Comments on FRACMOO 2 After July 22, 2015 Meeting

Submitted by	Company	Date Submitted
Dr. Barbara R. Barkovich, Barkovich & Yap, Inc., Consultants to CLECA *Nora Sheriff, Alcantar & Kahl Counsel to CLECA*	*California Large Energy Consumers Association (CLECA)*	*August 5, 2015*

The California Large Energy Consumers Association (CLECA) provides these initial comments based on the presentation from the July 22, 2015 Working Group meeting on Flexible Resource Adequacy Capacity and Must Offer Obligation – Phase 2 (FRACMOO 2) and the discussion at that meeting.

1. Why are such major changes to flexible RA requirements being considered now?

   The current interim requirement for flexible capacity was first implemented for RA compliance year 2015. Thus, this is the first year it has been in place and there is no information on the nature of the flexible resources under RA contract and whether they are providing the CAISO with the level of flexibility it needs to run the grid. CLECA would think that information on the results for 2015 would be a necessary pre-condition for proposing changes to the current interim requirements and hopes that the CPUC and the CAISO will make that information available before any decisions are made on changing the requirements.

   The current interim requirements are in effect until the 2018 RA compliance year, which appears to leave considerable time to assess the performance of the current interim requirements and any perceived shortfalls in flexible capability for the CAISO. CLECA also understands that the CPUC intends to consider changes to flexibility requirements in Phase 2 of the current RA proceeding (R. 14-10-010), which has not yet begun. However, these potential changes were not intended to affect RA compliance obligations until the 2018 compliance year.

   We understand that the current interim flexible RA requirements have focused on upward flexibility. It is clear that the CAISO is very concerned about the consequences of over-generation and the need for downward flexibility. However, no information has been presented as to whether there is currently a lack of downward flexibility from those resources currently providing upward flexibility. Nor is there any information as to the amount of downward flexibility the CAISO forecasts it will need in the future and, consequently, nor is there any information on what assumptions went into determining such a need.

   As raised by the CPUC, flexible RA is not the entire solution to the over-generation problem. Dispatchable renewables, less self-scheduling, appropriate market price signals, and smaller P_{min}s are also solutions. The CAISO proposal addresses some of

these alternatives, but says little about dispatchable renewables or appropriate market price signals.

2. Definition of Net Load, Definition of Flexible and Inflexible, and the Relationship to Need for Downward Flexibility

   As was discussed at the July 22, 2015 working group meeting, the CAISO's perceived need for flexibility, upward and downward, results from its net load construct, which is load minus solar minus wind output. This definition, while it has been useful in considering the impact of intermittent renewable generation on the management of the grid, is open to reconsideration.

   First, it is based on assumptions about the shape of the load, which will require updating as retail rate structures and pricing changes. The intention of changes in retail prices, such as time-of-use rates and dynamic pricing, is to have load respond through changing load shapes. Past load shapes are not going to be representative of the future. Updated assumptions about the shape of the load should reflect shifting peak(s) and net peak loads.

   Second, the net load construct assumes that the output of intermittent solar and wind resources is not controllable and must be taken. As discussed at the July 22 working group meeting, this is also increasingly untrue. New LSE contracts with intermittent wind and solar resources have dispatchability provisions. Furthermore, it is our understanding that such resources, even if scheduled in the day-ahead market, may turn off if there are economic benefits in the real-time market. Thus, not all wind and solar forecast output should appropriately be subtracted from load to get net load. The degree of dispatchability of wind and solar should be tracked by the CAISO and the CPUC and net load calculations should be refined using this information.

   Third, CAISO markets should be sending prices to signal which resources should be dispatched down as well as up and to encourage flexibility. The purpose of the flexible ramping product was to provide such price signals. This effort should be informed by an analysis of the impact of current price signals and possible market changes to improve these signals.

3. Should Downward Flexibility be an RA Product or Some Other Product?

   Resource adequacy was originally conceived as a means of providing the CAISO will resources from LSEs equal to at least load plus a planning reserve margin. It was then redefined geographically to provide adequate resources in light of transmission constraints. Next, a flexibility requirement was imposed, so that CAISO ramping needs could be met. However, when it comes to downward flexibility, two issues arise.

   First, under what circumstances is downward flexibility not the inverse of upward flexibility and able to be provided by the same resources? The only case that comes to mind is DR, because CAISO DR-related products, PDR and RDRR, only allow for load reductions, the equivalent of upward ramping, and not load increases, the equivalent of downward ramping. The CAISO has told stakeholders that it will not

even consider a load-increasing DR product option until 2016 in the ESDER. Thus, the current market design precludes a useful downward flexibility option.

