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California Public Utilities Commission

Energy Division

Clean Coalition and DECA Comments on Treatment of Use-Limited Resources

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The Clean Coalition is a California-based nonprofit organization whose mission is to accelerate the transition to local energy systems through innovative policies and programs that deliver cost-effective renewable energy, strengthen local economies, foster environmental sustainability, and provide energy resilience. To achieve this mission, the Clean Coalition promotes proven best practices, including the expansion of Wholesale Distributed Generation (WDG) by renewable energy facilities connected to the distribution grid and serving local load. The Clean Coalition drives policy innovation to remove barriers to the procurement and interconnection of WDG projects, integrated with Intelligent Grid (IG) solutions such as demand response, energy storage, and advanced inverters. The Clean Coalition is active in numerous proceedings before the California Public Utilities Commission, the California Energy Commission, and other state and federal agencies throughout the United States. The Clean Coalition also designs and implements WDG and IG programs for utilities and state and local governments.

Distributed Energy Consumer Advocates ("DECA") is a technology-neutral California public benefit organization that advocates on behalf of residential electricity customers who seek to more directly control their investments in energy infrastructure. DECA's California members live and invest throughout the state, including in the service territories of California's largest investor-owned and municipal utilities. DECA advocates on behalf of its members before the CPUC, CEC, and CAISO on a range of market design and policy implementation issues.

I. Discussion

Commission staff has asked parties to comment on the following issues:

1. Different strategies to manage use-limited resources and the preference for a particular strategy. For example, use-limited resources can be managed through a CPUC compliance program in addition to the CAISO Flexible Capacity Incentive Mechanism and the specific must-offer obligations for use-limited resources. Please indicate what you prefer and why. Do we need both initiatives to manage use-limited resources?

The Clean Coalition and DECA (CC/DECA) support continued CPUC oversight in establishing procurement and compliance standards related to flexible capacity needs as envisioned in the prior RA proceeding.

In meeting future flexible capacity needs it is clearly important to ensure maximum recognition and use of all available resources in order to avoid the development and procurement of excess capacity or the economic stranding of existing resources, ultimately at ratepayer expense. Likewise, where procurement is called for, the Commission has a vital interest in ensuring full market access for preferred resources in order to support their continued development and the state's transition to secure and affordable resources. The CPUC's role is particularly important in ensuring full valuation and use of preferred and other available resources is vetted through the proceeding process.

We appreciate and strongly support the ISOs efforts to incorporate use-limited resources and responsiveness to stakeholder input. There is now broad understanding and acknowledgement both that all resources have some kind of use limitations, and that flexibility needs are multi-dimensional, addressing more than one ramp per day over multiple hours, both scheduled and on demand, with increased quantities of regulation. Likewise, it is recognized that much of the flexible capacity required is only needed during limited periods of the year or limited hours of the day.

Matching the availability of use-limited resources to the actual needs successfully avoided excluding the capacity of nearly half the resources that can be contributed from hydro. It is likewise important to move forward in recognizing the ways and circumstances under which each other use-limited resource can be leveraged to meet the actual flexibility needs. This includes recognizing that the greatest levels of flexible ramping are required for only a very limited number of hours per year, and that these needs can be met by resources that are only available for those hours.

As stated in prior comments, we continue to maintain that the capacity of use-limited resources, including those available for less than a three hour continuous ramp, can offer a significant contribution to the ISOs flexibility needs as well as savings when included in economic dispatch. This is particularly true when such use-limited resources can be sequentially dispatched over the course of a ramping period or applied to mitigate the upper or lower bounds of the total ramp. Again, as previously noted, the actual need is for ramp mitigation, which may include proactive measures including load shifting and dispatchable load control that is economically and environmentally preferable to addressing an unmitigated ramp need through conventional resources.

The Clean Coalition supports the DECA proposal offered by Aram Shumavon and attached to Commission staff's email. The DECA proposal focuses on a proposed CPUC compliance program that allocates flexible capacity based on expected performance under different flexibility duration curves.

The next question asks for comments on this proposal and we address some additional issues below.

