

**Flexible Resource Adequacy Criteria and Must-Offer Obligation
Draft Final Proposal Stakeholder Comments**

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Alliance for Retail Energy Markets (AReM)	2/24/2014	Sue Mara RTOAdvisors, L.L.C. (415) 902-4108 sue.mara@rtoadvisors.com
Opening Comments		
<p>The Alliance for Retail Energy Markets (“AReM”) has participated actively throughout the California Independent System Operator’s (“CAISO’s”) development of the Flexible Resource Adequacy Criteria and Must Offer Obligations (“FRAC MOO”). The CAISO’s release of the FRAC MOO Draft Final Proposal, posted by the (“CAISO”) on February 7, 2014, and CAISO meeting to discuss the Draft Final Proposal on February 13th have coincided with the Staff Proposals on the Implementation of Flexible Capacity Procurement Framework (“Commission Staff Proposals”) released by the Staff of the California Public Utilities Commission (“Commission”) on February 10, 2014.</p> <p>A comparison of the FRAC MOO Draft Final Proposal to the Commission Staff proposals reveals that the two organizations have differing and conflicting approaches with respect to several critical elements of flexible RA capacity implementation. AReM has summarized these differences in comments that are being submitted to the Commission on this same day, and is attaching those comments here for CAISO’s consideration. As noted therein, clarity and unanimity between the two organizations is necessary as a precursor to executing transactions to meet the new requirements.</p> <p>Discrepancies or disconnects will create inefficiencies, increase costs, and create compliance risks.</p> <p>Therefore, AReM urges the two agencies to address the issue raised in the attached comments and provide market participants with resolutions that both organizations are willing to accept.</p>		
<p>1 AReM is a California non-profit mutual benefit corporation formed by electric service providers that are active in the California’s direct access market. This filing represents the position of AReM, but not necessarily that of a particular member or any affiliates of its members with respect to the issues addressed herein.</p>		
ISO Response		
<p>We appreciate the benefits of ISO and CPUC coordination. The ISO continues to work with the CPUC and other LRAs to ensure the timing of flexible capacity procurement and showings are</p>		

aligned so as to allow LSEs the greatest ability to manage flexible capacity procurement and minimize the risk of backstop procurement. Additional details are provided below.

INTRODUCTION

The implementation of flexible capacity requirements and integrating those requirements into the existing Resource Adequacy (“RA”) program and protocols is proving to be somewhat complex. AReM appreciates the extensive efforts of the Staffs of both the California Public Utilities Commission (“Commission” or “CPUC”) and the California Independent System Operator (“CAISO”) to establish comprehensive regulations to implement flexible capacity requirements, each within their respective jurisdictional authorities, and believes that both organizations remain committed to avoiding conflicting procurement obligations and/or conflicting compliance requirements. Nevertheless, a comparison of the Commission Staff Proposals to the CAISO’s Flexible Resource Adequacy Criteria and Must Offer Proposal (“FRAC MOO”) Draft Final Proposal, dated February 7, 2014 shows that the Commission Staff and the CAISO Staff have a long way to go to reconcile their two quite separate views of how flexibility requirements will be integrated into the RA program, how each organization will manage the elements of the program that are within their respective jurisdictions, and most importantly, how the two organizations will reconcile their different approaches.

In these comments, AReM presents its analysis of the disparities that exist between the two organizations’ proposals. AReM’s purpose in explicitly listing these disparities is to stress the critical necessity for the two organizations to resolve these disparities and present to market participants a set of protocols and compliance requirements that are not in conflict with one another. Without such clarity and unanimity between the two organizations, market participants will be left to “serve two masters.” The upshot will be inefficiencies, unnecessary procurement costs, increased risk of non-compliance, and further diminution of the competitive markets and customer choice that both organizations profess to support.²

² AReM members remain skeptical that incorporating flexible capacity requirements into the RA program is the best or most efficient way to address the need for increased flexibility resources in order to manage the impact of increased intermittency created by renewable resources. That skepticism is rooted in a belief that the characteristics needed to integrate increasing quantities of renewable resources into the electric grid are actually ancillary services to provide enhanced spinning reserves, regulation, and load following capability, and that the focus for managing these new requirements should be on designing new ancillary services rather than imposing new capacity requirements. See, for example, *Comments by the Alliance for Retail Energy*

Markets on Resource Adequacy Flexible Capacity Procurement Joint Parties' Proposal, December 26, 2012, R.11-10-023, pp. 4-5; and *Reply of the Alliance for Retail Energy Markets*, April 15, 2013, R.11-10-023, pp. 2-5;

ISO Response

Thank you for your comments, we appreciate the need for coordination and the difficulty disparities causes for CPUC-jurisdictional LSEs. The ISO continues to work with the CPUC and other LRAs to ensure the timing of flexible capacity procurement and showings are aligned so as to allow LSEs the greatest ability to manage flexible capacity procurement and minimize the risk of backstop procurement. Additional details are provided below.

Comments: A. Flexible Capacity Categories

Both the Commission Staff and CAISO Staff seem to have coalesced around three (rather than the previously proposed four) flexible capacity categories. However, it is not clear whether there is agreement between the two organizations with respect to how much of a Load-Serving Entity's ("LSE's") portfolio can come from each category. Commission Staff Proposals would require at least 80% to come from Category 1 and no more than 20% and 5% respectively from Categories 2 and 3, where Categories 2 and 3 are "cumulative."³ The CAISO Proposals indicate that that the CAISO intends to set the applicable contribution from each category based on technical specifications, but has not specified them at present except for Category 3, which has a pre-determined limit of 5%.⁴

Any disparity between the two organizations in what they consider to be a compliant portfolio must be avoided for the reasons outlined in the Introduction.

³ Commission Staff Proposals, p. 14.

⁴ CAISO Proposals, p. 34.

ISO Response

The ISO and CPUC have come to an agreement that the categories' percentages will be set on a seasonal basis, which is reflected in the revised draft final proposal.

B. Term Over Which the Flexible Capacity Categories Will Remain In Place

The Commission Staff Proposals state that the three categories of flexible capacity will terminate no later than December 31, 2017.⁵ The CAISO Proposals do not have any sunset date, but do state that the categories will be re-assessed in early 2016.⁶ The two organizations should sync up the time frame in which the applicability of the categories will be reviewed and

modified so that market participants can factor that into their transactions.

⁵ Commission Staff Proposals, p. 13.

⁶ CAISO Proposals, p. 31.

ISO Response

The ISO proposal does not have a sunset date. Instead, the ISO will reevaluate the flexible requirement in 2016. This will allow time for coordination between CPUC and the ISO at that time.

C. Allocation of Flexible Capacity Requirements by CAISO to Local Regulatory Authorities (“LRAs”) and by LRAs to Their Jurisdictional LSEs

The CAISO has developed a methodology for determining the overall flexible capacity requirements that it will impose on the LRAs by analyzing the aggregate of the LSEs’ renewable portfolios. The Commission Staff has indicated that they do not oppose the methodology that the CAISO has developed, and apparently do not object to the CAISO having the jurisdiction to impose the flexible capacity requirement on each LRA. However, the Commission Staff Proposals allocate the flexible capacity requirements to each LSE under Commission jurisdiction on a load-ratio share for 2015 but Staff will explore other methods “based on causation” in the future.⁷ AReM supports allocation methods that do not lead to cost shifting. That said, AReM does not necessarily object to the load-ratio share approach for allocating the aggregate flexible capacity to the various LSEs under Commission jurisdiction, but is concerned that there may not be agreement among market participants that such allocation is the most equitable manner for the allocation, and that a portfolio specific allocation may be preferred by some market participants.

If consideration is given to a portfolio specific allocation, then there will be an additional complexity that the Commission must address, that is: (2) What if an LSE’s portfolio changes – will there be true ups for that, and when will they occur?; and (2) How would an allocation of the flexible capacity requirements on a portfolio basis change the CAM allocations?

ISO Response

The ISO’s proposal will respect the allocation methodology decided on by each LRA. The ISO’s proposal allocates flexible capacity needs to each LRA based on their LSE’s share of the ISO system overall need, and using the same methodology as the ISO uses to establish the overall

need. LRA may allocate their share of the system requirement using their own methodology. The ISO will respect this methodology when allocating any backstop procurement costs below the LRA level, while allocating costs at the LRA level using the ISO methodology.

D. Establishing the Effective Flexible Capacity (“EFC”) for RA Resources

At the February 13, 2014 CAISO stakeholder meeting on the CAISO Proposals, it became clear based on the discussions between CAISO and Commission staffs that this is an area where the two organizations are at significant odds with one another, both with respect to which organization has the ultimate jurisdiction to determine the EFC for the various types of flexible resources and how the EFC should be set for various types of resources. Of course, jurisdictional issues are only a problem if the two organizations do not agree on how to count the EFC for RA resources. Unfortunately, a review of Commission Staff Proposals and the CAISO proposals shows that the two organizations are not in agreement on how to count EFC from resources nor in the details of what criteria the resources must meet to be deemed “flexible.”⁸

⁸ See, for example, CAISO Proposals, pp. 26-27 and CPUC Staff Proposals, pp. 6-7.

ISO Response

The LRA has the ability to set the counting provisions for determining how resources will count towards meeting its specific flexibility procurement requirements. The ISO is proposing the EFC criteria in the Revised Draft Final Proposal that it will use to establish EFC values for each resource. These values will be used for two purposes 1) as default EFC in the event that an LRA does not have specific counting criteria, 2) assessing the need for backstop procurement. It is appropriate for the ISO to have these standard counting conventions for several reasons. The ISO must have an agreed-to counting criteria for each resource to equitably assess the collective flexible capacity showings by the local regulatory authority and among all local regulatory authorities. Because local regulatory authorities have the option to set their own flexible capacity values by resource, the ISO must, in the end, maintain the standardized effective flexible capacity values so that it can assess and compare showings across local regulatory authorities on a level playing field. For instance, the ISO must perform an assessment that is effective, efficient, and equitable. This is not possible if its assessment is based on different flexible capacity counting methodologies from different local regulatory

authorities. In other words, in determining the need for backstop procurement, the ISO should not allocate backstop costs to an LSE SC simply because of the counting rules of another LRA. If the ISO is unable to set its own EFC counting standard, and LRA1 sets a low threshold flexible capacity value (low quality) and LRA2 sets a high, more rigorous flexible capacity threshold (high quality), then the potential would exist for a local regulatory authorities to “lean” on other local regulatory authorities, which would be an inequitable result. Thus, the ISO must ultimately calculate and set the final effective capacity values to ensure that all local regulatory authorities are treated equitably when assessing if a flexible capacity deficiency exists and when allocating backstop procurement costs.

E. Exemptions From Requirements

The Commission Staff Proposals would allow any LSE with an allocation of flexible capacity requirements less than 25 MW in a month to be exempt from the requirement.⁹ If this exemption causes a deficiency that the CAISO backstops, the cost of the backstop would be allocated to non-exempt LSEs.¹⁰ AReM objects to this exemption. There are already RA rules in place to ease the procurement burden on small LSEs; an outright exemption of this size, however, will create serious issues of free-ridership. Moreover, this Commission Proposal conflicts with the CAISO proposals that do not include any exemptions, and that would allocate backstop procurement directly to deficient LSEs.¹¹

Finally, such an exemption would likely require modifications to the allocation of CAM resources. Customers paying for CAM resources are entitled to receive the associated RA value of that resource. If certain LSEs are exempt from flexible capacity procurement requirements, the customers of those LSEs get no Flex RA value from the CAM resource and, thus, should not have to pay for it. The Commission would have to develop a proposal to re-distribute the Flex CAM allocation to the LSEs with the flexible capacity procurement obligation and to ensure that customers of exempt LSEs do not pay for Flex CAM resources that provide no associated Flex RA value.

⁹ CPUC Staff Proposals, p. 14.

¹⁰ *Ibid.*

¹¹ CAISO Proposals, p. 39.

The ISO will not include an exemption in its proposal, but will respect the LRA's allocation methodology.

F. Future Modifications

Both the Commission Staff Proposals and the CAISO Proposals contain an outline of how and when each organization will review and potentially update elements of their flexible RA capacity regulations. The Commission Staff Proposals state that the Commission will review many of the flexible capacity regulations, including the three flexible capacity categories and the participation of use-limited resources in advance of the 2016 compliance year.¹² The CAISO Proposals state that it will review its methodology for determining the flexible capacity requirements in 2016 (i.e., after the initial 2016 compliance showings have been made).¹³ Both organizations should coordinate their review and improvement processes, since changes to one are of the program is likely to necessitate changes in another.

¹² CPUC Staff Proposals, p. 16.

¹³ CAISO Proposals, p. 31.

ISO Response

Thank you, we appreciate the need to coordinate with the CPUC both in the short and long term.

Company	Date	Submitted By
Bay Area Municipal Transmission Group (BAMx)¹	2/20/2014	<i>Doug Boccignone</i> <i>doughbocc@flynnrci.com</i> <i>888-634-7509</i>

BAMx supports the CAISO's Flexible Resource Adequacy Criteria and Must-Offer Obligation (FRAC-MOO) Draft Final Proposal dated February 7, 2014. BAMx appreciates the CAISO's efforts to work with stakeholders to develop a reasonable approach to addressing the CAISO's

¹ BAMx comprises the City of Palo Alto Utilities, the City of Santa Clara/Silicon Valley Power, and Alameda Municipal Power.

flexible capacity needs.

ISO Response

Thank you for your support.

Company	Date	Submitted By
Beacon Power, LLC	2/21/2014	Mike Berlinski berlinski@beaconpower.com 978-661-2075

Opening Comments

Beacon Power, LLC (“Beacon”) appreciates the work of the CAISO in the Flexible Resource Adequacy Criteria and Must-Offer Obligation (“FRAC-MOO”) initiative to adopt flexible resource adequacy (“RA”) capacity requirements that specifically include energy storage to help address the identified needs for regulation, load following, and ramping services.

ISO Response

No response required.

Flexible Capacity Value for Regulation Energy Management Resources Should be Based on its Flexible Capability and Not Limited to NQC

Beacon supports the inclusion of Regulation Energy Management (“REM”) resources in the FRAC-MOO proposal. Beacon requests that the CAISO clear up an inconsistency in the proposal, and recommends that the CAISO clarify that the Effective Flexible Capacity (“EFC”) of a REM resource should be based on its flexible capability and should not be arbitrarily limited to the Net Qualifying Capacity (“NQC”), as is suggested in the EFC formulas on page 36 of the proposal and stated on page 38 (“The effective flexible capacity for energy storage resources electing the regulation energy management would be set at the lesser of a resource’s 15 minute energy output capability or the resource’s NQC.”) Setting the EFC for a REM resource at the lesser of a resource’s capability or the resource’s NQC, which is 0 under current RA rules, would always yield 0, and would thus negate the point of the REM resource option. Thus, Beacon requests that the CAISO clarify that the EFC of a REM resource should be simply its flexible capability.

ISO Response

In the revised final draft proposal, the ISO has removed the restriction on REM resources that limited the EFC to a value less than the resources NQC. The EFC of a REM resource is simply its flexible capability under REM.

Flexible Capacity Value for Energy Storage Providing Regulation Should be Set at the Bi-Directional Regulation Capacity

Beacon suggests that the flexible capability of energy storage providing Regulation should be set at its up and down / bi-directional regulation capacity.¹ For example, a storage resource with a Regulation capacity of 1 MW would have a Regulation range of 2 MW – 1 MW Regulation Up and 1 MW Regulation Down – and should thus have an EFC of 2 MW. This is comparable to a generator offering 1 MW of Regulation Up and 1 MW Regulation Down would reserve 2 MWs of capacity, and thus those 2 MWs would have an EFC of 2 MWs. Because energy storage can provide flexibility and specifically Regulation in both the charge and discharge direction, the EFC for energy storage providing Regulation should be set at its bi-directional regulation capability.

¹ A REM resource regulation capacity would be based on its 15 minute energy output capability.

ISO Response

The way energy storage would provide Regulation would be as a REM resource. The ISO is not proposing a change to the current REM accounting methodology and will use this as the amount a resource can qualify for as a flexible RA resource.

Regulation Energy Management Resources Should be Included in Flexible Capacity Category 1

As the California Energy Storage Alliance (CESA) stated in its comments on the CAISO Fifth Revised Straw FRAC-MOO proposal,² the CAISO should include the EFC of REM resources in Flexible Capacity Category 1 (“Category 1”). REM resources can provide Regulation continuously, including during the smallest secondary ramp, the largest secondary ramp, and the smallest primary ramp, which are the ramps addressed by Category 1. Because REM resources can operate during the same periods and contribute to system flexibility in similar manners as other Category 1 resources, they should be counted as such.

