

**Comments of the California Wind Energy Association
on the CAISO's "Second Revised Draft Final Proposal" on
Flexible Ramping Product and Integrated Day Ahead Market**

Contact Information: Nancy Rader
e-mail: nrader@calwea.org
phone: 510-845-5077
Dariush Shirmohammadi
e-mail: dariush@shirconsultants.com
phone: 310-858-1174

Date: October 16, 2012

The California Wind Energy Association ("CalWEA") appreciates the opportunity to comment on the California Independent System Operator Corporation's ("CAISO") latest proposal on a Flexible Ramping Product (FRP) and integrated Day Ahead Market, presented in a number of technical workshops between September 19 to October 2, 2012. The latest FRP/iDAM proposal defines the latest refinements to the FRP proposal and ties the implementation of the FRP to another initiative intended to integrate CAISO's current day ahead Integrated Forward Market (IFM) and Residual Unit Commitment (RUC) processes and applications into a single integrated Day Ahead Market, or IDAM.

The latest FRP/iDAM proposal does not alleviate all of CalWEA's major concerns with the CAISO's FRP proposal – we will outline our remaining major concerns further below. However, CalWEA, subject to further review and discussion, is supportive of the iDAM proposal (with or without the FRP feature). We are also very supportive of the planned upcoming enhancements of the CAISO's forward and real-time markets that are intended for compliance with FERC Order 764. Furthermore, CalWEA strongly recommends that the implementation of FRP come after, or at a minimum coincide with, the implementation of iDAM and market

enhancements related to FERC Order 764. Particularly important will be implementing market enhancements that allow 15-minute (financially binding) energy scheduling close to real-time (we assume the same 37.5 minutes before real-time as currently proposed for settlement purposes) prior to the implementation of the FRP.

In line with our recommended implementation sequencing, CalWEA recommends that the FRP final design be temporarily suspended until the discussions around iDAM and, even more importantly, those around FERC Order 764 have reached a more mature stage.

**CAISO'S LATEST PROPOSAL FOR THE FLEXI-RAMP PRODUCT
HAS COME A LONG WAY IN ADDRESSING THE NEEDS
OF THE EVOLVING CALIFORNIA ENERGY MARKET**

To start, we would like to acknowledge all the specific improvements that CAISO has included in its latest FRP proposal. The following improvements are particularly valuable to the wind energy industry:

- Identifying and eliminating several double-payment opportunities when procuring FRP;
- Provide an incentive, albeit a mild one, to self-scheduled resources to offer flexibility to help with the system's ramping needs;
- Allowing variable energy resources (VERs) to provide 15-minute financially non-binding schedules (rather than relying on the CAISO forecast) 37.5 minutes before real-time for FRP settlement purposes;
- Allowing renewable resources, whether in PIRP or otherwise, to bid into the FRP market without penalty. CalWEA commends the CAISO for not only allowing PIRP

resources to offer FRP but also for allowing those resources to remain in PIRP for those hours that their FRP bid was not selected; and

- Allowing a threshold of 3% or 5 MW (whichever is less) in deviation from RT schedules to be reached before FRP costs are allocated to a resource.

In addition to these modifications that are specific to the FRP itself, we would like to also support and comment on the following market reforms that CAISO is proposing to implement simultaneously with or in close coordination with FRP implementation:

1. **Implementation of iDAM:** This reform involves the integration of the two major elements of the CAISO's current Day Ahead market structure, namely the IFM and RUC, into a single integrated Day Ahead Market, iDAM. CalWEA believes that the deployment of iDAM is a major step in improving the efficiency and reliability of the CAISO's forward market which will also help with more efficient utilization of the FRP. As such, we believe that it is imperative that iDAM be implemented prior to, or at a minimum simultaneous with, FRP. However, CalWEA understands, based on recent discussions at the FRP stakeholder meetings, that the implementation of iDAM may be contentious and time consuming and would require more discussion of its fundamental goals and implementation details. As such, we believe that more time should be allotted to the discussion of iDAM implementation before the proposal for a combined (or sequential) iDAM/FRP is finalized and presented to the board.
2. **Compliance with FERC Order 764:** CAISO is kicking off a parallel initiative to address market changes needed to comply with FERC Order 764. Our understanding of the main component of those market reforms is that CAISO would implement a

15-minute financially binding scheduling process close to real-time (we assume the same 37.5 minutes before real-time as currently proposed for settlement purposes). The implementation of this feature, as CalWEA has repeatedly called for, is a critical step in efficiently integrating renewable resources. CalWEA commends the CAISO for taking this major positive step forward and believes that it is imperative that CAISO implement this market reform ahead of, or at least simultaneous with, iDAM/FRP implementation. This sequencing is necessary because the need for the FRP product is mainly driven by uncertainties in the performance of various generation resources and load, and thus these scheduling reforms will play a major role in optimizing the procurement, and lowering the cost, of FRP.