2. Comments on the DECA proposal

The DECA proposal, what we are now calling the "Flexibility Duration Curve Proposal" (FDC proposal), reintroduces the concept of load-matching Maximum Cumulative Capacity (MCC) RA "compliance buckets," an idea borrowed from an earlier iteration of the RA proceeding.[1]

The key idea in the FDC proposal is replacing the load duration curve with a "flexibility duration curve" that recognizes the variable value of flexible capacity. Flexible capacity value is variable because the large majority of flexible capacity is called upon only a fraction of the time that it is available. With the MCC buckets it was recognized that almost half of CAISO generating capacity is utilized less than half of the time; the same applies when looking at flexible capacity requirements, as the following charts show.

Figure 1. *Load duration curve with MCC buckets (Source: CAISO and OASIS database).*

[1] http://docs.cpuc.ca.gov/word_pdf/REPORT/37456.pdf

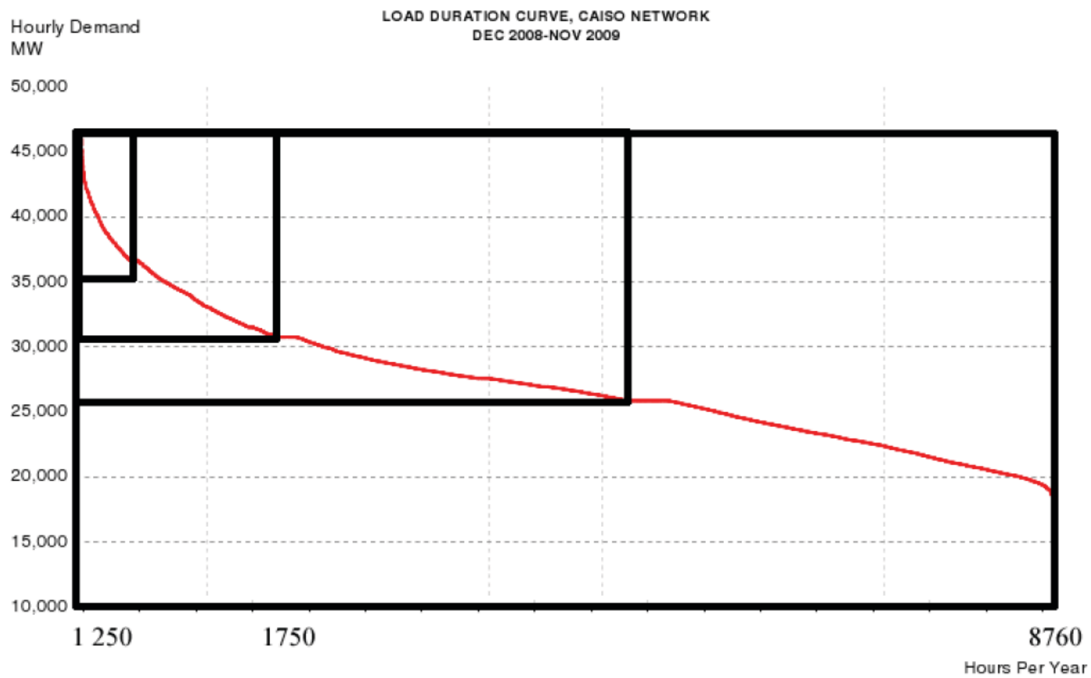
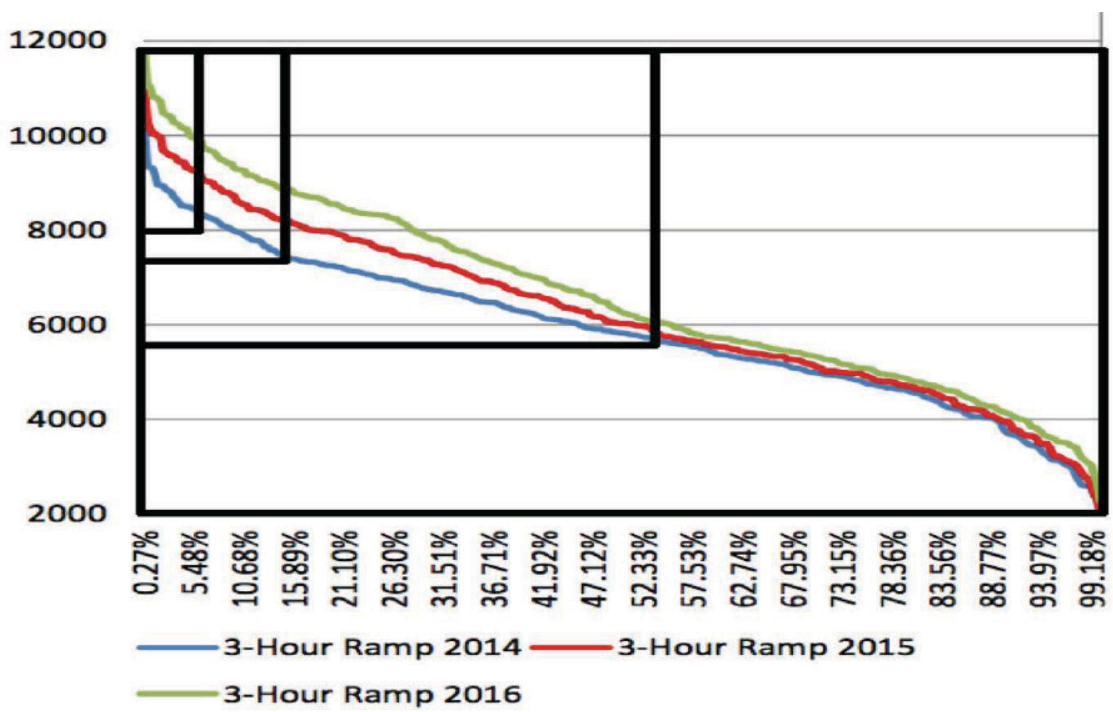