In summary, Beacon requests that the CAISO clarify that the EFC of a REM resource should be calculated according to its actual contribution to system flexibility, at its bi-directional Regulation

capability, and that EFC should not be arbitrarily limited to the NQC. Beacon further recommends that REM resources be included in Category 1, as these resources offer flexibility in all ramps.

Beacon again thanks the CAISO for its efforts to engage stakeholders in this initiative and establish flexible RA rules for energy storage resources.

2 <http://www.caiso.com/Documents/CESAComments-FlexibleResourceAdequacyCriteriaMustOfferObligation-FifthRevisedStrawProposal.pdf>

ISO Response

Category 1 resources must be able to meet the net ramp energy requirement. Because REM resources provide regulation and not energy, it is not appropriate to qualify REM resources to meet the most stringent flexible category that was created to ensure the bulk of net load energy needs were met.

Company	Date	Submitted By
California Energy Storage Alliance	2/21/2014	Don Liddell, Douglass & Liddell liddell@energyattorney.com (619)993-9096
Opening Comments		

CESA¹ continues to applaud the CAISO's collaborative work with the California Public Utilities Commission ("CPUC") and stakeholders reflected in the Draft Final Proposal ("Proposal") to ensure that flexible capacity energy storage resources are available in the very near future to reliably operate the grid while fulfilling state energy and environmental goals. CESA appreciates the work done to accommodate the unique features of energy storage in the Proposal and will continue to work closely with the staffs of the CAISO and the CPUC in developing the tariff changes necessary for the CAISO to adopt flexible resource adequacy ("RA") capacity requirements that specifically include energy storage for regulation, load following, and ramping system needs.

CESA still sees a critical topic that is missing from the Proposal, in the area of dispatchable charging. The CPUC's staff has recently acknowledged that, "EFC should incorporate dispatchable load/ES charging because these operational modes can address ramping needs."² Yet the Proposal still does not yet include a clear counting methodology for this acknowledged ramp reduction. In fairness, it should be recognized that the CAISO appreciates the importance of this issue:

The CAISO staff has stated, "The ISO has spent significant time considering the proper methodology for counting the charge and discharge capabilities of storage resources for flexible capacity purposes and believes that there is additional work that needs to be done to consider additional flexible capacity potential of energy storage resources in subsequent stakeholder initiatives. However, at this time, it is prudent to account for full flexible capacity storage resources based on the three-hour discharge. Some will assert that this is a conservative approach. The ISO agrees. However, at this time, as we continue to learn more about the capabilities, potential, and operational characteristics of energy storage resources, it is reasonable to take a somewhat conservative approach. The ISO will continue to review the prudence of this approach in the recently opened Reliability Services initiative as well as in coordination with the CPUC in the RA proceeding (R.11-10-023)."³

¹ The views expressed in these comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. <http://storagealliance.org>

² *Qualifying Capacity and Effective Flexible Capacity Calculation Methodologies for Energy Storage and Supply-Side Demand Response, Stagg Proposal Outline*, January 16, 2014, p. 2.

³ Proposal, p. 38.

ISO Response

The ISO appreciates CESA's support. In the revised final draft the ISO has updated the EFC for NGR storage resources. The ISO will determine the EFC of energy storage resources selecting the full flexible capacity option based on the MW output range the resource can provide over three hours of charge/discharge at a constantly increasing discharge (i.e. constant ramp rate). Storage resources selecting the full flexible capacity option will be required to

submit economic energy bids for the time period applicable to the category for which they are shown for flexible capacity and may not be listed as a regulation energy management resource in the ISOs Master File. This is further described in section 6.

In order to account for the value of dispatchable charging in a just and reasonable manner, CESA suggests that the CAISO take one of the following two approaches in its Final Proposal:

1. Allow dispatchable charging to count as a Category 1 flexibility measure. Resources that can charge dispatchably fulfill the same need as other Category 1 resources used to deal with the lowest secondary ramp. They should be counted as such. Thus, a single long duration energy storage resource might count toward two categories. For instance, it could count toward Category 2 for its discharge characteristics, and Category 1 for its charge characteristics. This approach begins to dovetail with the CPUC's proposed EFC metrics for RA, which consider bi-directional flexibility.
2. The CAISO could explicitly account for dispatchable charging that contributes to ramp reduction in its flexible capacity need determination. This approach could be somewhat confusing for two reasons. The first is that the CPUC's proposed EFC metric considers dispatchable charging as part of the EFC of a resource. The second reason for possible confusion is that this approach separates the flexibility benefit of energy storage into two very different capabilities: need fulfillment and need reduction.

Either of these different approaches could be made to work, but CESA definitely favors the first alternative. Regardless of how dispatchable charging is accounted for, it is important that Load Serving Entities are able to specifically count the dispatchable charging of energy storage resources toward their flexibility obligations, and that the CAISO's evaluation of the EFC of a resource match the counting criteria adopted by the CPUC.

CESA supports the inclusion of Regulation Energy Management ("REM") resources in the Proposal. CESA recommends that the CAISO clarify that the EFC of a REM resource should be its up and down / bi-directional regulation capacity⁴ and should not be arbitrarily limited to the Net Qualifying Capacity ("NQC"). Setting the EFC for a REM resource at the lesser of a resource's flexible capability or the resource's NQC, which is 0 under current RA rules, would always yield 0, and would thus negate the point of the REM resource option. Thus, CESA recommends that the CAISO clarify that the EFC of a REM resource should be simply its bi-directional regulation capacity.

CESA recommends that the CAISO should include its EFC in Flexible Capacity Category 1 ("Category 1"). REM resources can provide regulation continuously, including during the smallest secondary ramp, the largest secondary ramp, and the smallest primary ramp, which are the ramps addressed by Category 1. Because REM resources can operate during the same periods and contribute to system flexibility in a manner comparable to other Category 1 resources, they should be counted as such.

Under the CAISO's current market rules, a REM resource can provide regulation continuously for the entire Must Offer Obligation window from 5:00 pm to 10:00 pm. Such a resource could not only provide regulation over the entire duration, but it also contributes directly to the 3-hour maximum ramp, as is shown below in Figures 1 and 2.

Figure 1: Regulation as Component of Flexibility

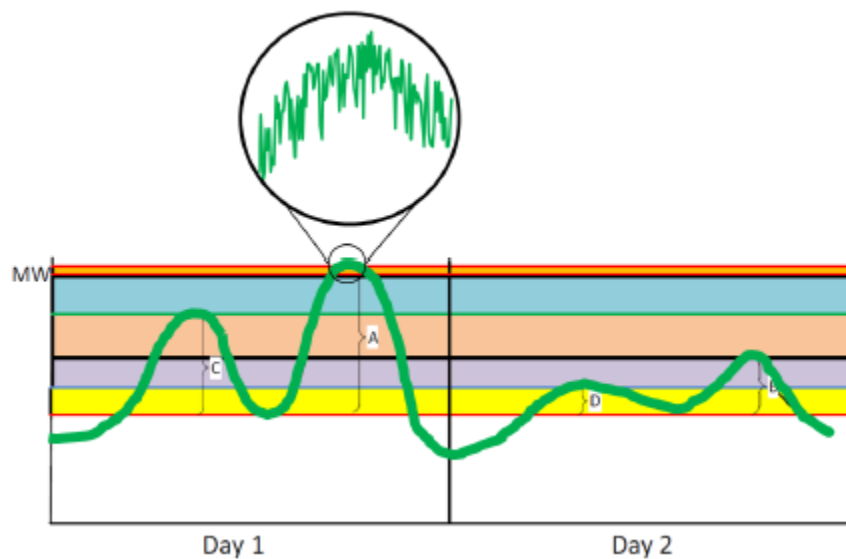
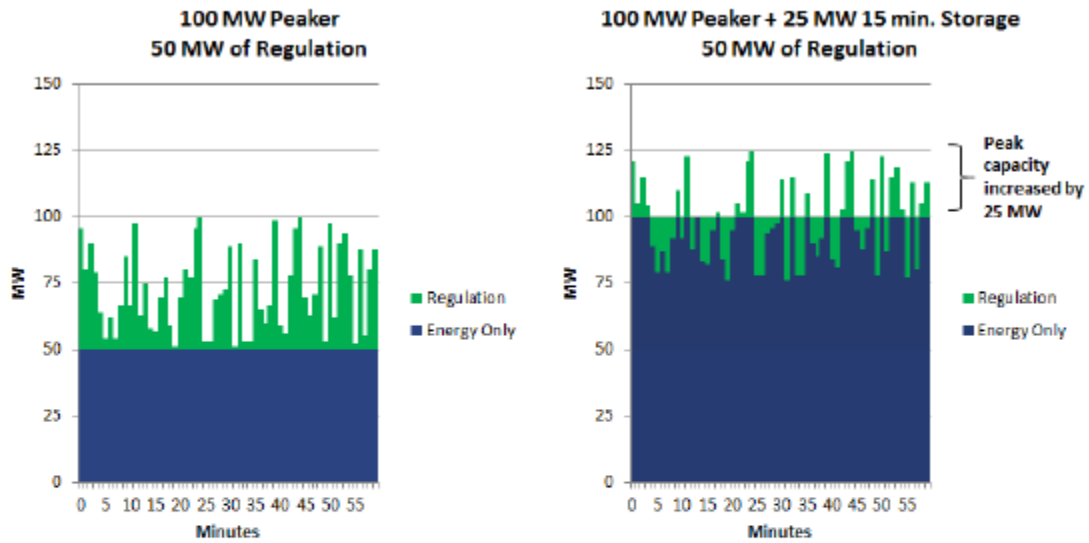


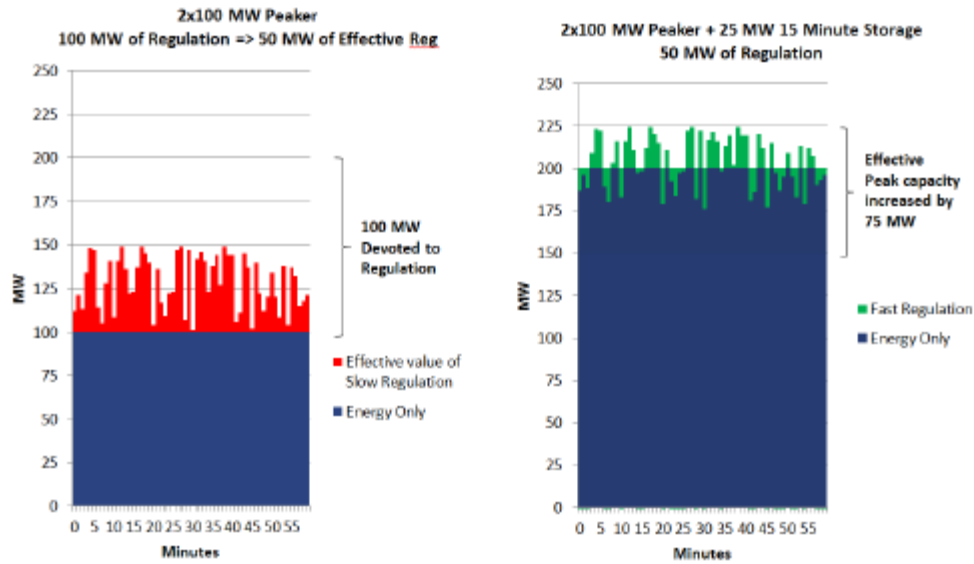
Figure 2: 100 MW Peaker vs. 100 MW Peaker + 25 MW 15-Minute Energy Storage



As is shown above in Figure 2, the REM resource demonstrably contributes to peak capacity at its full regulation capacity.

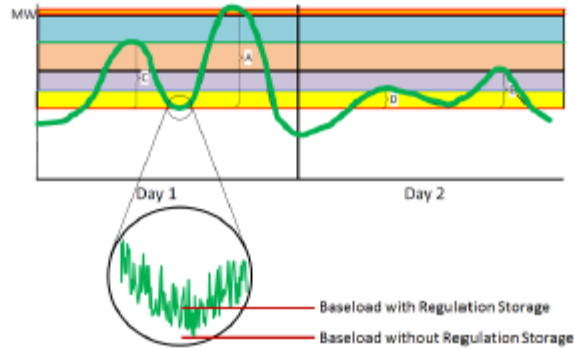
Additionally, because energy storage resources have been found to compare to the regulation capacity of at least two slower regulating generators, the EFC of a fast responding storage resource is in fact more than double its regulation capacity, in comparison with traditional resources. The effect of this fast response is shown below in Figure 3.

Figure 3: 2x100 MW Peaker vs. 2x100 MW Peaker + 25 MW of 15 Minute Storage



Bi-directional regulating storage resources decrease the need for flexibility at the low points in the net load curve shown below in Figure 4:

Figure 4: Regulation Energy Storage Reduction in Flexible Need



Thus CESA requests that the CAISO specify that the EFC of a REM resource should be calculated according to its actual contribution to system flexibility, at its bi-directional regulation capability, that EFC should not be arbitrarily limited to the NQC, and that REM resources be included in Category 1, because these resources offer flexibility in all ramps.

ISO Response

Category 1 resources must be able to meet the net ramp energy requirement. Because REM resources provide regulation and not energy, it is not appropriate to qualify REM resources to meet the most stringent flexible category that was created to ensure the bulk of net load energy needs were met.

Company	Date	Submitted By
California Department of Water Resources	2/21/2014	Mohan Niroula Power & Risk Office, CDWR Sacramento 916-5740712 Mohan.niroula@water.ca.gov

a) Use limited resources for Category 1

CDWR supports the proposal to allow hydro resources to count for category 1 including Use Limited Resources (ULR) that meet the set criteria.

ISO Response

Thank you for your support.

b) LRA share (%) calculation examples:

The final proposal should include a calculation example on how each LSE's share (%) would be calculated for allocation of FCR due to that LSE's change in load. The draft final proposal shows a calculation of FCR allocation with an assumption of LSE's share (%), but does not show how that percentage share is derived for an LRA. Similar example should be presented for calculating percent share of LRA on FCR allocation due to solar and wind. The allocation example also should include how the contingency portion of FCR is allocated by category.

ISO Response

The example on page 23 illustrates the FCR allocation to each LRA. The LSE's share of this is dependent of the LRA methodology.

c) Allocation of FCR to LRA:

LSE's change in load should not be counted (load ramp coincident with ISO system top 5 largest 3 hour net load ramps) when, a) LSE such as CDWR's load ramps up coincident with ISO largest net load ramp as a result of returning to schedule after Remedial Action Scheme (RAS) activation or a directive from the Reliability Coordinator, Balancing Authority or Transmission Provider to reduce load, b) Large pumps come online after a forced outage of pumps.

ISO Response

The ISO believes the proposed allocation methodology appropriately captures changes in load. Specifically, rare events or anomalistic data point such as those offered by CDWR have been addressed by using the LRA's average contribution to the top five net-load ramps. The methodology will mitigate the impact that anomalous events might have in the determination of the flexible capacity need allocation.

d) Minute-by-minute load forecast

The draft final proposal states, "The ISO's flexible capacity requirement assessment will use the most current full year of actual load data and the most current California Energy Commission (CEC) approved load forecast to produce a data set of minute-by-minute load forecast for the upcoming RA compliance year". It appears that ISO will make use of both 2013 actual load data and CEC's 2015 load forecast to generate minute-by-minute load forecast. Some more details explaining the process by which the CAISO will derive the minute-by-minute load forecast from this data should be provided. Additionally, will ISO use the same historical load data both for FCR assessment (included in the load forecast) and allocation?

ISO Response

This information will be provided in the annual process to determine the flexible requirement and error term.

e) Allocation of FCR to intermittent resource that is exported from ISO to serve outside entities for regulatory compliance

If such intermittent resources exist within the CAISO balancing authority, they should be allocated their fair shares of FCR.

ISO Response

Allocating an RA requirement to a supplier rather than an LSE is a significant change in the RA design and beyond the scope of this initiative.

f) LRA provisions

LRA should have right to establish counting rules for flexible capacity. CAISO default provisions should apply only when LRA does not have such provisions.

ISO Response

The LRA has the ability to set the counting provisions for determining how resources will count towards meeting its specific flexibility procurement requirements. The ISO is proposing the EFC criteria in the Revised Draft Final Proposal that it will use to establish EFC values for each resource. These values will be used for two purposes 1) as default EFC in the event that an LRA does not have specific counting criteria, 2) assessing the need for backstop procurement.

