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

Comments of the California Wind Energy Association on the November 1, 2011 Flexible Ramping Product Straw Proposal

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Submitted On: December 5, 2012

1.0 Introduction

The California Wind Energy Association appreciates the opportunity to comment on the California Independent System Operator's (CAISO) combination of straw proposals on the Flexible Ramping Product and FERC Order 764 Compliance, released on November 1, 2011, and October 23, 2011, respectively. These proposals offer wide-ranging changes in the CAISO market structure intended to address multiple needs of the market including:

- More efficient 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);
- Compliance with FERC Order 764 related to 15-minute inter-Balancing-Area scheduling; and
- Procurement of a separate 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.

CalWEA very much appreciates the evolution in thinking that has occurred at the CAISO regarding how system flexibility needs should be addressed. First, CAISO came up with a proposal that essentially consisted of penalizing Variable Energy Resources (VERs or renewables) for not behaving like traditional fossil resources. In other words, rather than dealing with system flexibility as a system need that would be most efficiently addressed on a system-wide basis, CAISO opted for the very inefficient approach of forcing each individual resource to address system flexibility needs.[1] CAISO then realized that it would be better to solve the problem on the system level but then focused only on creating and allocating the costs of a short-term capacity product, FRP, to be committed and dispatched during the real-time (RT) market timeframe without seeking to optimize system operation, despite a fundamental shift in California's resource supply picture. It seemed that the entire CAISO effort during these two phases was focused simply on shifting some costs to VERs with the hope that such a strategy would address system flexibility needs. CalWEA is very encouraged that CAISO is now pursuing more wide-ranging market reforms that will minimize the need for additional system flexibility by improving the overall market design and operation.

The essential component that is still missing in the CAISO's new reform proposals is the capability to enable market participants to optimize the long-term procurement and scheduling of resources in light of system flexibility needs. Hence, CalWEA's comments below will mainly focus on these issues. CalWEA also offers some suggestions for improving one of the specific components of the proposed market reform proposals.

CalWEA also reminds the CAISO that we are not convinced that a new product, FRP, is needed to better manage the ramping needs of its system. As we have noted previously, the two Balancing Areas with the largest 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

[1] In fact, CAISO openly stated that individual resources should add technologies such as storage so that they could operate like a traditional fossil plant.

system ramping needs as a requirement (constraint) in their various forward and real-time market runs.

2.0 An Overall Framework to Meet the Need for System Flexibility

CalWEA continues to support CAISO's efforts to ensure the availability of sufficient flexibility in the system to meet the system ramping need for real-time operations. In that regard, CalWEA proposes a comprehensive framework for the CAISO to efficiently meet system ramping needs both in the long and short run:

1) Work with the CPUC to ensure that resources that are being procured on a long-term basis to meet system capacity needs include appropriate ramping capabilities.

2) Commit sufficient ramping capability as part of the CAISO's DA market framework by modeling system ramping needs as a constraint in the DA Market computations.

3) Commit and dispatch resources with proper ramping capability in the CAISO's RT market framework.

4) Identify the cost of meeting system flexibility needs based on the specific sources of the needs, including demand (load and export) and supply (generation and import) variations. Allocate such costs to LSEs who own or have contracted with these demand and supply resources. Also use this information to forecast the integration costs of future demand and supply resources based on the technology and location of such resources.

5) Inform LSEs, who procure and schedule these various system resources, of the forecasted flexibility cost drivers for each resource type on a geographic basis so that they can account for those costs in optimally procuring their resources.

CalWEA believes that the comprehensive process outlined above would efficiently and reliably meet system ramping needs both on long-term and short-term bases. The technical and policy elements of this plan, except for the last element, are already in place enabling straightforward and timely implementation.

2.1 Operational Efficiency Requires Accurate Forecasting of Load and VERs

CAISO's proposal to allow VERs to offer 5-minute energy schedules and decremental bids 37.5 minutes before real-time, to be used not only for real-time imbalance settlement purposes but also for actual system operation, is the most important element of the of the CAISO's wide-ranging market reform proposal. Hence, CalWEA strongly supports this element of the CAISO proposal. However, we understand that the 37.5 minutes was selected because of system tagging needs that would apply only to the scheduling of out-of-state resources. It is well understood that the accuracy of forecasting of VER output is strongly dependent on the timing of the forecast – i.e., the closer that the forecasting (and scheduling) timeline is to real-time operation, the better will be the quality of schedules and consequently the efficiency of system operation. Hence, we would like to request that CAISO allow VERs that are not bound by other system needs (e.g., tagging) to be able to provide their 5-minute energy schedules as close to real-time as possible as the CAISO market operation system allows – we understand that the timing of the Real-Time Unit Commitment run will impose the absolute deadline for that timing.

