

COMMENTS OF ENERNOC, INC TO CAISO'S FRACMOO V.5 PROPOSAL

INTRODUCTION:

EnerNOC, Inc. (EnerNOC) appreciates the opportunity to comment on the latest version of FRACMOO V.5. One of the significant changes reflected in FRACMOO V.5 is to move away from individual resource requirement specifications to qualify as a flexible resource and, instead, develop a categorization of resource needs based upon the differences between the primary and secondary maximum and minimum ramping needs of the CAISO. CAISO has identified four categories of ramping resource needs.

Category 1: No use limitations. Available to be dispatched between 5 AM and 10 PM; A minimum amount of Category 1 resources must be set, depending about the monthly relationship of the smallest 3-hour, secondary net load ramp. Traditional generation resources and wind resources can participate in this category. Category 1 resources may satisfy the requirements for Categories 2, 3 and 4.

Category 2: Limited flexibility. Available between 5 AM and 10 PM to be dispatched up to twice/day for up to 6 hours, reflects the difference between the largest and smallest secondary 3-hour net load ramp. Examples of Category 2 resources include hydro resources, long discharge storage, use-limited gas-fired generation. Category 2 can satisfy the requirements for Categories 3 and 4.

Category 3: Peak Flexibility. Can be use limited. Resource is available for a five-hour period, to be seasonally specified by the CAISO. Resource is required to provide up to 3 hours of energy when dispatched. The ramping requirement for Category 3 is determined by the difference between 95% of the monthly maximum 3-hour net-load ramp and the largest secondary 3-hour net load ramp. Resources that can meet the Category 3 requirements include solar and gas-fired peaking generation. Category 3 resources can meet Category 4 requirements.

Category 4: Super Peak Flexibility. Can be use limited. Resource is available for a 5-hour period, which is seasonally-determined by the CAISO. Resource must be capable of being dispatched up to 3 hours, up to 5 times per month. Category 4 is capped at 5% of the monthly maximum 3-hour net-load ramp. Resources that could participate in this category include DR.

EnerNOC supports the categorization of need and the development of specific categories of need that can be met by resources with appropriate attributes. However, EnerNOC has certain concerns as identified below.

SYSTEM RESOURCE NEEDS VERSUS RESOURCE-TYPE DEFINITIONS:

CAISO explained its desire to move away from developing resource-specific definitions for providing flexible capacity versus defining the needs of the system and allowing resources to meet that need. EnerNOC appreciates that developing individual resource type qualifications can be complex and, as stated above, does not object to the CAISO's proposal of identifying categories of resource needs on its system and allowing resources to satisfy those needs. It may be difficult to address all of the disparate resource characteristics in a manner that would allow those resources to contribute to providing flexible capacity to the CAISO. That said, there is a precedence for defining the resource characteristics, by resource type, for providing a service in other markets, like the PJM capacity market.

EnerNOC supports the overall construct proposed by CAISO in FRACMOO V.5, which develops resource categories to meet the overall flexible capacity need defined by CAISO. This is a clean, more causal way to define flexible resource characteristics to match the need on the system. Those resource categories allow a varied range of capacity resources to participate, based upon the operational requirements of the category. Category 4, for example, has been identified as compatible with DR resources, although, DR could participate in any of the categories to the extent that DR can meet the resource requirements.

CATEGORY LIMITATIONS:

As stated above, CAISO has developed a “causal” way of developing the categories of resources that will satisfy its 3-hour ramping need. However, it is clear from this calculation, that CAISO doesn’t require a resource to be available to be dispatched over a 17-hour period for its entire ramping need. According to Figure 4, page 29, and Table 2, page 27, no more than approximately 2,000 MW of a total maximum 3-hour ramping need of around 9,600 MW would need to come from Category 1 resources. Even then, the CAISO has not provided evidence that the resource would need to be available to be dispatched across that entire 17-hour period. A resource that is dispatchable across a 17-hour period, without use limitation, does not exhibit flexibility to meet interim ramping requirements. It is a base-load resource. Nonetheless, EnerNOC does not object to having a certain amount of resources available for a more constant level of generation, such as to meet the smallest, 3-hour secondary net-load ramp. However, EnerNOC does object to allowing that resource to displace the other resource types that could fulfill the other Categories of ramping need. That is an undue preference for one type of resource. Therefore, Category 1 resources should be held to a maximum, based upon CAISO’s calculations, as should Categories 2, 3 and 4.

Only to the extent that Categories 2, 3 and 4 are not filled by resources appropriate to those categories, should CAISO permit preceding Categories to “backfill” an unmet capacity need.