It is appropriate for the ISO to have these standard counting conventions for several reasons. The ISO must have an agreed-to counting criteria for each resource to equitably assess the collective flexible capacity showings by the local regulatory authority and among all local regulatory authorities. Because local regulatory authorities have the option to set their own flexible capacity values by resource, the ISO must, in the end, maintain the standardized effective flexible capacity values so that it can assess and compare showings across local regulatory authorities on a level playing field. For instance, the ISO must perform an assessment that is effective, efficient, and equitable. This is not possible if its assessment is based on different flexible capacity counting methodologies from different local regulatory authorities. In other words, in determining the need for backstop procurement, the ISO should not allocate backstop costs to an LSE SC simply because of the counting rules of another LRA.

If the ISO is unable to set its own EFC counting standard, and LRA1 sets a low threshold flexible capacity value (low quality) and LRA2 sets a high, more rigorous flexible capacity threshold (high quality), then the potential would exist for a local regulatory authorities to “lean” on other local regulatory authorities, which would be an inequitable result. Thus, the ISO must ultimately calculate and set the final effective capacity values to ensure that all local regulatory authorities are treated equitably when assessing if a flexible capacity deficiency exists and when allocating backstop procurement costs.

g) Participating Load (PL) eligibility for flexible capacity

The final proposal should include necessary steps to make PL resources eligible for flexible capacity.

ISO Response

Thank you for your suggestion. Participating load like any flexible capacity resource must be able to meet the minimum availability requirements and be able provide a reasonable level of ramping capability. For example, a participating load resource that is only able to provide demand response in block dispatches may not be well suited to provide flexible capacity. Such resources should consider what would be needed to smooth the ramping of the resources. Additionally, participating load can switch to provide energy through the NGR model to be counted as a flexible RA resource.

h) LSE data inaccuracy

ISO indicates that if LSE submits inaccurate data for contractual information on renewable contracts, ISO will reassess FCR and recalculate FCR. What is the process of determining inaccuracy of data? Where does this fit into the time line of FCR process?

ISO Response

The ISO understands that information changes over time and is requesting that each LSE SC make a good faith effort to provide data to the ISO that, to the best of their knowledge at the time of submission is accurate. If the information changes due to unforeseeable events, then no additional costs will be assessed.

i) Effective Flexible Capacity (EFC) eligibility threshold test

Would there be a minimum MW amount that needs to be bid in each of the 10 economic bids to be submitted in the RTM? How many hours and MW would need to be bid?

ISO Response

At this time the ISO has not mandated a minimum MW amount or time that a scheduling coordinator would have to bid the resource into the real-time market.

j) Collective shortfall backstop and cost allocation

The proposal on Page 7 indicates, in instances where there are simultaneous collective

deficiencies (e.g., LSE A short on flexible, LSE B short on generic system), ISO backstop would pick a flexible resource that would count for both generic and system. Is the resource going to get paid for only flexible or both? How is the cost allocated to each of these LSEs? How is the revenue from backstop charges disseminated?

ISO Response

In instances where there are simultaneous collective deficiencies in both system RA and flexible RA, each caused by different LSEs (i.e. one LSE SC is deficient system capacity and another LSE SC's is deficient flexible capacity), the ISO will procure sufficient flexible capacity to address both deficiencies simultaneously. Backstop procurement costs will be allocated proportionally to each LSE based on their relative deficiency.

The resource would be paid the current CPM price and have both the generic and flexible must-offer requirement in the energy market. Revenue from backstop payments will be disseminated as they are today, through the ISO's backstop settlements process (i.e. paid to the resource procured through the backstop process).

k) Ambiguity on when LSEs receive their allocation

The proposal on page 11 describes that on May 1, LSEs receive FCR allocations whereas the FCR process time line indicates July as the month LSE's receive allocations. It could be an error.

ISO Response

Thank you for your comment. In May the Final LCR and FCR study will be posted. In July the LSE's will receive their year-ahead flexible capacity procurement requirement from the LRA.

Does a flexible RA resource need to offer bid to curtail (DEC) also as part of the must offer requirement? If not, how are the offered bids to only generate curtailed? At what price?

ISO Response

The ISO will dispatch the flexible resources up or down depending on their relative bid curve to other resource's bid curves and the total requirement. There is no specific DEC bid curve in the ISO energy market. If a resource has self-scheduled or bid economically in the DA market and then not rebid into the real-time market so the DA schedule has become a self-schedule, then

the ISO may curtail the resource based on relative penalty prices.

How does ISO consider minimum starts per day and start up time in case of aggregated resources?

ISO Response

Use-limited resources that are not able to meet these requirements individually may be aggregated with another use-limited resource such that the aggregated resource is able to meet these requirements. However, contribution of aggregated resources toward addressing the ISO's flexible capacity needs will be based on lowest EFC of the resources used in the aggregation. Additionally, because the aggregated resources are being relied upon to meet the Base Flexibility requirements, both resources will be subject to the applicable must offer obligation. The number of starts per day must still meet the minimum requirements for the category for which the resources are shown. For example, the criteria in table 3 still apply, but the aggregated resources must exceed the minimum number of starts and run hours required per month.

Company	Date	Submitted By
California Public Utilities Commission (CPUC Staff)	2/21/2014	Megha Lakhchaura - m1a@cpuc.ca.gov Donald Brooks - dbr@cpuc.ca.gov Candace Morey - cjm@cpuc.ca.gov
Opening Comments		
<p>The Staff of the California Public Utilities Commission (CPUC Staff, or Staff) appreciates this opportunity to submit comments on the California Independent System Operator's (CAISO) Draft Final Proposal for the Flexible Resource Adequacy Criteria and Must-Offer Obligation (FRAC-MOO). While the CPUC Staff did not submit written comments in response to the December 13, 2013 working group or the CAISO's Fifth Revised Straw Proposal (Jan. 17, 2014), Staff has met twice with the CAISO staff since December, when the CAISO first indicated that it was proposing to shift away from technology-based must offer requirements and instead institute multiple "flexible capacity requirement categories," in order to articulate Staff's concerns with the new direction of the FRAC-MOO proposal.</p>		

Unfortunately, the CPUC Staff cannot recommend that the CPUC support the CAISO's Draft Final Proposal in its current form, for the reasons described in the following comments. In short, Staff is concerned that various aspects of the CAISO's FRAC-MOO proposal do not conform to the current oversight roles established for CPUC-CAISO implementation of the Resource Adequacy (RA) program through CPUC decisions, CAISO tariff, and business practice manuals. This is primarily because certain provisions of the FRAC-MOO proposal remove the Local Regulatory Authority (LRA's) role in quantifying the eligible flexible capacity for the LRA's jurisdictional Load Serving Entities (LSEs). The CPUC Staff requests that the CAISO address these critical issues before submitting the FRAC-MOO proposal for approval by the CAISO's Board of Governors.

ISO Response

The ISO has revised the final draft proposal based on feedback from the CPUC and other market participants.

1. Defining resource eligibility to meet reliability and RA obligations should remain the jurisdiction of the LRA, and the CAISO should focus on ensuring deliverability of RA resources to meet both peak and flexible needs.

The CPUC adopted a flexible capacity procurement framework in Decision (D.)13-06-024 and adopted a methodology for quantifying the amount of Flexible RA capacity eligible from conventional and hydro resources in its 2014 Resource Adequacy (RA) proceeding. The decision further instructed parties and the Energy Division to develop counting conventions for storage, preferred and use limited resources. Subsequently, the Energy Division issued proposals for counting Effective Flexible Capacity (EFC) within demand response (DR) and storage¹ with a recommendation that the CPUC adopt these methodologies for the 2015 RA year.

The FRAC-MOO proposal includes EFC counting conventions for various resources including conventional, hydro, CHP, storage, and demand response. CPUC Staff strongly opposes this provision in the FRAC-MOO proposal because Staff believes that the LRA (e.g., the CPUC) should calculate the eligible EFC amounts and determine the counting rules for its jurisdictional LSEs. This would be consistent with the current oversight roles which give the CPUC jurisdiction over Qualifying Capacity (QC) process. D.10-06-036 adopted a QC manual that describes the methodologies used to calculate QC values for all resources. The difference between QC and

Net Qualifying Capacity (NQC) as currently administered is the limitation that the NQC for a resource cannot exceed its “deliverable” MW quantity². The CAISO conducts these deliverability tests to determine a final NQC. The QC-NQC process is jurisdictionally sound because the LRA determines procurement rules that describe how resources should count towards RA system and local need, while the CAISO has the right to decrement the LRA-determined RA value to account for operational considerations.

CPUC Staff believe the current oversight roles for QC rules do and should extend to the flexible capacity rules. It is unclear what, if any, restrictions on the flexible capacity calculations performed by the LRA might be imposed by the CAISO. In accordance with Section 40.4.5 of the CAISO tariff, the CAISO should retain the right for reductions in performance criteria—but not determine the EFC amounts for resources in the first instance.

Staff is also concerned that the deliverability assessments performed by CAISO staff for system RA resources may not equate or translate onto the flexibility construct. System and local RA procurement is geared towards meeting system needs during the peak hour, but flexibility needs to not correspond to peak demand. Because the current deliverability assessment is focused on on-peak hours it may not be an effective tool for assessing performance criteria or “deliverability” of flexible resources.

In conclusion, the CPUC Staff urges the CAISO to look to the current balance of oversight for QC calculations to guide the CAISO’s proposal for determining flexible capacity EFC calculations for resources.

1 http://www.cpuc.ca.gov/NR/rdonlyres/665A63B2-2EED-479D-85FFA02380AC93AA/0/R1110023StaffProposal_QCandEFCMethodologiesforStorage.pdf

2 The CAISO’s deliverability study methodology for resource adequacy purposes was discussed extensively in the CPUC’s Resource Adequacy Proceeding in 2004, and was generally adopted in that proceeding. It was also accepted by FERC as a reasonable implementation of LGIP Section 3.3.3, during the FERC Order 2003 compliance filing process.

ISO Response

The LRA has the ability to set the counting provisions for determining how resources will count towards meeting its specific flexibility procurement requirements. The ISO is proposing the EFC criteria in the Revised Draft Final Proposal that it will use to establish EFC values for each resource. These values will be used for two purposes 1) as default EFC in the event that an

LRA does not have specific counting criteria, 2) assessing the need for backstop procurement.

It is appropriate for the ISO to have these standard counting conventions for several reasons. The ISO must have an agreed-to counting criteria for each resource to equitably assess the collective flexible capacity showings by the local regulatory authority and among all local regulatory authorities. Because local regulatory authorities have the option to set their own flexible capacity values by resource, the ISO must, in the end, maintain the standardized effective flexible capacity values so that it can assess and compare showings across local regulatory authorities on a level playing field. For instance, the ISO must perform an assessment that is effective, efficient, and equitable. This is not possible if its assessment is based on different flexible capacity counting methodologies from different local regulatory authorities. In other words, in determining the need for backstop procurement, the ISO should not allocate backstop costs to an LSE SC simply because of the counting rules of another LRA.

If the ISO is unable to set its own EFC counting standard, and LRA1 sets a low threshold flexible capacity value (low quality) and LRA2 sets a high, more rigorous flexible capacity threshold (high quality), then the potential would exist for a local regulatory authorities to “lean” on other local regulatory authorities, which would be an inequitable result. Thus, the ISO must ultimately calculate and set the final effective capacity values to ensure that all local regulatory authorities are treated equitably when assessing if a flexible capacity deficiency exists and when allocating backstop procurement costs.

2. Flexible categories should be established in the first instance by the LRA and incorporated into the CAISO tariff (if at all) as default provisions.

The CPUC has the jurisdictional authority and responsibility to establish a procurement RA framework for its jurisdictional LSEs.³ If the CAISO prefers a structure that limits procurement of resources with certain types of operating characteristics beyond the CPUC-adopted definition flexible capacity in order to satisfy Resource Adequacy procurement requirements, then the CAISO should submit a proposal to the RA proceeding similar requesting that the CPUC impose a structure that limits LSE reliance on contractually limited resources (such as a structure similar to the current MCC buckets).

Propose categories of reliability requirements in the CAISO's tariff (which would need to be implemented via the IRR or SIRA database) will to disturb the existing roles of oversight that

has held since the beginning of the RA program in 2006.⁴ Staff also has reservations about the analytical process used by the CAISO to establish the flexible categories. CPUC Staff believe that further analysis of the underlying data should be undertaken before instituting flexible categories. Such analysis can be accommodated because the FRAC-MOO is an interim requirement and the currently adopted flexible RA structure is adequate for now.

First, the CPUC has adopted a maximum three-hour continuous ramp in each month and has mandated that its jurisdictional LSEs to engage in contracts that mandate economic bidding behavior from generators with specific operational capabilities to meet this ramping need. The CAISO did not examine whether the current fleet could meet the newly prescribed secondary ramps that the CAISO used to define the flexibility categories. It would be more prudent to establish new “flexible categories” based on more (preferably probabilistic) analysis and only if data shows that the current definition of flexible resources is insufficient to meet new ramps.

Second, the CAISO uses net load data that is based on only one year of load and only one year of resource performance. It is not clear to CPUC Staff that the evaluation accounts for sufficient variability within both load and resource performance profiles (e.g. using more than one year of loads and profiles) to recommend the creation of the flexibility categories.

Third, the CPUC will design a long-term approach to meeting flexibility in the ongoing RA docket with an eye toward enabling greater consistency with the State’s loading order for preferred resources to meet flexible capacity requirements. The CPUC approach will be based on learning following implementation of the CPUC’s proposal (which includes probabilistic analysis). This may include a structure of categories similar to the CAISO’s proposal and it may establish percentages or timing limitations on the resources used to satisfy flexible categories –but these limitations would be instituted after parties have had an opportunity to weigh in on the data and analysis used to determine the need for and the propriety of the flexible categories as they are proposed.

Although the CPUC Staff does not agree that the CAISO should establish the three flexible categories at this time (and prior to their consideration, in the first instance, by state and Local Regulatory Authorities), the CPUC Staff understands that the CAISO is concerned with the implications of creating a flexible fleet with an over reliance on physically and regulatory use-limited resources. Therefore, Staff recommended adopting flexible categories as part of the staff

flexible capacity implementation proposal through the 2013 RA proceeding. These fixed percentage categories are less proscriptive than the CAISO's categories, which vary every month. The CPUC Staff also considered reliability along with administrative ease and State Policy before proposing flexible categories.

Accordingly, Staff supports (and proposed) allowing participation of use-limited resources through the creation of categories in the interim period (through the end of 2017) while acknowledging that the CPUC and CAISO must develop a long-term framework to further enable the participation of all qualifying resources in meeting operational flexibility needs.

In sum, Staff believes that the existing balance of oversight between the LRA (e.g. the CPUC) and the CAISO should remain as it currently exists for system requirements. The LRA should retain the right to create and enforce any procurement category and adjust these categories according to LSE procurement rules and State mandated policy.

Accordingly, the CPUC Staff opposes including flexible categories in the CAISO tariff and instead recommends their development in the CPUC's RA proceeding.

ISO Response

The ISO needs these appropriately designed flexible capacity categories to establish corresponding bidding requirements for various types of flexible capacity resources. Without specific reference to flexible capacity categories, the ISO would have to enforce a single must offer obligation that would prohibit resources such as demand response and storage from providing flexible capacity. The ISO designed these categories out of the recognition that every flexible capacity resource is not needed in every hour. This enables a wide range of resources to provide flexible capacity, including preferred resources. The resources counted as flexible resources within each category should be able to provide the level of flexibility required of that category every day.

Local regulatory agencies retain the ability to determine what portfolio of resources their jurisdictional load serving entities can or should procure. Therefore, while the ISO has set the levels of the categories, it is up to the LRA to determine if procurement within a category should be dedicated to a specific resource technology.

3. FRAC-MOO rules instituted in the CAISO tariff should sunset at the end of 2017.

In D.13-06-024 the CPUC adopted flexibility as an interim requirement for years 2014-2017. Most likely the CPUC will continue development of the flexible capacity framework, and tailor the program to the future state of reliability needs after the interim approach ends in 2017. Specifically, the bulk of OTC compliance, RPS investment, and management of SONGS closure will have been figured out and implemented by then, which will have strongly determinative impact on the need for and method for protecting reliability given the flexible capacity procurement framework.