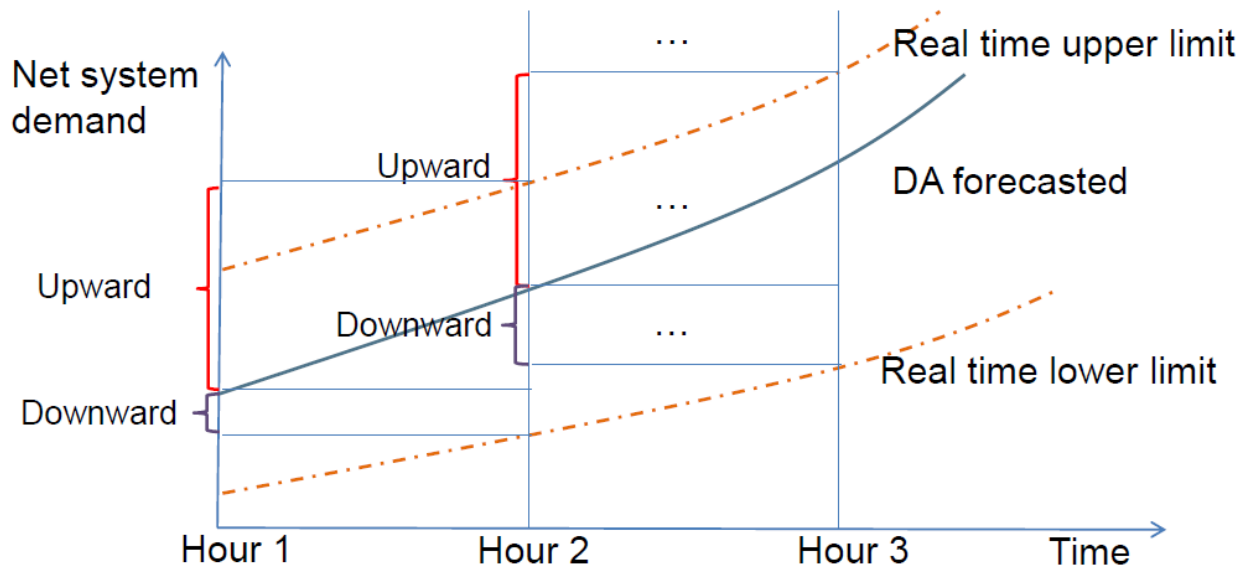
CAISO'S LATEST PROPOSAL FOR THE FLEXI-RAMP PRODUCT STILL REQUIRES CRITICAL CHANGES

While we acknowledge the improvements in the most recent FRP proposal, we continue to note that, from economic and reliability standpoints, CAISO has not yet shown that introducing FRP is more efficient for addressing system flexibility/ramp needs than simply meeting these needs via a properly implemented ramping constraint feature in the CAISO DA and RT market structures. In fact, no other Balancing Authority (whether an RTO or a traditional utility), even those with significantly higher VER penetrations, has introduced or announced any intention of introducing a product such as the FRP.¹

¹ As we have repeatedly stated, the two BAs with the largest penetration of Variable Energy Resources (VERs), namely the Midwest Independent System Operator (MISO) and the ERCOT ISO, have significantly higher penetrations of VERs (up to 3 times more) than that of the CAISO and a significantly lower availability of flexible resources (their conventional fleets consist mainly of inflexible nuclear, coal and combined cycle plants), yet these ISOs 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.