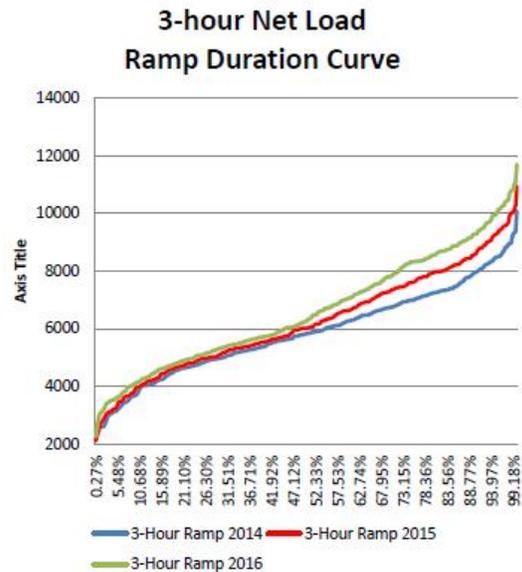
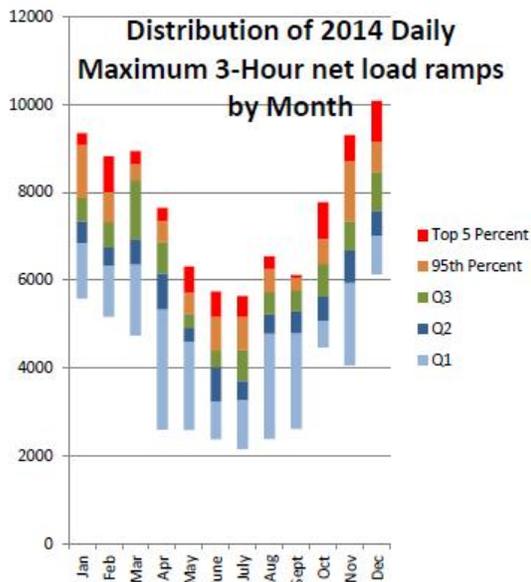
Displacing other resource types is especially concerning in a forward resource adequacy requirement and commitment period. In other words, Category 2, 3 and 4 resources could be prevented from participating for a multi-year period. Further, resource development is not going to occur in Categories 2, 3 or 4 if those resources are always displaced by gas-fired generation. To allow that displacement to occur would de-legitimize CAISO’s own analysis in developing other categories of resource needs.

In March 2013 at a CPUC Workshop, CAISO presented an analysis of a “super-ramping” resource need with a distribution of occurrence in about 5% of the hours of the year. CAISO has, in FRACMOO V.5, established a maximum “Super Peak” ramping cap of 5% of the maximum monthly 3-hour ramping capacity. EnerNOC would like to note that in CAISO’s March 2013 presentation, Slide 13 (shown below), the super ramping resource constituted, in some months, more than 5% of the maximum 3-hour ramping capacity. As such, CAISO has not presented an analytical basis for capping Category 4 at 5% of the monthly maximum ramping need. The calculations of the amount of resource needs for both Categories 3 and 4 are, therefore, somewhat rigged by virtue of capping Category 4 at 5%. With that said, however, as an interim measure while all parties gain experience with providing FRACMOO, EnerNOC is willing to entertain this cap, so long as there is a willingness to explore the alternative calculations based upon CAISO’s previous analyses.

Table 2: Assessment of Various 2014 Forecasted Net-Load Deviations

Month	Monthly Maximum 3-hour Net-Load Ramp	Smallest Daily Maximum 3-hour Net-Load Ramp of the Month	Largest Secondary 3-hour Net-Load Ramp	Smallest Secondary 3-hour Net-Load Ramp	Largest 15-Minute Net-Load Change	Largest 60-minute Net-Load Change	Largest 90-minute Net-Load Change
Jan	9,148	5,561	7,517	1,453	1,942	5,389	7,113
Feb	8,555	5,054	6,866	1,923	1,639	4,665	5,873
Mar	8,324	4,684	6,723	340	1,400	4,525	6,022
Apr	7,102	2,655	5,985	1,778	1,505	3,750	4,878
May	5,843	2,477	5,276	932	1,282	3,005	3,953
Jun	6,161	2,529	3,088	995	994	2,921	4,033
Jul	6,038	1,688	4,133	1,336	1,073	3,104	3,850
Aug	6,812	2,319	4,325	1,944	1,364	2,752	3,978
Sep	6,239	2,767	5,038	1,655	1,256	3,401	4,221
Oct	7,304	4,412	6,014	2,147	1,393	3,940	5,432
Nov	8,789	4,219	6,297	1,380	1,593	4,820	6,417
Dec	9,635	5,777	7,115	1,391	2,118	5,434	7,275

There are opportunities for use-limited and DR resources to address “super-ramps”



USE LIMITATIONS:

There was quite a bit of discussion as to what constitutes use limitations. For example, energy storage could have charging periods, when it is not available to discharge, but could charge when the system is in an over-generation condition and that may not constitute a use limitation, as discussed at the January 23rd stakeholder meeting.

A parallel construct for DR would be to reduce load for a morning or afternoon ramp, but increase load during the middle of the day, when the duck chart indicates an over-generation problem. Such a construct could be helpful to the system in that it flattens out the belly of the duck and reduces the amount of ramp needed in the evening. At this point in time, that construct to help with mid-day over-generation has not been discussed.

Further discussion on use limitations would be helpful as it was not well resolved in the stakeholder meeting.

IDENTIFICATION OF SEASONAL AVAILABILITY HOURS FOR CATEGORIES 3 AND 4:

At the Stakeholder Meeting, CAISO indicated that the 5-hour availability window for Categories 3 and 4 would be seasonally determined by the CAISO. It was not clear if the 5 hour windows that were identified in previous FRACMOO Versions (4) would still be in place.

This issue is important for various reasons, including the ability to contract with LSEs for flexible RA purposes.

KEEPING FLEXIBLE RA AND GENERIC RA SEPARATE FOR DR IS STILL A CONCERN:

As has been stated in previous comments, DR Providers (DRPs) will assemble portfolios to meet specific resource characteristics. Generic resource definitions and flexible resource definitions are going to be different. EnerNOC will recruit customers who can meet one or the other resource characteristics. It will be unusual for a customer to be able to meet both. As such, EnerNOC will renew this concern relative to this version of FRACMOO.

VALUE AND REPLACEMENT OBLIGATIONS:

While these issues have been tabled for the time being, the value of the resource and the replacement obligations will have a considerable amount of weight as to whether customers perceive participation as a flexible capacity resource favorably or not.