On January 28, 2013 the CAISO issued the “Reliability Services Initiative.” Among other things the CAISO proposes that the scope of the initiative include should enhancing the minimum eligibility criteria for system, local, and flexible RA capacity where needed and modifying must-offer rules where required, in particular for use-limited resources, in order to standardize must-offer requirements for different technology types. On February 5, the CPUC issued the “Order Instituting Rulemaking”⁵ of the Joint Reliability Plan to consider forward multi-year RA requirements, implementation of a long-term planning assessment, and determining rules and the CPUC policy position with respect to the CAISO’s proposal for a market-based backstop procurement mechanism. Both of these initiatives will have a significant impact on flexible RA procurement. The categories and procurement limitations the CAISO has developed in the FRAC-MOO proposal should also remain open to change based on developments in the CPUC’s proceeding and the CAISO’s RSI initiative.

The CPUC Staff thus opposes cementing complex restrictions on the ability of use-limited resources to satisfy flexibility needs in the CAISO tariff at this time—at least without an explicit sunset or expiration date. The CPUC staff is concerned that instituting flexible categories in the CAISO tariff will become the default position on a long term basis, and thus will not allow them to shift in response to rules developed through ongoing proceedings at the CPUC and the CAISO to implement the Joint Reliability Framework. Staff is particularly concerned that if the CAISO implements flexible categories in its tariff, these “buckets” will become the default starting point for further procurement rules even though they were proposed only very recently and market participants have had very little time and received no data to evaluate the proposal. Staff therefore requests that the CAISO’ adopt interim approach for the FRAC-MOO and clarify for stakeholders that whatever tariff provisions are adopted will expire on or before December

31, 2017.

ISO Response

The ISO proposal does not have a sunset date. Instead, the ISO will reevaluate the flexible requirement in 2016. This will allow time for coordination between CPUC and the ISO at that time.

Company	Date	Submitted By
Calpine Corp.	2/21/14	Matt Barmack barmackm@calpine.com 925-557-2267

Opening Comments

Calpine largely supports the changes to the Fifth Revised Straw Proposal reflected in the Draft Final Proposal.

ISO Response

Thank you for your support

Comment 1

Calpine has one remaining concern about the proposed must-offer obligation for Category 1 (Base Flexibility) resources. In order to qualify for Category 1, a resource would be required to “Meet minimum start requirements of either two starts per day or the number of starts allowed by a resource’s minimum up and minimum down time operational limits.” As explained in the proposal, a resource with sufficiently long minimum up and down times would not be required to be able to start twice per day to qualify for Category 1, whereas a resource with shorter minimum up and down times but environmental limits on starts that potentially preclude it from starting more than once per day (on average) would not qualify for Category 1. This result seems perverse in the sense that it would allow a less flexible resource, i.e., one with longer minimum up and down times, to count towards Category 1, but not an ostensibly more flexible resource, i.e., one with shorter minimum up and down times and the possibility of starting more than once per day albeit not every day.

To ensure more equitable treatment of resources with different minimum up and down times and limitations on starts, Calpine proposes the following modifications to the must-offer

obligation for Category 1 resources: Category 1 resources should be able to meet two three hour ramps per day. To the extent that such resources are limited to less than two starts per day due to either operational limits, such as minimum up and down times, or use limits, such as annual or monthly limits on starts, resources must be capable of providing not only 6 hours of energy/day at EFC but also an additional 11 hours of energy/day at Pmin. (11 hours is the maximum time that could elapse between two three hour ramps, both of which occur within the 17 hour window covered by the Category 1 must-offer obligation.) This additional energy requirement would ensure that resources that are potentially start-limited could remain operating and available to meet two ramps in a day.

ISO Response

The intent of the category 1 is that category 1 resource should be able to meet two-three hour ramps each day and so this proposal is not inconsistent with our current approach. Calpine’s example clarifies how a resources that is only able to start once a day could be considered in providing flexible capacity. This is not a modification of the categories, simply an example of certain types of category one resources.

Company	Date	Submitted By
Cogeneration of California	2/21/2014	
Opening Comments		
<p>The Cogeneration Association of California and the Energy Producers and Users Coalition (“the CHP Parties”) provide these comments on the Draft Final FRAC MOO proposal issued by ISO Staff on February 7, 2014.</p> <p>The CHP Parties appreciate the inclusion on pg. 37 of the principles that a resource may designate any portion of its EFC as “generic capacity,” and that such capacity can be self-scheduled and not subject to the obligation to submit economic energy bids. This is an important principle protecting the legal obligations and operations of combined heat and power resources, and should be explicitly stated in any final conceptual document submitted for Board approval and in the tariff language.</p> <p>There continues to be an issue, however, with the calculation of the EFC of CHP resources. Using the same methodology as proposed for other conventional resources is not a satisfactory</p>		

solution. The formula of $NQC - P_{Min}$ captures one concept for conventional gas-fired resources since it represents a calculation of one measure of maximum output minus a measure of minimum stable generation.

It represents a completely different concept for CHP. NQC for CHP resources is generally based on their output to the grid net of deliveries to their industrial host. Some CHP units that deliver both electricity and thermal energy behind the meter to their industrial host have only a small net amount of electricity to export to the grid. For those resources, NQC is a relatively small amount and will likely be less than P_{Min} . The formula would produce a negative EFC for those resources, although they may in fact have some flexibility.

On the other hand, some CHP units among the members of the CHP Parties have a significant export to the grid and a NQC that is a relatively large percentage of their P_{Max} . For them, the formula $NQC - P_{Min}$ will overstate their flexibility. Although they export a large amount to the grid, that electricity output may be inflexibly tied to the thermal deliveries to the industrial host, and therefore not flexible capacity available for dispatch. The ISO may respond that those units can designate that inflexible excess as generic capacity. However, the CHP Parties are concerned that the proposal creates the threat of unintended future obligations for CHP. Having identified a hypothetical, unsupported EFC for a resource, that EFC may be used to create an obligation to operate that the CHP resource cannot honor.

Given the unique operating configurations of each CHP resource and the varying obligations to industrial hosts, each CHP resource has a discrete flexible capacity that cannot be easily determined by a generic formula. Each CHP resource should be able to designate its own flexible capacity, subject to some engineering verification by the ISO.

Another matter requires some clarification. The discussion on pg. 37 refers to the amount of flexible capacity "listed." It is unclear whether that refers to a master spreadsheet listing each resource's EFC, or whether that refers to the amount of flexible capacity a resource has listed on a flexible RA showing. This is important in protecting the CHP resource's option to designate part of its capacity as generic.

ISO Response

The ISO understands the difficulty using a single formula to count flexibility may cause on unique generation technology types. The accounting methodology for the first type of CHP

resources may accurately represent the ability of the resource to provide flexible capacity. If the resource's NQC is limited because the resource will have only a small net amount of electricity to export to the grid, then the ISO expects that the resource will similarly only be able to provide small amounts of net flexible electricity to export to the grid as well.

As to the second type of CHP resource where the formula may over-estimate the ability of a resource to provide flexible energy, the ISO has rules in place that allow a resource to be shown as generic or flexible independently of the actual EFC of the resource. The EFC is taken as a maximum. The ISO is sympathetic that rules set by the CPUC may cause the resource to be shown for more flexibility than they can physically provide; however, this should be addressed within the CPUC's RA proceeding and not at the ISO.

Company	Date	Submitted By
ENERNOC	2/21/2014	
Opening Comments		
<p>One of the more significant changes that CAISO has proposed in its Draft Final FRACMOO Straw Proposal is to condense the 4 categories of flexible capacity resources into 3 categories, by collapsing what had previously been categories 1 and 2. EnerNOC has no opinion on that change. The categories of flexible capacity resources in which DR resources are likely to participate is in either categories 2 (peak) and 3 (super-peak).</p> <p>CAISO maintains a 5% cap on super-peak flexible capacity resources. EnerNOC incorporates all of the comments that were articulated with respect to the Fifth Revised FRACMOO Straw Proposal, by reference, as those concerns are just as valid for the Draft Final FRACMOO Straw Proposal. Those issues include:</p> <ol style="list-style-type: none"> 1. Ability of Category 1 resources to displace Categories 2 and 3 resources; Ability of Category 2 resources to displace Category 3 resources 2. Lack of definition around the availability hours 3. Bundling DR flexible capacity with DR generic capacity 4. Requiring DR to bid on a sub-LAP basis to provide a system resource 		

5. Unknown value proposition and replacement obligations

EnerNOC does not object to the 5% cap as an initial starting point, so long as that cap is not permanent and other methods for determining Category 3 participation levels are considered. CAISO has indicated they will initiate a stakeholder process early in 2016 to revisit the FRACMOO structure, and that seems appropriate.

There are implications to a cap that will affect the post-2016 DR contracts/programs. In other words, it would be an unfortunate consequence of this design if future opportunities for DR to provide flexible capacity resources, post 2016, would be limited by virtue of a, somewhat, arbitrary market cap, especially if flexible capacity resources will be valued at a premium over generic resources. However, as there is very little, if any, participation in the wholesale market by DR resources at this time, for various reasons, it is unlikely that this cap will result in the denial of DR resource participation between 1Q2014 and 1Q2016. As such, EnerNOC will not strongly protest this cap at this time; but, will reserve the right to do so in the future.

ISO Response

Thank you for your comments.

(1) The ISO created the additional categories in order to accommodate preferred resources such as demand response as flexible resources. The original proposal by the CPUC would not have allowed preferred resources to participate at all. The ISO is not in a position to mandate a policy objection and therefore can only define operational categories that will enable the most participation from all resource types.

(2) The ISO has attempted to clarify the availability hours. These hours will coincide with the largest net-load ramps each month.

(3) The ISO has gone with an approach so flexible RA resources do not automatically have to take on the generic must-offer requirements or count toward the generic requirement. This will allow DR that can best meet the flexible requirements to count as flexible RA and DR that can best meet the generic requirements to count as system or local RA.

(4) Thank you for your comment, the ISO understands that this has been an issue, but it is outside the scope of this initiative to address it.

(5) These will be addressed in the in progress, Reliability Services initiative for implementation

in 2016.

TESTING

CAISO proposes, at page 37, to randomly test DR resources to establish EFC. EnerNOC has, in previous versions of FRACMOO Straw Proposals, opposed a random test for DR resources as being discriminatory. Generation resources are not randomly tested; they schedule their test dates. Random tests are not a good idea for DR resources. Good DR resource performance is based upon the good coordination and communication between the resource owner and the customers. In that way, EnerNOC maintains a consistent level of communication with customers to indicate when the resources are likely to be dispatched. In a market environment, EnerNOC will analyze market price signals as the indication that a dispatch is likely. As a reliability resource, EnerNOC evaluates system conditions, load, resources, outages, fires, prices, temperatures-all as potential indicators of the likelihood of a resource dispatch. EnerNOC communicates information to its customers regarding dispatch likelihood and resource readiness to assure the best possible performance from its customers. Random tests look like a failure to communicate to the customer and decrease customer satisfaction. If the end result is to determine performance under conditions that are comparable to real dispatch conditions, blind tests do not replicate those conditions for DR resources and will ensure less performance than would otherwise be garnered. EnerNOC strongly discourages random testing as a basis for determining EFC or NQC.

CAISO also identifies the current RA dispatch window (1-6 PM) as being incompatible with the window when flexible capacity resources will be required to be available. EnerNOC agrees. It makes sense to have the resource test coincide with the availability requirement. As EnerNOC has stated on numerous occasions previously, the difference in the availability and performance requirements will necessitate that EnerNOC develop separate resources for each requirement with separate customers. As such, bundling the requirement for flexible and generic capacity doesn't make any sense for DR.

It is apparent that the amount of Category 3 capacity that will be required in any month will vary based upon the monthly calculation of 5% of the monthly maximum ramping requirement. It is unclear how a test will demonstrate the capability of the resource over the course of an annual period, where the resource requirement may vary, significantly, from month-to-month.

The CPUC Energy Division Proposal limited the random test window to one month. EnerNOC suggested narrowing the window to one week. To require a resource to maintain a constant state of readiness of a resource over the course of a month for 100 hours (100 hours=5 hours/day * 5 days/week * 4 weeks) for a random test that will last 3 hours, is not reasonable, especially when the resource is only required to be dispatched, at most, for 15 hours/month.

ISO Response

The ISO will give a notice to the DR resource at the close of the day-ahead market informing the resource of the testing that will occur the next day and when the DR resource is required to be available. While the ISO's proposed rules state that the ISO will only actually dispatch a resource listed in the super-peak flexibility category for a maximum of 15 hours, this is different than the availability required for potential dispatch. The availability requirement mandates that the super-peak availability resources must have the ability to be potentially dispatched at any point over the availability hours in the course of the month. In other words, these resources have to be potentially available over all the availability hours, the ISO may dispatch the resource in any of these hours, but not for more than 15 hours per month. A random test will reflect the actual conditions in which a DR resource may be dispatched and the ISO believes that day-ahead notice for testing is sufficient to allow the DR resource to demonstrate its flexible capacity capabilities.

RESOURCE REQUIREMENTS:

In the Draft Final FRACMO Proposal, CAISO proposed that energy storage could have a constant ramp rate (MW/min), over a 3-hour period, as opposed to a constant hourly capacity performance obligation.

There are aspects of that proposal for energy storage which have applicability for DR resources. EnerNOC's customers load shapes increase from the morning hours through the day, until late afternoon, when the load will drop off as business hours conclude. As such, the ability for DR resources to drop load increases as the hours progress, to a point, and then decreases, in the late afternoon and evening hours. In other words, DR resources can contribute more load reductions as the hours progress between 7 AM and noon then they could provide a constant load drop across those hours, a positive ramp rate. Conversely, resources would have a negative ramp rate in the afternoon and evening hours-more load drop available at 3 PM and a decreasing amount per hour through 8 PM.

If, for example, the availability window was between 7 AM and noon and EnerNOC had 100 MW of flexible capacity capability, it could provide 20 MW between 7-8 AM, 40 MW between 8-9 AM, 60 MW between 9-10 AM, 80 MW between 10-11 AM, and 100 MW between 11 AM and noon. The pattern would be reversed between 3 PM and 8 PM.

EnerNOC hopes that the CAISO is amenable to this concept for DR.

ISO Response

This scenario seems comparable to a ramp rate constraint more than a sustainability question. In other words, the DR resource could not reach the max reduction in 30 min, for example, but could do so in 2 hours because of customer load growth. This would not affect the EFC of the resource, only the rate at which it would reach its full EFC. It does seem that the DR resource would "run out" of energy so much as have a slower ramp rate than it might have during the peak hours.

Company	Date	Submitted By
NGK Insulators, Ltd.	2/21/2014	Edward G. Cazalet MegaWatt Storage Farms, Inc. ed@MegaWattSF.com 650-949-0560
Opening Comments		

NGK Insulators, Ltd. (“NGK”) is a large international firm focused on the power, ceramics and electronics businesses. NGK is the manufacturer of the NAS battery system that is proven in extensive commercial operation. Globally, more than 300 MW of NAS battery capacity at over 170 projects with 6 to 7 hours of energy storage (over 2100 MWh) are currently in operation and additional projects are in development.

MegaWatt Storage Farms, Inc. (“MegaWatt”) is a storage advisory firm. MegaWatt prepared these comments on behalf of NGK.

NGK and MegaWatt commend the work of the CAISO, CPUC and the parties that developed this Draft Final Proposal (“Proposal”) for flexible resource adequacy, including consideration of the flexibility that can be provided by electricity storage projects.

NGK’s comments are generally applicable to most multi-hour battery and other fast, multi-hour storage technologies.

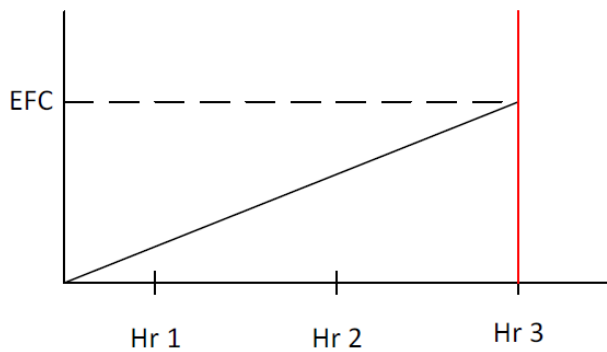
ISO Response

No response required.

The ISO Proposal has made significant revisions to the fifth revised straw proposal relevant to storage.

For storage electing to provide fully flexible capacity, the ISO now proposes to determine the effective flexible capacity (EFC) of energy storage resources based on the MW output the resource can deliver after three hours of discharge at a constantly increasing discharge rate (1.5 hours of energy capability over 3 hours). Previously, storage was required to deliver 3 hours of energy over 3 hours.

