that total-cost competition, the costs attributable to them should be directly recovered from the purchasing LSE. Unlike generators, who must build worst-case estimates of future scheduling costs into their PPA price, an LSE can pass on to ratepayers only the actual costs that materialize, leaving ratepayers better off.

CalWEA also reminds the CAISO that we are not still convinced that a new Flexible Ramping Product is needed to better manage the ramping needs of its system. As we have

noted previously, the two Balancing Areas (BA) with the largest variable energy resource (VER) penetration, MISO and ERCOT, have significantly higher penetrations of VERs than CAISO and a significantly lower availability of flexible resources. Yet, these BAs have not found it necessary to introduce a new product to address the short-term ramping needs of their systems. Instead, they are cost effectively accounting for system ramping needs as a requirement (constraint) in their various forward and real-time market runs.

- **Accurate Forecasting of Load and VERs is Key to Managing System Flexibility Needs**

CalWEA repeats its support for CAISO's proposal to create a three-settlement system which allows VERs to offer 5-minute energy schedules and decremental bids near real-time to establish their baseline schedule used for real-time imbalance settlement as well as for use in the "FRP market." We agree that CAISO's plans to accept and use VERs' 5-minute schedules up to 7.5 minutes prior to real-time for actual system dispatch would positively contribute to efficient market operation.

However, realizing that the timing for submission of baseline schedule (37.5 minutes ahead of real time) was selected because of the inter-BA tagging timeline requirements for out-of-state resources, we request that CAISO shorten this 37.5 minute time period as soon as the inter-BA tagging timeline requirements are reduced. We make this request based on the well-understood fact that the accuracy of forecasting of VERs' output improves exponentially as that forecast is made closer to real-time.

- **Energy Imbalance Market (EIM) Operation Should Fully Account for VERs' 5-Minute Schedules**

CalWEA is pleased by CAISO's announcement to support an Energy Imbalance Market (EIM) for PacifiCorp and hopefully for additional balancing authorities. Several ISOs have proven that wind energy can be accurately and efficiently dispatched in a market using a wind forecast that is updated within ten minute of the dispatch period. CalWEA strongly encourages CAISO to include this feature in the EIM.

2. Elimination of PIRP Requires Further Discussion and Study

CalWEA very much appreciates the fact that CAISO postponed the elimination of the Participating Intermittent Resources Program (PIRP) until market reforms could be put into place that would allow VERs to be able to effectively participate in the market. There are, however, two very important elements of that market reform that should be implemented, in addition to those offered by the CAISO in its February 5 Straw Proposal, prior to considering the elimination of PIRP:

1. Allow VERs to offer their 5-minute schedules closer than 37.5 minutes to real-time (as noted above);
2. Integrate VERs' 5-minute schedules in the operation of VERs; and
3. Implement a wide deviation band around the final schedules that will be used to determine real-time imbalance charges.[1]

In addition, CalWEA requests that the current PIRP monthly imbalance settlement cost averaging/netting schemes be kept in place for at least a year after all market changes are fully implemented (currently scheduled for Q4, 2014) to allow for an assessment of the full impact of PIRP's elimination. Only if the total magnitude of netted monthly imbalances for all PIRP VERs falls below 0.1% of the total imbalance settlement charge for these VERs should CAISO consider the elimination of the PIRP program. We again emphasize that the introduction of PIRP was crucial to the development and financing of independent VERs in California, and its elimination could have a chilling impact on independent VERs' development if not carefully planned.

3. Grandfathering of PIRP for Existing Projects Is A Must

Finally, CalWEA believes that elimination of PIRP for existing VERs, many of which have been developed and financed based on the assumption that PIRP would be available, would impose major financial and contractual risks on those VERs. In many cases, power purchase agreements to which the VERs are parties require the VERs to remain in PIRP and be eligible for its monthly netting in order for the intended allocation of deviation risk between the contracted parties (most often with the utility-buyer agreeing to absorb the risk of deviations)

[1] We note that MISO uses an 8% band for the purpose of real-time imbalance settlement for VERs.

to remain in place. If PIRP, as we know it, is changed as CAISO proposes without grandfathering these projects, there will almost certainly be a widespread disruption in the market, as the contracting parties are forced to sort out the allocation of deviation risk without PIRP and the financing community fears the worst.

Hence, we strongly request that PIRP be grandfathered for all projects with existing power purchase agreements that were executed during PIRP's existence, which, as a result, allocated deviation risk based upon the assumption that PIRP is in place. Many project owners with QF contracts that pre-date PIRP operate small amounts of capacity and do not have the capabilities required to navigate the new, more sophisticated market being contemplated by the CAISO; grandfathering is also important for these projects.

Earlier CAISO proposals to eliminate PIRP would have allowed plants with "signed contracts" (including those not yet built) to stay in the program for the life of the contract. Moreover, the proposed grandfathering limitation is inconsistent with the CAISO's approach in other cases, such as for the RA Standard Capacity Product (SCP) II, where it grandfathered contracts executed before FERC approval of that program, for the entire life of those contracts. The CAISO has provided no justification for eliminating grandfathering for this much more significant program. Moreover, the cost of retaining the PIRP apparatus (given that the CAISO will retain the forecasting program in any event) is minimal.

Of course, we realize that shorter-interval scheduling closer to real-time would mean some tweaks to the implementation of the real-time imbalance netting/averaging process in PIRP as it exists today. In that regard, we propose the following PIRP implementation process which we believe is identical to the existing PIRP and reflects only the changes in scheduling timelines and would not put existing PPAs at risk:

1. CAISO would forecast the 3X5 minute schedules 37.5 minutes before RT for all PIRP VERs and update those schedules 22.5 minutes before RT for all in-area PIRP VERs.

2. CAISO would develop a 15-minute schedule for the resource by averaging the 3X5 minute schedules in Step 1.

3. CAISO would use the same 15-minute schedule as it developed in Step 2 as the instructed dispatch for the PIRP resource to be used in RTD.

4. CAISO would net RT imbalance for metered PIRP resource output against 15-minute schedules as calculated in Step 2 on monthly basis.