2.2 Correct Market Settlement and Cost Allocation Is Critical

CalWEA has consistently advocated that the FRP costs be accurately calculated and correctly assigned to the sources of such costs.[2] When it comes to billing for those costs, however, the bill should go to the LSEs that procured the resource and purchase the output of

[2] CAISO's proposed cost allocation, which is based on the "deviation of a generator's metered output from its final instructed schedule," does NOT reflect actual cost causation for FRP cost because it bears no relation to system needs at the time of the deviation.

those generators.[3] Please note that this is not a load-ratio-share, "peanut butter" approach to cost allocation, but a targeted cost assignment based on assigned costs. We have presented this position based on its benefits from market equity and market efficiency standpoints. Briefly stated, these benefits are:

- For existing resources whose PPAs do not allow the pass-through of FRP costs to purchasing LSEs, assigning FRP costs to the purchasing LSE would protect these resources from financial harm stemming from the inability to recover the charges. A considerable number of contracts and total capacity can be expected to fall in this category.[4] In certain circumstances, the charges could potentially cause bankruptcy if revenues cannot accommodate the added unforeseen costs.

- For all future resources not yet contracted, the FRP (and any other scheduling/integration costs) can be estimated upfront (CAISO should provide such estimates based on technology and general geographic location of these resources) and considered by LSEs at the time of resource procurement. In this fashion, not only would the resource procurement process (the process with the biggest impact on overall economic efficiency) be better optimized, but it would avoid revenue uncertainties, and the associated risk premiums, that would otherwise need to enter

[3] As CalWEA has contended previously, under FERC Order 890, the CAISO can apply ancillary service costs to generators only when they cannot recover the costs from transmission customers serving load in the host balancing authority area; this is not the case with FRP costs, which can, in most circumstances, be charged to transmission customers.

[4] CalWEA has reviewed the pro forma PPAs of the investor-owned utilities as they have evolved over time to evaluate the likelihood that the seller acts as its own scheduling coordinator (SC) under contracts signed in these time periods. Based on the pro forma PPA terms, sellers that act as their own SCs likely would not be able to pass-through flexi-ramp charges to the purchasing utility. Based on the pro-forma contracts, it is reasonable to assume the following:
- For SCE, we can assume the seller is the SC for all contracts submitted to CPUC prior to 7/31/07.
- For PG&E, we can assume the seller is the SC for all contracts submitted to CPUC prior to 7/31/08 and 50% of the contracts submitted to the CPUC between 7/31/08 and 7/31/09.
- For SDG&E, we can assume the seller is the SC for all contracts submitted to CPUC prior to 7/31/08 and 50% of the contracts submitted to the CPUC after 7/31/08.
In addition to IOU PPAs, there likely are other projects with existing contracts that would be affected by the proposed tariff revisions (e.g., projects with PPAs with publicly owned utilities).

into the generation financing process to the ultimate detriment of consumers who eventually pay for the non-trivial risk premiums.[5]

For these reasons, direct billing for FRP costs to LSEs should become an integral part of the CAISO proposal.

Finally, CalWEA suggests a simple additional feature for the CAISO settlement process. After dividing the FRP cost broadly among system resources (namely, load, generation, exchanges, and fixed schedules), CAISO should perform one more high level of cost disaggregation before assigning costs to individual resources, e.g., to a specific wind plant. In other words, the settlement process should allocate the FRP cost first to a technology class of generators, say to all wind resources, based on their aggregate performance and then allocate the cost for that technology class to an individual resource within that technology class, say an individual wind plant, based on the submitted/awarded schedule and actual metered performance of that resource.

2.3 Elimination of PIRP Requires Further Discussion and Study

CalWEA very much appreciates the fact that CAISO has previously postponed the elimination of PIRP until market reforms could be put into place that would allow VERs to be able to participate in the market in the first place. There are two very important elements of that market reform that should be implemented prior to considering the elimination of PIRP: CalWEA's aforementioned proposal to allow VERS to offer their 5-minute schedules closer than 37.5 minutes to real-time, and the implementation of a wide deviation band around the final schedules that will be used to determine real-time imbalance costs.[6]

[5] Once the FRP costs are identified and assigned to various resources at the time of resource procurement, the cost has been accounted for, obviating the need to allocate costs to the resource on an ongoing basis.

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

In addition, CalWEA requests that the current PIRP cost averaging and allocation schemes be kept in place for at least a year after all market changes are in place (currently scheduled for Q4, 2014) to allow for an assessment of the full impact of PIRP's elimination. The introduction of PIRP was crucial to the financing of independent VERs in California, and its elimination could have a chilling impact on independent VERs development in California if not carefully planned.