The figure below from the ISO Proposal illustrates this determination of EFC for storage to qualify as fully-flexible capacity. It means that only 1.5 MWh of energy storage per MW (1.5 hours) of storage is required and longer duration storage receives no additional EFC credit.



Most storage and especially fast storage that can provide the most flexibility to the ISO market can respond almost immediately. Applying a reduced, low ramp rate to storage below its capability makes no sense.

It is not clear from the ISO Proposal, what category (1, 2, or 3) this 1.5 hour storage would qualify for. The storage requirements for the three ISO Categories are:

Category 1 (Base Flexibility – about 75% of the need) lists storage resources with long discharge capacities as qualifying for this category. It appears that such storage will require 6 hours of energy at EFC. There is no mention of an increasing discharge rate for 6 hour storage. Clearly, 1.5 hours of storage should not be allowed to substitute for 6 hours storage or 6 hours of any other resource.

NGK suggests, consistent with the requirement for other resources, that the ISO proposal make clear that the storage requirement is for 6 hours of energy for Category 1.

Category 2 (Peak Flexibility – about 20% of the need) requires storage to have 3 hours at EFC.

Category 1 (Super Peak Ramping) – about 5% of the need) requires storage to have 3 hours at EFC. 15 minute Regulation Energy Management storage is also allowed in Category 1.

NGK suggests that both Category 2 and 3 require storage to follow the same rules as other resources which require 3 hours of energy, or as much as each resource ramp rate allows over 3 hours.

Finally, the proposal is silent on the Pmin for storage. NGK suggests that the Pmin for storage should be negative at the sustainable charge rate for storage over 6 hours for Category 1 and 3

hours for Category 2 and 3.

ISO Response

The ISO will determine the EFC of energy storage resources selecting the full flexible capacity option based on the MW output range the resource can provide over three hours of charge/discharge at a constantly increasing discharge (i.e. constant ramp rate). Storage resources selecting the full flexible capacity option will be required to submit economic energy bids for the time period applicable to the category for which they are shown for flexible capacity and may not be listed as a regulation energy management resource in the ISOs Master File. The ISO believes that a clarification consistent with what NGK is suggesting has been made in the revised draft final proposal (i.e. energy storage resources providing category one flexible capacity must be able to provide six hours of energy in a day). If the resource is registered as an NGR resource, the ISO would be able to address any charging and discharging requirements through the market optimization. This is further described in section 6.

SUMMARY

The ISO Proposal advocates a technology agnostic flexible capacity must-offer obligation (Section 5.2). The ISO makes an excellent case that: “Attempting to design flexible capacity must-offer obligations to satisfy each new technology type will become increasingly unwieldy and confusing.” However, in violation of this principle, the ISO now proposes a technology specific flexible capacity must offer obligation for storage.

NGK suggests that this proposal as it affects storage is not ready for ISO Board approval. With respect to storage, the proposal is also inconsistent with the CPUC Energy Division proposal in R.11-10-023.

Any specific requirements for storage will impact the procurement of storage under AB2514. It is clear that renewables integration and reduction of greenhouse gas targets cannot be achieved with mostly short duration storage.

NGK recommends that the ISO make clear that Category 1 as applied to storage requires 6 hours of storage and Category 2 and Category 3 require 3 hours of storage for fully flexible capacity.

NGK also recommends that the ISO clarify for storage that the Pmin is negative.

ISO Response

Thank you for your comments.

Company	Date	Submitted By
NRG Energy, Inc. (“NRG”)	2/21/2014	Brian Theaker

Opening Comments

NRG submits these comments on the CAISO’s February 7, 2014 Draft Final Flexible Resource Adequacy Criteria and Must-Offer Obligation (FRACMOO) Proposal.

NRG commends the CAISO for its work on these issues. It is unlikely that the CAISO and market participants will get everything with regards to this new consideration (the need for flexibility) right on the first try. Nevertheless, it is important to move forward with implementing these requirements so that we will have a better chance of getting things right when the need for flexibility actually affects procurement.

ISO Response

Thank you for your comments.

Regulation Management Option for Energy Storage.

NRG has repeatedly questioned how short energy-duration storage participating in the regulation energy market can provide a flexibility service associated with a three-hour time frame. The CAISO’s other option for storage to provide flexibility – the full flexibility option – proposes to measure a storage resource’s Effective Flexible Capacity on the basis of the MW output the storage resource can deliver after three hours of discharge at a constantly increasing discharge rate.¹ This option, unlike the regulation energy management option, acknowledges and incorporates the three-hour basis of the flexibility requirements. When flexibility requirements are once again decomposed into different time periods – max ramp, load following and regulation – then the regulation energy management option would be a reasonable fit for the shortest-duration flexibility requirement. Until then, deeming regulation energy management storage resources to meet the three-hour flexibility requirements remains an ill fit.

ISO Response

We appreciate the difficulty in fitting regulation energy management (REM) storage resources into a flexible energy framework. At this time the ISO will continue its proposal to allow REM

resources to qualify as category 3 flexible resources.

Bounds for error term.

The CAISO requests feedback on appropriate bounds for the error term and what actions to take if the bounds on the error term are exceeded. NRG offers that it is not useful to opine on bounds for the error term. Rather, to the extent that the CAISO's formula does not reflect the CAISO's operational needs, the CAISO and market participants are better served by understanding the nature of the difference between the flexibility requirement produced by the formula and the CAISO's flexibility needs, including how those needs are determined, with the intent of adjusting the requirements formula.

ISO Response

Thank you for your comments.

Deferring the implementation of the Standard Flexible Capacity Product and Opportunity Cost Adders.

NRG supports this.

ISO Response

Thank you for your support.

Flexibility Categories.

NRG supports reducing the number of flexibility categories to three as the CAISO has proposed. NRG offers the following questions and comments about the proposed categories:

- In months in which there is not much load variation and the peak ramps are of similar size (e.g., December) – should the limit on Category 3 resources be even smaller? If Category 3 resources are intended to help cover the “super” ramps in a given month, if the ramp sizes are all similar, relying on Category 3 resources to help meet the “super” ramps seems questionable.
- Do widely varying Category 2 and Category 1 categories make sense? The CPUC has proposed fixed monthly percentages for its three resource categories; the CAISO has indicated that it considered fixed percentages but did not adopt fixed percentages because the flexibility requirements vary from month to month, so fixed percentages would not keep the flexibility requirements from varying month to month.

The reality may be that, with the maximum flexibility need (December) only one-third of the total RA requirement, tweaking the individual flexibility category percentages may have no effect. NRG looks forward to the CAISO publishing aggregate information regarding how the flexibility requirements were met through each flexibility category; this data should show how important the category limits are (or aren't).

ISO Response

The ISO and CPUC have come to an agreement that the categories' percentages will be set on a seasonal basis. This should smooth some of the variation in the requirements. We understand both your points and agree that these issues should be explored more fully in 2016 stakeholder process to design durable requirements. In the interim the ISO does not expect the maximum flexible category 3 to be binding.

Company	Date	Submitted By
Northern California Power Agency	2/21/2014	

Flexible Capacity Categories

CAISO's proposal to consolidate the flexible capacity categories into "Base," "Peak," and "Super-Peak," is an improvement over the four-category approach proposed in the Fifth Revised Straw Proposal. In particular, NCPA supports the definition of Base flexibility which includes any resource that can make economic bids from 5:00 am to 10:00 pm, meet minimum start requirements, and provide at least six hours of energy at its full EFC. The definition is appropriately based on the specific operating characteristics and capabilities of resources, and properly recognizes that some use-limited resources can be used to meet the ISO's need for flexible capacity. Compared to the previous straw proposal, CAISO's revised flexible capacity categories will reduce the complexity of FRAC-MOO and increase the pool of resources available for bilateral purchases of Base flexibility.

NCPA also appreciates CAISO's clarification (at pg 29) that a single resource will be allowed to provide flexible capacity in more than one category, and that an LSE can select which category its resources belongs to (as long as the resources meet the requirements of the category). This

clarification properly recognizes that some resources have different operating characteristics at different operating ranges.

ISO Response

Thank you for your comments.

Allocation of Flexible Capacity Requirements

NCPA continues to support CAISO's proposed allocation of flexible capacity requirements, including CAISO's recognition that the Tariff already requires MSS load-following LSEs to match their generation with their load in each settlement interval, and CAISO's rejection of the alternative cost allocation proposal from PG&E. NCPA agrees with CAISO that the alternate does not reflect the principles of cost causation.

ISO Response

Thank you for your support.

Company	Date	Submitted By
Office of Ratepayer Advocates – California Public Utilities Commission	2/21/2014	Peter Spencer Analyst Office of Ratepayer Advocates California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102 Phone: (415) 703-2109 Email: peter.spencer@cpuc.ca.gov

Opening Comments

The Office of Ratepayer Advocates (ORA) provides the following stakeholder comments on the Flexible Resource Adequacy Criteria and Must-Offer Obligation (FRAC-MOO) Draft Final Proposal, posted February 7, 2014.

- ORA opposes adoption of the FRAC-MOO Draft Final Proposal because it defines procurement categories, which should be designed by the California Public Utilities Commission (CPUC) pursuant to its jurisdiction over procurement issues.
- The ISO should issue a simplified FRAC-MOO proposal without procurement categories.

ISO Response

Thank you for your comments.

The FRAC-MOO Draft Final Proposal infringes on the CPUC's jurisdiction over procurement issues.

The Draft Final Proposal creates flexible capacity categories with associated requirements and procurement percentage limitations. The Draft Final Proposal would inappropriately move the California Independent System Operator Corporation (CAISO or ISO) from its traditional role of operating the grid into designing and controlling procurement in California, which is the role of the CPUC. The CAISO and the Commission have different and complementary roles in implementing California's energy policy. The CAISO's primary mission is to ensure efficient use and reliable operation of the transmission grid,¹ while the CPUC must balance reliability with compliance with the loading order and rates that are just and reasonable.²

ORA agrees with PG&E's February 3, 2014 comment that the ISO proposal "infringes upon the jurisdiction of the CPUC and other LRAs by developing prescriptive requirements for the counting of resources."³ Although PG&E's comment related to an earlier FRAC-MOO straw proposal, the Draft Final Proposal still attempts to develop prescriptive requirements for counting resources. The FRAC-MOO tariff should not define procurement categories independently of the CPUC. Instead, the FRAC-MOO tariff should focus on grid operational requirements including flexible capacity requirement assessments, allocation of flexible capacity needs, flexible capacity must-offer obligations requiring economic bidding, flexible capacity showings and replacement, and flexible capacity backstop procurement.

The RA paradigm for general resource adequacy is working effectively. The existing CPUC RA program includes procurement categories or buckets for resources with limited run times, similar to the Draft Final Proposal's recommended flexible capacity categories. These RA procurement categories or buckets are not included in the CAISO tariff. Instead, the tariff focuses on aspects of the RA program necessary to support the grid, including assessing capacity needs, apportioning the needs to the local regulatory agencies, reporting requirement including penalties to ensure compliance, and backstop procurement. The current RA capacity buckets were developed and adopted at the CPUC in stakeholder processes. Using the capacity buckets developed in the CPUC's RA proceeding allows the CAISO to meet its operational

needs, while allowing the CPUC to determine options for LSE procurement. The CPUC's procurement options include provisions for preferred resources and programs such as demand response.

Consistent with the CPUC's jurisdiction over LSE procurement authority and the Energy Division's role in the CPUC's RA program, the Energy Division recently released its staff proposal for a flexible capacity procurement framework. The staff proposal recommends flexible capacity procurement categories (or buckets) while calling for the elimination of the existing RA procurement capacity buckets.⁴ The ISO should abandon its attempts to create FERC tariff-regulated procurement categories for flexible capacity and allow the CPUC to continue its current obligations.

1 Public Utilities Code Section 345.

2 Public Utilities Code Sections 451(just and reasonable rates) and 454.5(b)(9)(C) (compliance with the loading order).

3 Comments of Pacific Gas and Electric Company Flexible Resource Adequacy Criteria and Must-Offer

Obligation Fifth Revised Straw Proposal, February 3, 2014, p. 2.

4 Staff Proposal on the Implementation of the Flexible Capacity Procurement Framework, CPUC Energy

Division Staff, February 10, 2014, pp. 15-16.

ISO Response

The LRA has the ability to set the counting provisions for determining how resources will count towards meeting its specific flexibility procurement requirements. The ISO is proposing the EFC criteria in the Revised Draft Final Proposal that it will use to establish EFC values for each resource. These values will be used for two purposes 1) as default EFC in the event that an LRA does not have specific counting criteria, 2) assessing the need for backstop procurement.

ISO to have these standard counting conventions for several reasons. The ISO must have an agreed-to counting criteria for each resource to equitably assess the collective flexible capacity

showings by the local regulatory authority and among all local regulatory authorities. Because local regulatory authorities have the option to set their own flexible capacity values by resource, the ISO must, in the end, maintain the standardized effective flexible capacity values so that it can assess and compare showings across local regulatory authorities on a level playing field. For instance, the ISO must perform an assessment that is effective, efficient, and equitable. This is not possible if its assessment is based on different flexible capacity counting methodologies from different local regulatory authorities. In other words, in determining the need for backstop procurement, the ISO should not allocate backstop costs to an LSE SC simply because of the counting rules of another LRA.

If the ISO is unable to set its own EFC counting standard, and LRA1 sets a low threshold flexible capacity value (low quality) and LRA2 sets a high, more rigorous flexible capacity threshold (high quality), then the potential would exist for a local regulatory authorities to “lean” on other local regulatory authorities, which would be an inequitable result. Thus, the ISO must ultimately calculate and set the final effective capacity values to ensure that all local regulatory authorities are treated equitably when assessing if a flexible capacity deficiency exists and when allocating backstop procurement costs.

The ISO should issue a simplified FRAC-MOO proposal without procurement categories.

On February 7, 2014, the ISO issued the Draft Final Proposal which lists six significant changes from the prior proposal issued only three weeks earlier.⁵ Stakeholders have one opportunity to file comments on February 21, 2014, prior to a March ISO Board meeting in which the proposal is expected to be adopted and submitted to FERC for tariff approval.

ORA recognizes the need to have a FRAC-MOO tariff in place for the 2015 RA program year in order to begin implementing flexible capacity requirements. The CPUC’s RA proceeding issues a decision each June for the following year’s RA program. Rather than rushing a complex and inadequately vetted proposal to meet timelines for the CPUC RA calendar year, the ISO should instead issue a simplified proposal without procurement categories.

⁵ Draft Final Proposal, pp. 6-7.

ISO Response

The ISO and CPUC have come to an agreement that the categories’ percentages will be set on a seasonal basis. This should accommodate both organizations’ needs and simplify

procurement.

The FRAC-MOO should be a product of the cooperative relationship the CPUC and ISO have developed.

The Joint Reliability Plan adopted by both the ISO and CPUC calls for the two organizations to renew their joint commitment to providing a reliable electric supply.⁶ The Draft Final Proposal appears to contradict a recent pledge of joint efforts on future issues. Participants at the February 12, 2014 stakeholder workshop heard CPUC Energy Division staff voicing opposition to the expansion of the ISO into the CPUC's historic role of capacity procurement. The ED Staff proposal on a flexible capacity framework recommends a significantly different approach to procuring flexible capacity as part of the CPUC's RA program.⁷ ORA recommends that the ISO work cooperatively with the CPUC to resolve differences rather than rushing forward with tariff language that puts the ISO at odds with the CPUC.

6 Joint Reliability Plan of the California Public Utilities Commission and the California Independent

System Operator Corporation, November 8, 2013, p. 1.

7 Staff Proposal on the Implementation of the Flexible Capacity Procurement Framework, CPUC Energy

Division Staff, February 10, 2014, pp. 13-14.

ISO Response

The ISO recognizes the importance of the CPUC to fully engage in the ISO's stakeholder process as well as for the ISO to engage in CPUC proceedings. The ISO has been and will continue to work with the CPUC and other LRAs to ensure flexible capacity needs are addressed.

The FRAC-MOO Proposal should be narrowly focused and should not presuppose or influence the outcomes of other stakeholder proceedings.

The ISO states that the Draft Final Proposal "is narrowly focused on how to consider and operationally utilize flexible capabilities in the ISO market,"⁸ yet the Draft Final Proposal broadly refers to "holistic"⁹ solutions. The broader holistic efforts properly belong and are already included, in other proceedings. The ISO and CPUC issued a Joint Reliability Plan on July 10, 2013, to develop and coordinate procurement efforts. Recently, the ISO initiated its Reliability

Services Initiative and the CPUC adopted a new proceeding for stakeholder input on a Joint Reliability Plan. The joint efforts will focus both on flexible capacity needs and ensuring reliability in future years. The Draft Final Proposal should focus on a simple, interim step that is coordinated with the CPUC rather than embedding a broader solution in tariff language. In the spirit of the joint reliability agreement and with proceedings initiated at both the ISO and CPUC, the ISO should not take actions now that presuppose or influence the outcomes of those stakeholder proceedings.