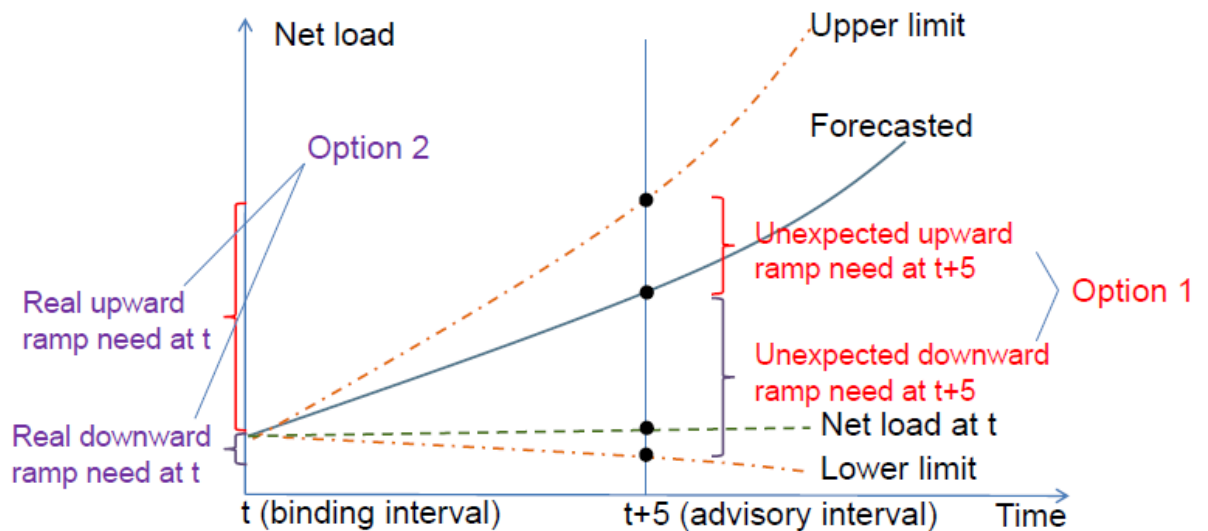
Putting aside this concern, as CAISO appears determined to implement the FRP anyway, CalWEA recommends the following three critical modifications to the proposal:

1. **FRP Procurement:** To avoid over-procurement of FRP resources, only the “True FRP” should be procured as part of DA and RT markets. For example, in the DA market (referring to the following figure from the CAISO’s presentation slides on the latest proposal), the True FR-UP (Flexible Ramp Up) capacity at hour 1 would correspond to the difference in the total “real time upper limit” at hour 2 and load forecast at hour 2. We make a distinction between True FRP capacity and the so-called “Real FRP” capacity, because the market has already scheduled, or will schedule, the resources to provide the ramp identified for the load forecast between hours 1 and 2 as part of the energy market anyway. So if CAISO procures the so-called “Real FR-UP,” it will pay twice for the portion of the FR-UP capacity that covers the forecast load, although it will use that capacity only once.



Likewise, in reaction to CAISO’s intention to procure FR-UP and FR-DN (Flexible Down) capacity at every scheduling time interval, CAISO will over-procure if it purchases FRP products in the opposite direction of the dominant net load ramp during the major ramp periods, because that procurement will go unused.

The same argument that we presented above for DA FRP procurement would also apply in the RT market structure, whereby the CAISO would procure the True FR-UP capacity at time interval t based on the difference between the upper limit of the net load at TIME $t+5$ minutes, and the forecasted load at the time interval $t+5$ minutes (see Figure below).



Here again, the FRP procurement during dominant net load ramp periods in the real-time market should be limited to the flexible capacity needs in the direction of the dominant ramp.

2. **FRP Cost Allocation:** 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 those generators.³ (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, and other yet-unknown scheduling/integration 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 amount of 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.

² We must note that 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.

³ Moreover, 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 or 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).

- For all future resources not yet contracted, the FRP, and other scheduling/integration costs, can be estimated upfront (CAISO should provide such estimates based on technology and general 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 biggest impact on overall economic efficiency) be optimized, but it would avoid revenue uncertainties, and the associated risk premiums, that would otherwise need to enter into the generation financing process to the ultimate detriment of consumers.
3. **Grandfathering of Existing Projects with Exposure to FRP Costs:** Should the CAISO decline to bill LSEs for the FRP costs associated with the products they have procured, the CAISO should grandfather existing projects (and projects with PPAs that are not yet on line) from FRP cost allocation to avoid financial harm to these generators as described in the preceding point.

CalWEA appreciates this opportunity to comment and welcomes further discussion on these points.