Figure 2. *3 Hour Flexibility Duration Curve with MCC-type buckets (Source: DECA/CAISO).*



Available resources can be applied to whichever bucket they. Likewise, the same approach can be applied to other ramp mitigation options besides the three-hour continuous ramp illustrated in this example. As with the MCC, the buckets can be easily adjusted as the flexibility duration curve changes over time.

The next steps for implementing the FDC proposal are as follows:

- Create the 90% threshold in order to establish key monthly need levels (before the 2015 compliance year)
- Begin examination of how preferred and nontraditional ramp mitigation tools should be valued relative to peak ramp needs. For example, what are the appropriate compliance buckets and how should each be valued relative to traditional flexible capacity?
- Scope the "ELCC for ramp mitigation" timeline

3. Other criteria that could be used to determine bucket size

Perhaps more important than what can be used to determine bucket size is the corollary question: how should the Commission determine if a resource could provide flexible capacity? CC/DECA are concerned that the value of flexible capacity is inappropriately being biased toward "infinitely flexible" resources rather than letting the relative value, based on when flexibility is actually needed on the grid, determine a resource's contribution to flexibility need. This concern is why we previously emphasized that ramp mitigation should be the driving force behind any FDC-based RA compliance filing.

We feel that it is inappropriate to value a resource's flexible capacity in terms of when and for how long it is capable of providing flexibility without consideration of system need. Expressed somewhat hyperbolically, if a ramp creates a flexibility need for one specific hour of a day, a resource that is capable of providing flexibility for 24 hours a day is not 24 times more valuable relative to the need of the system than a resource that provides flexibility just for that one hour. Setting up a compliance mechanism that measures flexibility based on a purely non-need driven assessment is unwise, needlessly expensive, and creates externalities that may distort a great many efforts undertaken by the Commission to improve the environmental impact of the state's energy fleet.

Conveniently, the FDC proposal provides a mechanism for assessing system flexibility needs, but it must be paired with the recognition that valuation of use-limited resources' capabilities of meeting need must be similarly focused. Last but not least, in addition to ensuring that adequate resources are available when needed, both procurement and compliance mechanisms should reflect preference for resources in accord with the state's loading order, procurement targets for storage and renewable resources and cost-effective use case scenarios.

Sincerely,

_____/s/_____________

Tam Hunt, J.D.

Attorney, Clean Coalition

_______/s/_____________

Aram Shumavon

DECA