8 Draft Final Proposal, p. 4.

9 Draft Final Proposal, p. 4.

ISO Response

Thank you for your comment.

Company	Date	Submitted By
Pacific Gas & Electric	2/21/2014	Marie Fontenot (415) 973-4985 Peter Griffes (415) 973-3335
Opening Comments		
<p>Pacific Gas and Electric Company (PG&E) offers the following comments in the stakeholder process for the California Independent System Operator’s (CAISO) Flexible Resource Adequacy Criteria and Must-Offer Obligation (FRAC-MOO) initiative February 7, 2014 Draft Final Proposal (Proposal).</p> <p>In summary, PG&E’s comments are:</p> <ul style="list-style-type: none"> • PG&E supports the reduction in categories from four to three; • PG&E supports two elements in the CPUC framework not found in the CAISO proposal; • Local Regulatory Authorities (LRAs) have jurisdiction to determine the Effective Flexible Capacity; • The allocation of the backstop cost should be to all deficient load serving entities; • The CAISO should allocate backstop cost to all deficient load serving entities for simultaneous flexible and system shortfalls; and 		

- The CAISO needs to better define what is meant by “inaccurate data”.

PG&E also reiterates and adds supporting academic material to its recommendations on the requirement allocation methodology first described in our November 27, 2013 comments and continues to support two changes to the methodology.

- The flexibility requirement caused by variable energy resources’ (VERs) output should be allocated to VERs; and
- The allocation to load should be done based on each load serving entity’s (LSE) largest monthly ramp, regardless of coincidence to net-load peak ramp.

ISO Response

Thank you for your comments. Specific comments to each of these issues are provided below.

1. PG&E Supports the Reduction in Categories from Four to Three

PG&E appreciates the changes made to the FRAC-MOO category framework; particularly the reduction in categories from four to three and the change in the energy must offer obligation for Category 1. We believe these changes align the proposal more closely with the framework adopted in the California Public Utilities Commission’s (CPUC) June 2013 RA decision.²

2 CPUC Energy Division, “Qualifying Capacity and Effective Flexible Capacity Calculation Methodologies For Energy Storage and Supply-Side Demand Response Resources”, Resource Adequacy Proceeding R. 11-10-023, January 16, 2014, pp. 5-7.

http://www.cpuc.ca.gov/NR/rdonlyres/59531E27-5A74-4E47-8551-0FBAB2DB6B0D/0/QCandEFCMethodologies_ESandSupplySideDR.PDF

ISO Response

Thank you for your support.

2. PG&E Supports Two Elements in the CPUC Framework Not Found in the CAISO Proposal

The frameworks proposed by the CAISO and the CPUC are similar. However, there are some differences between the two proposals. Consistency between the CAISO and CPUC

² CPUC Docket No. R.11-10-023

approaches is important. Variations in the frameworks introduce unnecessary procurement and compliance complexity. It could also lead to over-procurement or unneeded backstop cost – outcomes that could unnecessarily increase costs to California customers.

PG&E supports two elements in the CPUC’s framework not found in the CAISO’s proposal and recommends the CAISO adopt these elements into its design.

i. Effective Flexible Capacity calculations for both storage resources and demand response can reflect a negative Pmin

PG&E opposes the CAISO’s proposal to only count the generation capacity of a storage resource in determining its effective flexible capacity (EFC). Rather, PG&E supports the Energy Division’s proposal on EFC for storage resources.³ In particular, PG&E supports allowing an EFC value to exceed the net qualifying capacity (NQC) value, recognizing that a storage resource can have a negative Pmin (this reflects that the resource may start in a charge/load mode). This approach recognizes the true flexibility of a resource that can transition between charging and generation modes. PG&E recognizes there may need to be software or operational changes to capture the full extent of storage flexibility in CAISO market operations, and we are committed to working with the CAISO to address any issues.

More generally, the CAISO should honor the CPUC’s adopted calculation methodologies for EFC, as is currently done with the calculation of QC values. PG&E addresses this issue later in our comments (item #3).

ii. Not allowing Regulation Energy Management resources to participate in the flexibility showing at this time

PG&E supports the CPUC’s plan to delay incorporation of regulation energy management (REM) resources until more analysis can be performed. There is insufficient evidence to support inclusion of REM resources as eligible to meet the flexible capacity procurement requirement at this time. Moreover, the EFC of these

resources should be determined by the applicable jurisdictional LRA. Further analysis of the role of REM resources in the flexibility framework is required.

³ This approach is consistent with existing CAISO Tariff determination of qualifying capacity for RA resources. In particular, it reflects section 40.4.1, Eligible Resources and Determination of Qualifying Capacity, and section 40.8, CAISO Default Qualifying Capacity Criteria.

ISO Response

The ISO will determine the EFC of energy storage resources selecting the full flexible capacity option based on the MW output range the resource can provide over three hours of charge/discharge at a constantly increasing discharge (i.e. constant ramp rate). Storage resources selecting the full flexible capacity option will be required to submit economic energy and ancillary service bids for the time period applicable to the category for which they are shown for flexible capacity and may not be listed as a regulation energy management resource in the ISOs Master File. This is further described in section 6.

The only way some energy storage resources can provide flexibility would be as REM resources. As an interim step the ISO has created a flexible energy requirement that captures flexible operational needs. Allowing REM resources to count as category 3 resources is a compromise between creating specific flexible requirements and excluding certain energy storage resources entirely.

The ISO is not proposing a change to the current REM accounting methodology and will use this as the amount a resource can qualify for as a flexible RA resource. An LRA can determine its own counting methodology for LRA compliance as well as determine an amount less than the ISO calculated EFC for the ISO to use in their backstop assessment.

3. LRAs Have Jurisdiction to Determine the Effective Flexible Capacity

Determination of the method to calculate resources' EFC is the jurisdiction of LRAs, including the CPUC. The CAISO should use the criteria provided by each LRA to determine and verify, if necessary, the EFC of all flexible resource adequacy (RA) resources. Only in the event that the

CPUC or other LRA fails to provide an EFC value along with its definition to the CAISO, should the CAISO determine an EFC for a resource.⁴

This approach is similar to the LRA determination of qualifying capacity (QC) for generic RA. The CAISO has the authority to adjust the QC value to primarily adjust for transmission deliverability constraints, resulting in a net qualifying capacity (NQC). However, no deliverability adjustment is made for the flexible capacity, and, therefore, the CAISO should adopt the LRA-determined EFC without adjustment

ISO Response

The LRA has the ability to set the counting provisions for determining how resources will count towards meeting its specific flexibility procurement requirements. The ISO is proposing the EFC criteria in the Revised Draft Final Proposal that it will use to establish EFC values for each resource. These values will be used for two purposes 1) as default EFC in the event that an LRA does not have specific counting criteria, 2) assessing the need for backstop procurement.

It is appropriate for the ISO to have these standard counting conventions for several reasons. The ISO must have an agreed-to counting criteria for each resource to equitably assess the collective flexible capacity showings by the local regulatory authority and among all local regulatory authorities. Because local regulatory authorities have the option to set their own flexible capacity values by resource, the ISO must, in the end, maintain the standardized effective flexible capacity values so that it can assess and compare showings across local regulatory authorities on a level playing field. For instance, the ISO must perform an assessment that is effective, efficient, and equitable. This is not possible if its assessment is based on different flexible capacity counting methodologies from different local regulatory authorities. In other words, in determining the need for backstop procurement, the ISO should not allocate backstop costs to an LSE SC simply because of the counting rules of another LRA.

If the ISO is unable to set its own EFC counting standard, and LRA1 sets a low threshold flexible capacity value (low quality) and LRA2 sets a high, more rigorous flexible capacity

⁴ This approach is consistent with existing CAISO Tariff determination of qualifying capacity for RA resources. In particular, it reflects section 40.4.1, Eligible Resources and Determination of Qualifying Capacity, and section 40.8, CAISO Default Qualifying Capacity Criteria.

threshold (high quality), then the potential would exist for a local regulatory authorities to “lean” on other local regulatory authorities, which would be an inequitable result. Thus, the ISO must ultimately calculate and set the final effective capacity values to ensure that all local regulatory authorities are treated equitably when assessing if a flexible capacity deficiency exists and when allocating backstop procurement costs.

4. The Allocation of the Backstop Cost Should Be to All Deficient LSEs

The CAISO proposes to allocate flexibility backstop cost to only those deficient LSEs that are in a deficient LRA. In other words, a deficient LSE can be sheltered from backstop costs if other LSEs in its LRA show more flexibility than their requirement. This allocation design creates an incentive for an LSE to under procure flexibility by relying on its sister LSEs being good citizens. PG&E recommends a simple solution that all deficient LSEs (based on the allocation determination made by the LRAs) receive a pro rata allocation of the backstop cost regardless of the deficiency status of the LRA.

ISO Response

The ISO believes that PGE’s suggestion is inconsistent with the separation between LRA requirements and ISO needs. If the LRA determines the allocation, then the only way an LSE could be deemed deficient according to the LRA allocation is if the LRA determines they are deficient, in which case the LRA has their own mechanisms to ensure compliance.

The ISO will only allocate costs to an LSE if the LRA is deficient and there is an aggregate system shortage. This methodology ultimately can only prevent leaning if the LRA chooses to enforce each LSE’s requirement.

5. The CAISO Should Allocate Backstop Cost to All Deficient LSEs for Simultaneous Flexible and System Shortfalls

In the event of a simultaneous flexible and system RA shortfall, the CAISO plans to backstop flexible capacity first to address both needs. In this situation only the flexibility-deficient LSE would be allocated the backstop cost. No cost would be allocated to the system-deficient LSE, unless the backstopped flexible capacity did not fill the entire system shortfall. This incremental allocation approach violates the principle of cost causation. Although PG&E supports the

CAISO procuring capacity that can remedy simultaneous shortfalls, the allocation should be modified so that both parties are allocated a portion of the costs.⁵

The CAISO defined “cost causation” in its 2012 Cost Allocation Guiding Principles Initiative. The CAISO determined that “costs will be charged to resources and/or market participants that benefit from and/or drive the costs. It is a fundamental tenant of just and reasonable energy markets that costs are allocated in this manner.”⁶ The CAISO’s plan to allocate the cost to only the flexibility-deficient LSE violates the CAISO’s cost causation principle. The system-deficient LSE has driven a portion of the backstop need and should be allocated a portion of the costs.

ISO Response

In instances where there are simultaneous collective deficiencies in both system RA and flexible RA, each caused by different LSEs (i.e. one LSE SC is deficient system capacity and another LSE SC’s is deficient flexible capacity), the ISO will procure sufficient flexible capacity to address both deficiencies simultaneously. Backstop procurement costs will be allocated proportionally to each LSE based on their relative deficiency.

The resource would be paid the current CPM price and have both the generic and flexible must-offer requirement in the energy market. Revenue from backstop payments will be disseminated as they are today, through the ISO’s backstop settlements process.

6. The CAISO Needs to Better Define What Is Meant by “Inaccurate Data”

The Proposal specifies that the CAISO, upon discovery of a data inaccuracy, may recalculate the flexible capacity requirement for the entire year and charge the LSE which submitted the inaccurate data the cost of any additional backstop. Inaccurate data can have many causes that range from deviations from reasonable assumptions and forecasts to willful deceit. The CAISO needs to better define which inaccuracies would trigger a recalculation and which are a reasonable result of normal forecasting and would not trigger a recalculation.

ISO Response

⁵ This statement is predicated on PG&E’s understanding of how the concept of “bundling” is applied in 2015.

⁶ CAISO Cost Allocation Guiding Principles Draft Final Proposal, March 15, 2012.
<https://www.aiso.com/Documents/DraftFinalProposal-CostAllocationGuidingPrinciples.pdf>

The ISO understands that information changes over time and is requesting that each LSE SC make a good faith effort to provide data to the ISO that, to the best of their knowledge at the time of submission is accurate. If the information changes due to unforeseeable events, then no additional costs will be assessed.

7. PG&E Continues to Support Two Changes to the Flexibility Requirement Allocation Methodology

PG&E maintains that the approach first described in our Nov. 27, 2013 comments is most closely aligned with the principle of cost causation. PG&E continues to support two changes to the methodology used to allocate the flexibility requirement.

- i. The flexibility requirement caused by variable energy resources' (VERs) output should be allocated to VERs; and
- ii. The allocation to load should be done based on each load serving entity's (LSE) largest monthly ramp, regardless of coincidence to net-load peak ramp.

ISO Response

Thank you for your comments. We respond to the specific comments below.

Flexibility Requirement Caused by VERs' Output Should Be Allocated to VERs

PG&E supports allocating the flexibility requirement caused by VERs to VERs. An allocation to VERs is fair, helps create efficient procurement outcomes and does not put at risk grid reliability. As discussed in PG&E's previous comments, allocation of the flexibility requirement of merchant VERS or VERs with non-CAISO off-takers to CAISO participants is unjust and unreasonable. Other control areas, such as Puget Sound Energy (Puget)⁷ and Westar Energy⁸, have

⁷ Puget Sound Energy's Compliance Filing Regarding Revisions to Settlement and Submission of Schedules 3 and 13 of Puget Sound Energy, Inc.'s Open Access Transmission Tariff, Feb. 6, 2013.
<http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13173234>

⁸ Westar Balancing Area Services Agreement and Schedule 3A to Open Access Transmission Tariff, June 3, 2009.
<http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12041334>

recognized the need to fairly allocate the fixed capacity costs associated with regulation services. Puget developed Federal Energy Regulatory Commission (FERC) approved regulation service charges for generators that include the capacity cost of resources needed to balance intermittent generation. These costs are allocated by Puget to generators that export their power or serve the energy needs inside the control area. The CAISO should take a similar approach in allocating flexibility requirements to generators that export their energy or serve CAISO load.

The allocation of the flexibility requirement to VERS will also promote efficient procurement outcomes. If the true cost of VERS is allocated to VERS, then these costs will be reflected in their offers to energy and capacity solicitations. This means that the true costs will be reflected in the offers, and the procurement will be based on a more accurate cost basis resulting in better procurement decisions. Moreover, having these costs correctly accounted is also fairer to competing resource technologies that have lower or little flexibility requirement costs.

Allocation of the flexibility requirement to VERS will not put at risk grid reliability. One possible solution suggested at the stakeholder meeting to eliminate the possibility of CAISO load procuring flexibility on behalf of non-CAISO load was for the CAISO to remove the generation and variability produced by VERS from non-CAISO off-takers from the requirement calculation. This approach is fundamentally flawed. Either the CAISO needs the flexibility to meet the intermittent burden placed on the system or it does not. The requirement does not disappear simply because there is a non-CAISO off-taker (assuming the generator is not dynamically metered). If the requirement is needed for reliable grid operations, then the flexibility should be procured and the costs allocated to the responsible VER. Artificially reducing the requirement puts the CAISO's reliability at risk.

Finally, the issue of grandfathering for VERS is irrelevant. This is a new requirement for both load and generators to better reflect the changing energy market. The CAISO is not seeking to eliminate an established CAISO settlement calculation. The fair allocation of this new requirement to all participants (load and generation) needs to be considered. This is similar to the approach taken in the FERC settlement for the Flexible Ramping Constraint cost. Like the flexible capacity requirement, this was a new cost. The issue of cost allocation among load and generation was considered in the settlement, and generators are allocated that portion of the

cost that was determined attributable to them (25%).⁹ Similar to the Flexible Ramping Constraint, a portion of the flexibility requirement should be allocated to the generators causing the requirement.

ISO Response

Allocating an RA requirement to a supplier rather than an LSE is a significant change in the RA design and beyond the scope of this initiative.

Allocation to Load Should Be Done Based on Each LSE's Largest Monthly Ramp, Regardless of Coincidence to Net-Load Peak Ramp

PG&E maintains that the non-coincident approach for the allocation due to load is preferable to the CAISO's allocation based on ramps coincident to the system net load ramp. The CAISO's coincident peak approach can result in one LSE benefiting from the flexible capacity procured by another LSE and not sufficiently contributing to the procurement of flexible capacity. As shown in the simple example in our Third Straw comments, a fairness issue exists with the coincident approach. A non-coincident approach addresses this flaw.