Second, downward flexibility is primarily an economic issue. The CAISO has not made the case that it is a reliability issue, and RA requirements are centered on reliability. To be able to be ramped down, an RA resource must be committed and operating in the market or self-scheduled. Why would it not reduce output if it received an economic incentive to do so? This should logically only occur if there is some physical limitation to reducing output. This would apply to nuclear, run-of the river hydro, and traditional CHP units. However, for renewable units, there must be some price at which it would be economic to reduce output. Reducing output does not involve commitment costs. While there are policy preferences for maximizing the output of wind and solar facilities, essentially treating them as self-scheduled, some curtailment of wind and/or solar output may be the most cost-effective means of balancing the system if the over-generation problem is sufficiently limited and if alternatives like storage continue to be costly.

Thus, it appears that market prices should be able to provide incentives for downward flexibility in most cases, with a few exceptions. In addition, a payment for downward flexibility, like a regulation down payment, could also be considered, like a new ancillary service. The CAISO indicated on July 22 that it did not want to separate upward and downward flexibility products, but this option should not be summarily ruled out if it proves economically viable.

4. What are the Causes of Self-Scheduling and are there Market Solutions?

The CAISO cites self-scheduling as being a major contributing factor to the over-generation situation and the need for downward flexibility. However, the CAISO provides no information on what types of resources are being self-scheduled, other than nuclear, inflexible CHP, and run-of-river hydro. To what extent are intermittent renewable resources self-scheduled? To what extent are these resources self-scheduled in the Day Ahead Market and willing to be backed down in real-time based on pricing signals? To what extent are fossil resources self-scheduled and similarly willing to be backed down in real time for similar reasons? Additionally, some less-flexible fossil resources will likely be retired upon implementation of Once-Through Cooling rules, which may help mitigate the over-generation problem.

As noted above, there was discussion at the first working group meeting that self-scheduled renewable resources in the Day Ahead Market will back down in response to price signals. It would be useful to have some data on the extent to which this occurs. Such information would indicate to what extent the solution to the problem is economic and not a basis for changing RA rules.

Also, at the workshop, information was provided that self-scheduling at the interties increased after the introduction of the 15-minute market (FMM), but no information was provided as to why or whether this is a temporary issue. However, it is our understanding that this change in scheduling behavior may be a result of market design. Previously, resources at the interties scheduled an hour ahead and cleared

based on hour-ahead prices. Their decisions to schedule were based on the best information on prices in the market, which were the HASP prices. Under the FMM, they settle at the 15-minute prices, which often diverge from the hour-ahead prices, increasing risk for bidders. This risk is compounded by the lack of intertie virtual bidding.

If self-scheduling is increasing because of market design issues, the logical solution is to fix the market design, not to redefine flexibility requirements for RA.

5. Inflexibility Allowances

The CAISO claims that the presence of a significant amount of inflexible resources increases its over-generation concern. The proposal does not actually define inflexible resources. However, the CAISO lists nuclear, CHP, and run-of-the-river hydro and "self-scheduled resources" on slide 45. The CAISO proposal appears to be that, in order to limit self-scheduling, it will require LSEs that do self-schedule more inflexible resources to add additional flexible resources to their RA compliance requirements. The CAISO will determine the level of inflexible resources it will tolerate and allocate those among LSEs. Any additional resources would have to be flexible. It is not clear if the incremental requirement for flexible resources where the inflexible allocation is exceeded by an LSE would be over and above the PRM and thus effectively increase the overall PRM requirement for the system, or whether there is any need for such an increase.

6. Changing Definition of Effective Flexible Capacity (EFC)

The CAISO proposal appears to want to modify the EFC definition to include the minimum online requirement. (Slide 29) While the P_{min} is currently counted toward EFC for any resource that can reach its P_{min} in 90 minutes, the proposal is now to not count P_{min} unless the minimum run time is less than 4 hours. The CAISO should provide an explanation as to why this change is needed.

The CAISO also appears to indicate that it wants faster ramps and potentially shorter-ramping resources but says that it is not proposing a new product. Instead, it proposes to check the RA resources provided by the LSEs to see if these resources can meet its shorter duration ramp requirements. If not, the CAISO says it will procure through the capacity procurement mechanism (CPM) non-RA resources to meet such requirements. This proposal lacks transparency and might limit resources that could meet the requirements. If there is a need for faster-ramping resources that can provide a one-hour or two-hour ramp, DR or storage might be able to provide such ramps if a shorter-duration ramping product was added to the market. Furthermore, under the proposal the CAISO knows what it thinks it needs but does not give the LSEs a chance to provide it since it does not tell them what it is looking for. It would be more logical for the CAISO to let LSEs know what it needs and let them provide it if they can, rather than procuring such resources through a backstop mechanism. The only possible merit of using the backstop mechanism is that it would spread the costs of the additional procurement more broadly. However, the downside is that it involves the CAISO more extensively in procurement.

6. Non-RA Resources

The CAISO raises concerns about non-RA resources. Unfortunately, the CAISO has not presented any information on the magnitude of the problem or on what types of non-RA resources are being self-scheduled. If the concern is non-RA intermittent renewable resources, the solution may lie in a review of the entire policy surrounding the lack of requirements for scheduling of intermittent renewable resources, not just those qualifying or not qualifying as RA.