Moreover, academic research provides a foundation for allocating some measure of capacity costs to off-peak users. Research by Vardi, Zahavi, and Avi-Itzhak argues that although capacity procurement is based on the coincident peak load, it benefits all other hours by reducing the loss of load probability (LOLP) in each hour. Their paper states that:

“...modern power utilities are not designed just to meet the peak demand for power, but rather to deliver power at a certain level of reliability. Since the reliability performance of a power system is affected by all types of customers, any sustained increase in demand at any hour, including off-peak hours, calls for adding extra capacity to the system; otherwise the reliability design target will not be met. Consequently, *each hour*

⁹ CAISO Fifth Replacement Tariff, Section 11.25.3.
http://www.caiso.com/Documents/Section11_CaliforniaISOSettlements-Billing_Nov1_2013.pdf

*contributes its own share to the need to incur capacity costs, and should therefore have that responsibility reflected in its price.*¹⁰ [Emphasis added.]

This research was accompanied by a consistent methodology for allocating capacity costs to all hours based on such contribution. These findings readily apply to the allocation of flexible capacity procurement obligations and support PG&E’s view.

PG&E believes that entities benefitting from procured flexibility should be required to pay a portion of the procurement costs, just as entities benefitting from the investment of transmission are required to pay for a portion of the costs of that transmission.¹¹ This premise underlies PG&E’s proposed allocation methodology – that all entities will utilize and benefit from procured flexible capacity, regardless of their contribution to the coincident system net load

ISO Response

The ISO appreciates PGE’s comments, but continues to believe the ISO proposed methodology best reflects cost causation principles.

Company	Date	Submitted By
Powerex Corp.	2/21/2014	Thomas Elgie Tom.Elgie@powerex.com (604) 891-6010

Opening Comments

Powerex herein provides comments on the February 7, 2014 Draft Final Proposal on the CAISO’s Flexible Resource Adequacy Criteria and Must-Offer Obligation (“FRACMOO”). Powerex last submitted comments on February 3, 2014 on the CAISO’s Fifth Revised Straw Proposal. Those comments sought various changes to the proposal including: 1) revision of the proposal to more broadly permit resources at the interties to provide flexible resource adequacy

¹⁰ Vardi, Zahavi, and Avi-Itzhak, “Variable load pricing in the face of loss of load probability”, The Bell Journal of Economics, Vol 8, No 1 (Spring 1977), article p. 2.

¹¹ FERC Transmission Planning and Cost Allocation by Transmission Owning Utilities, Notice of Proposed Rulemaking, Issued June 17, 2010, Docket RM10-23-000, p79-80. <http://www.ferc.gov/whats-new/comm-meet/2010/061710/E-9.pdf>

supply; 2) the allocation of costs of procuring flexible resources consistent with cost causation principles, rather than the assignment of all costs to LSEs as proposed; and 3) improvements to the proposal to avoid free ridership concerns. As indicated in the February 13, 2014 FRACMOO presentation made by Dr. Meeusen, and as evidenced by the provisions of the Draft Final Proposal, none of these suggested improvements have been adopted or materially addressed.

While Powerex greatly appreciates that CAISO's ongoing efforts to ensure comprehensive stakeholder processes, including providing a forum for interested market participants to comment, CAISO's responsiveness to stakeholder comments with regard to FRACMOO has not been particularly robust. Consistent with CAISO's responsiveness in other stakeholder processes, Powerex would have liked to see a stakeholder comment matrix with CAISO's responses to the Fifth Revised Straw Proposal, prior to the posting of a Draft Final Proposal and before the due date for comments thereon. But more importantly, Powerex would like CAISO's reasoned response to major stakeholder concerns, such as those associated with CAISO's proposal to preclude participants at the interties from providing flexible resource adequacy.

ISO Response

Thank you for your comments, the ISO responds more specifically below.

Excluding 15-minute resources at the interties from providing flexible resource adequacy discriminates against resources at the interties. This significant concern was expressed by multiple stakeholders. Yet CAISO's response was tantamount to "we just don't want to at this time". Powerex understands and respects the CAISO's desire to contain the scope of this initiative. However, this is simply not an appropriate response for an ISO to provide in response to legitimate concerns of this magnitude and gravity. Specifically what CAISO stated was:

The ISO's FERC Order 764 market design changes will provide for 15-minute dispatch on the interties. While the ISO agrees 15-minute dispatchable resources can provide flexibility, it believes it is best to examine these resource's potential to provide flexible capacity after the experience is gained under the FERC Order 764 changes that are scheduled to be first implemented this upcoming April.1

CAISO's unilateral and unexplained conclusion as to "what is best" is not a sufficient response to overcome the serious concerns stakeholders have raised that the proposal, inter alia, will

unduly discriminate against market participants at the interties, will limit competitive supply options of flexible resource adequacy by precluding sales from resources with better reliability and ability to supply such resources than many of those that will qualify to participate, will inefficiently lead to the implementation of a higher cost solution to acquiring flexible resource adequacy and accordingly is unjust and unreasonable to implement. This is especially troubling since “ISO agrees 15-minute dispatchable resources can provide flexibility” and has provided absolutely no analysis or legitimate basis for precluding the ability of a resource that can provide the service from doing so based on its artificial restriction to resources that can be dispatched in five minute increments.

Resources that can respond to fifteen minute instructions can just as effectively provide a solution to a ramping challenge that is measured in three hour blocks of time as those that can respond to five minute instructions. CAISO has not denied, and it is undeniable, that a large portion of the CAISO’s ramping needs can be reliably and efficiently met with 15-minute dispatchable resources. Similarly, it is undeniable that CAISO has been relying on purchases on the interties, including both dynamic and hourly purchases to meet its ramping needs, on a long-standing basis. CAISO’s decision to permit internal resources that can be dispatched as infrequently as five times a month to provide flexible ramping service at the same time that it would preclude flexible 15-minute resources at the interties with far greater availability from providing, and receiving compensation for, this service highlights the discriminatory nature of CAISO’s proposal.

ISO Response

The ISO responds below.

Finally, CAISO’s proposal to exclude intertie participation in FRACMOO is all the more inexplicable when reviewed in juxtaposition to its ongoing effort to implement an Energy Imbalance Market (“EIM”). Through the EIM vehicle, CAISO recognizes the benefits that co-optimized dispatch and supplies of external resources can bring to bear to improve reliability and efficiently serve demand. More particularly, CAISO has made it clear it desires access to the flexibility provided by resources outside of its footprint, through its EIM and Order 764 initiatives. Yet with FRACMOO, CAISO wishes to preclude the vast majority of non-CAISO

resources from participating in the sale and commitment of such flexibility on a forward basis, despite conceding that such resources can provide the flexibility service. CAISO cannot have it both ways: pursuant to long-standing and well-settled FERC precedents, when resources outside a state can provide a product, they must be permitted to provide the product on a non-discriminatory basis. Powerex strongly urges CAISO to reconsider this artificial restriction and avoid pursuing a proposal that creates a perception that the CAISO is broadly pursuing access to external resource flexibility, yet denying such resources full participation in the compensation mechanisms for providing such services. As to the need to implement changes to ensure that cost allocation will be consistent with cost causation principles and improvements to avoid free ridership concerns, Powerex refers CAISO to its comments on the Fifth Revised Straw Proposal, and requests that CAISO provide written responses to these and other stakeholder comments.

ISO Response

The ISO appreciates that interties can provide 15-minute flexibility. The ISO continues to assess the reliability impact of allowing 15 minute interties to meet flexible capacity needs designed to simultaneously address five minute load-following needs and longer steep ramps. The ISO will provide this assessment in phase one of the recently opened Reliability Services initiative.

Company	Date	Submitted By
San Diego Gas & Electric Company	2/25/14	Nuo Tang / Randy Nicholson
Opening Comments		
SDG&E appreciates the opportunity to comment on the Draft Final Proposal for Flexible Resource Adequacy Capacity Must Offer obligations. SDG&E in general supports the ISO’s latest revision to its proposal. SDG&E provides the following suggestions and requests for clarifications in order to better assist the ISO in the development of its Tariff and programs.		
ISO Response		
Thank you.		
EFC List		
SDG&E recommends the ISO allow an SC for a resource to update the EFC list monthly, similar		

to the NQC list update process, in order to allow newly constructed dispatchable resources to be added to the list. Newly constructed dispatchable resources should have an exemption from this low hurdle test of having bid at least once in prior year's real time markets as those resources have never participated in the ISO markets.

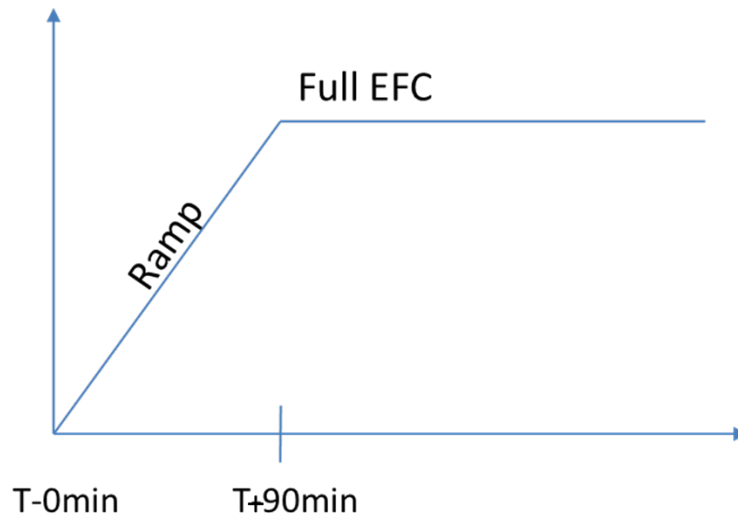
ISO Response

The ISO will allow for EFC updates for new resources. The ISO will assess any additional need for monthly updates to the EFC as part of the Reliability Services initiative.

Flexible Capacity Categories (FCC)

The ISO has merged Category 1 and Category 2 of the 5th revised draft straw proposal into a singular Base Flexibility Category. SDG&E would like the ISO to clarify several requirements in this new Category.

First, Category 1 requires a minimum 6 hours of energy at full EFC. Assuming a continuous 6 hours for simplicity, does this mean that the 6 hours starts when the resource ramps to its full EFC (T+90min) or does it start when the resource begins its ramp(T-0min)?



Second, SDG&E requests clarity around the statement that the requirement is to provide the “equivalent” of six hours at the full EFC. Twelve hours at half the EFC could be considered “equivalent”. Clarification of the term “equivalent” will also be necessary when designing availability incentives for flexible resources.

Finally, resources may not have monthly or annual limitations on number of starts or energy limits that translate to less than the daily requirements. Please clarify that a use limited resource that had an a maximum of 60 annual starts and could provide the equivalent of six hours at the full EFC but was never dispatched by the ISO from January through November, can now qualify as a Category 1 resource for those months because it meets the requirements

ISO Response

The ISO would consider twelve hours at half the EFC as equivalent.

In SDGE's example this resource could qualify as a category 1 resource in the remaining month.

Counting Convention for CHP

The ISO's new revision to counting criteria for combined heat and power (CHP) units is detrimental to IOUs who are the buyers and may be scheduling coordinators of such capacity. The IOUs may be required to manage the CHP resources to the maximum flexibility possible and if the EFC were to include the regulatory must take generation portion, the IOUs will likely face non-availability penalties in the future. SDG&E strongly urges the ISO only calculate the EFC of the CHP resource starting from the RMTG portion rather than the Pmin.

The ISO proposes to calculate the EFC of CHP resources in the same manner as other conventional resources. The ISO explains that there are a variety of different types of CHP resources and using the same EFC calculation may not fully capture the specific industrial operations which would reduce its EFC amount. Changing the calculation to count the Regulatory Must Take Generation portion of the CHP resource in order to increase the EFC MW is unwarranted. ISO does not provide any reasons for the change to this counting methodology.

The Qualifying Facility (QF) CHP Settlement¹² requires the Energy Division to allocate all capacity benefits to paying LSEs based on peak load ratio. As part of the same settlement, the buyers of the capacity, primarily the IOUs, are responsible for the non-availability charges from the ISO, including, presumably, those for flexible capacity once implemented. Energy Division

¹² D. 06-07-029

Staff recently proposed to allocate CHP flexible capacity based on the CAM process to CPUC jurisdictional LSEs.¹³ The CHP CAM process will require the IOUs to manage the facility to the fullest extent possible. The Staff proposes "...the IOUs responsible for procuring CAM and CHP resources will be required to include the full capacity of those CAM and CHP resources in their RA plans (either the CAM units or the replacement units) and to manage the facilities as Flexible RA capacity. The IOUs will be required to bid the facilities as Flexible RA, meaning submission of economic bids into the ISO market to the fullest extent possible."¹⁴ Thus if the ISO counts the Regulatory Must Take Generation portion as part of the EFC value, then the IOU will be at risk for all non-availability charges when the CHP resource must self-schedule its Regulatory Must Take Generation portion during the flexible must-offer hours.

In fact, in opening comments to the Energy Division's Proposals from The Cogeneration Association of California, CAC requests the Commission to reject the Staff's proposal on Effective Flexible Capacity because "the [Staff's] proposal presents significant problems for CHP operations that rely on assured base load operations to support industrial thermal needs of host facilities."¹⁵ The California Cogeneration Council in its opening comments dated February 18, 2014 echo the same concerns.¹⁶

SDG&E does not understand the reasoning for the ISO to account for the Regulatory Must Take Generation portion in the EFC value when the CHP resource will experience such operational problems. SDG&E recommends that the ISO modify its EFC counting methodology to limit the EFC value to start at above the Regulatory Must Take Generation portion of CHP resource rather than the Pmin.

SDG&E would like to see these modifications and clarifications in the ISO's final proposal prior to seeking the Board of Governors approval in March.

ISO Response

The ISO appreciates the difficulty in this situation; however, issues associated with the

¹³ <http://www.cpuc.ca.gov/NR/ronlyres/39C8D92B-CFF3-45BF-8CB2-0C6866E5769F/0/R1110023RAImplementationStaffProposals.pdf>, pg 6

¹⁴ Staff Proposal, pg 5

¹⁵ CAC Comments on Staff RA Proposals 2.18.14, pg 7

¹⁶ CCC Comments on ED Staff Proposals on RA Issues – Feb 2 18 2014, pg 7-8

availability and allocation of flexible capacity for Cost Allocation Mechanism resources should be addressed in the CPUC's RA proceeding.

Company	Date	Submitted By
Sierra Club	2/21/2014	Matthew Vespa Senior Attorney matt.vespa@sierraclub.org or at 415-977-5753

Opening Comments

Sierra Club submits the following comments on the Draft Final Proposal (“Draft Final Proposal”) for the Flexible Resource Adequacy Criteria and Must-Offer Obligation (“FRACMOO”). The Sierra Club appreciates CAISO’s efforts to develop the FRACMOO as well as recent changes to the proposal, including elimination of a requirement that resources capable of providing a 17-hour continuous energy obligation meet a minimal level of flexible capacity need. However, the Sierra Club remains deeply concerned with the Proposal’s failure to account for energy storage charging in defining the effective flexible capacity (“EFC”) of energy storage resources. The Sierra Club urges the CAISO Board to reject the Draft Final Proposal unless the Proposal is revised to account for energy storage charging consistent with the PUC’s proposed EFC for storage resources.

The Proposal’s exclusion of energy storage charging as a mechanism to meet flexible capacity needs functions to deprive the state of an important tool in integrating renewables, needlessly increases reliance on fossil fuels (thereby undermining achievement of state climate objectives), and frustrates cost-effective energy storage deployment by failing to capture a revenue stream from a primary storage service. The Draft Final Proposal is inconsistent with State energy policy, guiding principles recently articulated by CAISO in the Joint Reliability Plan calling for full accommodation of preferred resources, and the PUC’s proposed inclusion of energy storage charging capability in its calculation of an EFC for energy storage. In addition, the Draft Final Proposal’s effort to develop an EFC that differs from the PUC exceeds CAISO authority and would cause significant administrative confusion. The conflict between the PUC and CAISO storage EFCs will also likely result in de facto use of backstop procurement because CAISO will not count the Flexible RA value of energy storage attributed to charging in making a

determination of a collective deficiency in an LRA's RA showing. This outcome is untenable and should be remedied by aligning the Draft Final Proposal's EFC for energy storage with that of the PUC.

To the extent that the use of energy storage charging to meet flexibility needs poses challenges that require additional analysis, the Draft Final Proposal provides no timeline or meaningful commitment to resolve these implementation concerns. Instead, the Draft Final Proposal simply states that “[t]he ISO will continue to review the prudence of [not counting charging capability] in the recently opened Reliability Services Initiative as well as in coordination with the CPUC in the RA Proceeding.”¹ However, the recently issued Reliability Services Initiative Paper does not contemplate revisiting incorporation of energy storage charging capability into FRACMOO. To the contrary, the Initiative Paper appears to defer to the FRACMOO initiative's determination of flexible RA eligibility criteria and most-offer requirements.² Similarly, rather than coordinate with the CPUC in the RA proceeding regarding energy storage charging, CAISO's most recent comments in the RA proceeding simply urge the CPUC to remove energy storage charging from its ELC calculation.³

The Draft Final Proposal's failure to either account for energy storage charging in its ELC determination or commit to a timely path to resolve implementation issues does not augur well for the success of proposed refinements to California's existing reliability framework. In issuing a Joint Reliability Plan with the PUC, CAISO agreed to a guiding set of principles to “*fully* accommodate resource procurement undertaken to meet California's mandates” and ensure that “preferred resources have an equal opportunity to support grid reliability.”⁴ Yet, in implementation of a flexible capacity framework, CAISO appears all too ready to discard these principles. The FRACMOO proposal should be modified to be consistent with the guiding principles of the Joint Reliability Plan and account for the full capabilities of energy storage.

Sierra Club appreciates CAISO's consideration of these comments. If you have any questions, please contact Matt Vespa at matt.vespa@sierraclub.org or 415-977-5753.

¹ Draft Final Proposal at 38.

2 CAISO, Reliability Services Issue Paper, Jan. 28, 2014, p. 5 “(flexible RA eligibility and m[u]st-offer requirements determined in FRACMOO initiative)”.

3 R.11-10-023, CAISO Comments on Phase 3 Workshop Issues, Feb. 18, 2014, pp. 13-15.

4 Joint Reliability Plan of the California Public Utilities Commission and the California Independent System

Operator, Nov. 8, 2013, p. 4 (emphasis added).

ISO Response

The ISO will determine the EFC of energy storage resources selecting the full flexible capacity option based on the MW output range the resource can provide over three hours of charge/discharge at a constantly increasing discharge (i.e. constant ramp rate). Storage resources selecting the full flexible capacity option will be required to submit economic energy bids for the time period applicable to the category for which they are shown for flexible capacity and may not be listed as a regulation energy management resource in the ISOs Master File. This is further described in section 6.

Company	Date	Submitted By
Six Cities	2/21/2014	Bonnie S. Blair Thompson Coburn LLP 1909 K Street N.W., Suite 600 Washington, D.C. 20006-1167 bblair@thompsoncoburn.com 202-585-6905

Opening Comments

In response to the ISO’s request, the Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (collectively, the “Six Cities”) submit the following comments on the ISO’s February 7, 2014 Draft Final Proposal on Flexible Resource Adequacy Criteria and Must-Offer Obligation (“the Draft Final Proposal”).

The Six Cities appreciate the ISO’s on-going efforts to address stakeholder concerns as reflected in the Draft Final Proposal and support a number of the elements of the Draft Final Proposal. Specifically, the Six Cities support the ISO’s proposed methodology for allocating Flexible RA requirements among Local Regulatory Authorities. The Cities also support the

ISO's determination to defer adoption of rules defining a Standard Flexible Capacity Product, implementing opportunity cost bidding for use-limited resources, and establishing substitution requirements for Flexible RA resources.

In addition, the Six Cities generally support the concept of establishing categories of Flexible RA capacity with different showing and Must-Offer obligations for the different categories. However, the Cities are concerned that the eligibility criteria for Category 1 are unduly restrictive and offer below a suggestion for allowing bundling or aggregation of resources to meet the Category 1 criteria.

With regard to the Category 1 eligibility criteria, the Six Cities appreciate the ISO's reconsideration of its previous proposal (in the Fifth Revised Straw Proposal) to exclude use-limited resources entirely from Category 1. Even as revised, however, the eligibility criteria for Category 1 are unnecessarily restrictive and likely to exclude many use-limited resources that can provide substantial flexible capacity to the ISO during many or most hours when it is needed.

Excluding resources from qualification for Category 1 will have at least two adverse impacts on market efficiency. First, the ISO's analyses indicate that flexible ramping requirements are likely to be greatest at times when system loads are not at peak levels. During such shoulder periods when flexible capacity requirements are expected to be greatest, there is likely to be excess system and local capacity available. Restricting the extent to which available system and local capacity can count toward flexible capacity requirements will drive up capacity requirements on an overall basis and impose additional capacity costs on LSEs. Second, to the extent the ISO dispatches for ramping purposes capacity resources that can operate flexibly but do not qualify to count toward flexible capacity requirements, such resources will not receive value for the flexible attributes utilized by the ISO. It is especially problematic to impose such adverse effects during the transition to a more durable and forward-looking RA construct as currently envisioned in the Reliability Services initiative and Joint Reliability Framework. The ISO should make every effort to ensure that the transition is smooth and to avoid imposing on LSEs additional costs that do not enhance operational flexibility or reliability in fact.

The Six Cities offer two suggestions for mitigating the adverse effects of the expansive qualification criteria proposed for Category 1 flexible resources. First, the ISO should permit

bundling or aggregation of use-limited resources in order to meet the Category 1 criteria and allow partial credit for use-limited resources that cannot satisfy the criteria on an individual basis. For example, consider two use-limited resources, each having a Pmax of 50 MW and thirty allowed starts per month. Individually, these resources would not be eligible for designation as Category 1 flexible resources under the proposed start-up criteria, but together they could provide the required number of starts. Provided that the resources together also could provide sufficient energy to satisfy the Category 1 requirements, the ISO should permit the two resources in this example to be aggregated and designated for 50 MW of Category 1 flexible capacity. This approach appropriately would allow resources to receive partial credit for flexible attributes, would expand the pool of resources eligible to provide flexible capacity, and could partially mitigate the cost impact on LSEs of having to procure additional capacity for non-peak periods. The ability to bundle or aggregate resources to provide flexible capacity should not diminish the ISO's operating flexibility or reduce reliability, because the capacity counted as being available to meet the Category 1 requirements in aggregate would satisfy the applicable criteria.

The Six Cities' second suggestion for moderating the adverse effects of the Category 1 qualification criteria is to expedite development and implementation of the Flexible Ramping Product. Properly structured, the Flexible Ramping Product should provide some revenue opportunities for resources that can provide flexible capacity on a more limited basis than required to meet the Category 1 criteria.

With respect to satisfaction of Must-Offer requirements, the Six Cities request that the ISO explicitly clarify, consistent with the guidance provided during the stakeholder conference call on February 13, 2014, that once a resource has responded to dispatch instructions for the number of hours in a day required for that category (*i.e.*, six hours for Category 1 as proposed by the ISO and three hours for Categories 2 and 3), the resource is not obligated to submit economic bids for the remainder of that day. Similarly, the ISO should clarify that once a Category 3 resource has been dispatched five times during a month, it is not obligated to submit economic bids for the remainder of that month.

Finally, in their December 9, 2013 comments on the ISO's November 25, 2013 presentation on Assessing the Flexible Capacity Requirements for 2015, the Six Cities explained that they do

not have load data or data on VER generation at the level of granularity proposed by the ISO. The Draft Final Proposal does not respond to the data availability problem identified by the Cities. Because the ISO proposes to begin data collection and analysis imminently, prompt resolution of the data granularity problem is necessary.

ISO Response

In the revised draft final proposal the ISO has added the ability for use-limited resources to be aggregated. Thank you for this suggestion. The Flexible Ramping Product will begin this month and the ISO expects it to be implemented in Spring 2015.

The ISO will reach out to all LSE to collect load data for allocation purposes. However, LSEs should be prepared to provide load data at the smallest time increment maintained, but not shorter than one –minute.

Company	Date	Submitted By
Southern California Edison	2/31/2014	Joe M ^c Cawley (626-302-3301)

Opening Comments

SCE submits the following comments on the CAISO’s FRAC-MOO Initiative. These comments are based upon SCE’s review of the CAISO’s FRAC-MOO 5th Revised Proposal¹⁷ (Jan 17, 2014) and SCE’s participation in the discussion during the Jan. 23 Workshop.

SCE generally supports the CAISO’s current proposal and appreciates the CAISO’s willingness to change the direction of key aspects of the CAISO’s proposal.

ISO Response

Thank you for your support.

Must Offer Obligation

SCE supports the Category Must Offer Obligation (MOO) framework as far superior to the prior resource specific MOO framework because it:

- 1) reasonably aligns flexible resource availability with CAISO need,

¹⁷ <http://www.caiso.com/Documents/FifthRevisedStrawProposal-FlexibleRACriteriaMustOfferObligation.pdf>

- 2) appropriately limits dependence on use-limited flexible resources based on the degree of use limitation, and
- 3) is technology neutral and therefore non-discriminatory.

SCE believes that the CAISO's currently proposed method to calculate the minimum and/or maximum contribution of each category to meeting the identified monthly flexible need is acceptable for the interim period associated with this proposal, which SCE believes is thru planning period 2017.

ISO Response

Thank you for your support.

Allocation Methodology

SCE does not believe changing to the Category MOO framework necessarily changes or should change the methodology the CAISO uses to allocate monthly flexible capacity requirements to LRAs. Within the existing RA framework, "how much we need" and "how it gets used", while somewhat related, are largely separate questions where allocation is a concern of the former and MOO design is a concern of the latter. A properly designed allocation methodology should reflect an LSE's (or LRA's) contribution to the peak monthly flexible capacity need whereas the flexible capacity MOO - whether Category or resource specific - should ensure the flexible resources shown by LSEs to meet that monthly peak need are available throughout the month when needed.

SCE continues to be concerned that the CAISO's proposed allocation methodology does not properly reflect each LSE's contribution to monthly flexible capacity needs. Specifically, SCE continues to believe that the allocations produced by the CAISO's methodology, particularly in the summer months, are prone to data and modeling effects that are not reflective of true operating conditions or a resource group's actual impact on flexible capacity needs.¹⁸

While SCE appreciates the CAISO changing the proposed allocation methodology to now use the average of the top five three-hour ramp components rather than just the peak three-hour period components (for wind and solar), SCE believes that even these results continue to

¹⁸ [SCE still has concerns over various aspects of the CAISO's proposal, including cost allocation solely to load.](#)

illustrate the benefits of at least smoothing out the anomalous allocation factors by averaging the allocation for the four summer months (June – Sept).

ISO Response

The ISO has revised the categories' percentages to be set on a seasonal basis. This should mitigate some of the spurious data and modeling results that are not reflective of operational needs.

SFCP and CPM Pricing

SCE supports the CAISO's proposal to:

- 1) not include an explicit SFCP mechanism or modify CPM pricing (from what it otherwise would have been) for planning year 2015, and
- 2) to continue the stakeholder discussion of whether and what appropriate forward price and incentive pricing should be established for flexible capacity.

SCE understands that as part of this deferral the CPM tariff will change to include explicit authority for the CAISO to backstop procure for flexible capacity showing deficiencies.

ISO Response

Thank you for your support.

Requests for clarification

Would the CAISO please clarify that it is the CAISO's intention to use the LRA's methodology to determine the LSE's respective flexible capacity requirement allocation as the basis for determining which if any LSE is deficient in an applicable showing and for determining how to allocate any applicable backstop procurement costs.

ISO Response

The LRA has the ability to set the counting provisions for determining how resources will count towards meeting its specific flexibility procurement requirements. The ISO is proposing the EFC criteria in the Revised Draft Final Proposal that it will use to establish EFC values for each resource. These values will be used for two purposes 1) as default EFC in the event that an LRA does not have specific counting criteria, 2) assessing the need for backstop procurement.

It is appropriate for the ISO to have these standard counting conventions for several reasons. The ISO must have an agreed-to counting criteria for each resource to equitably assess the

collective flexible capacity showings by the local regulatory authority and among all local regulatory authorities. Because local regulatory authorities have the option to set their own flexible capacity values by resource, the ISO must, in the end, maintain the standardized effective flexible capacity values so that it can assess and compare showings across local regulatory authorities on a level playing field. For instance, the ISO must perform an assessment that is effective, efficient, and equitable. This is not possible if its assessment is based on different flexible capacity counting methodologies from different local regulatory authorities. In other words, in determining the need for backstop procurement, the ISO should not allocate backstop costs to an LSE SC simply because of the counting rules of another LRA.

If the ISO is unable to set its own EFC counting standard, and LRA1 sets a low threshold flexible capacity value (low quality) and LRA2 sets a high, more rigorous flexible capacity threshold (high quality), then the potential would exist for a local regulatory authorities to “lean” on other local regulatory authorities, which would be an inequitable result. Thus, the ISO must ultimately calculate and set the final effective capacity values to ensure that all local regulatory authorities are treated equitably when assessing if a flexible capacity deficiency exists and when allocating backstop procurement costs.

Company	Date	Submitted By
<p>The Utility Reform Network</p>		<p>Kevin Woodruff Principal, Woodruff Expert Services 1100 K Street, Suite 204 Sacramento, CA 95814 (916) 442-4877 kdw@woodruff-expert-services.com</p> <p>Thomas J. Long Legal Director The Utility Reform Network 115 Sansome Street, Suite 900 San Francisco, CA 94104 (415) 929-8876, ext. 303 tlong@turn.org</p>
<p>Opening Comments</p>		
<p>The Utility Reform Network (TURN) offers the following comments on the CAISO’s Draft Final Proposal regarding Flexible Resource Adequacy Criteria and Must-Offer Obligation (FRAC-MOO), which was published January 17, 2014. TURN’s comments address four specific topics. TURN will reiterate some of its comments regarding the Fifth Revised Straw Proposal regarding FRAC-MOO that it filed January 31, 2014,¹ specifically (a) TURN’s concern over the hurried stakeholder process, (b) the possibility the CAISO will not be able to gather the data to implement its proposal credibly, and (c) the possible advisability of delaying the implementation of the FRAC-MOO tariff. But TURN will first address a key issue regarding the CAISO’s attempt to impose new procurement requirements in its own tariff that have historically been implemented by the California Public Utilities Commission (CPUC).</p>		
<p>ISO Response</p>		
<p>No response required.</p>		
<p>The CAISO Should Defer to Local Reliability Agencies (LRAs), such as the CPUC, to Set Procurement Rules.</p>		

As TURN reads the Draft Final Proposal, the CAISO is proposing to insert into the FRAC-MOO tariff three “categories” of Must-Offer Obligations (MOOs) to which resources offering flexible capacity would belong. TURN understands that this proposal, if adopted, would be a historic shift in the responsibility for setting specific procurement rules from the CPUC to the CAISO tariff. If approved by the CAISO Board of Governors and the Federal Energy Regulatory Commission (FERC), making changes to these categories would be much more burdensome than if such categories were set by the CPUC. Retaining regulatory flexibility in making changes could be important for a new requirement for flexible capacity, for which estimates of need may change quickly in the near future.² Further, this proposal runs counter to the avowed cooperation the CAISO and CPUC staffs claimed to be nurturing in developing and approving the Joint Reliability Plan (JRP).³ TURN urges the CAISO to defer to the CPUC in setting procurement rules.

ISO Response

The LRA has the ability to set the counting provisions for determining how resources will count towards meeting its specific flexibility procurement requirements. The ISO is proposing the EFC criteria in the Revised Draft Final Proposal that it will use to establish EFC values for each resource. These values will be used for two purposes 1) as default EFC in the event that an LRA does not have specific counting criteria, 2) assessing the need for backstop procurement.

It is appropriate for the ISO to have these standard counting conventions for several reasons. The ISO must have an agreed-to counting criteria for each resource to equitably assess the collective flexible capacity showings by the local regulatory authority and among all local regulatory authorities. Because local regulatory authorities have the option to set their own flexible capacity values by resource, the ISO must, in the end, maintain the standardized effective flexible capacity values so that it can assess and compare showings across local regulatory authorities on a level playing field. For instance, the ISO must perform an assessment that is effective, efficient, and equitable. This is not possible if its assessment is based on different flexible capacity counting methodologies from different local regulatory authorities. In other words, in determining the need for backstop procurement, the ISO should not allocate backstop costs to an LSE SC simply because of the counting rules of another LRA.

If the ISO is unable to set its own EFC counting standard, and LRA1 sets a low threshold

flexible capacity value (low quality) and LRA2 sets a high, more rigorous flexible capacity threshold (high quality), then the potential would exist for a local regulatory authorities to “lean” on other local regulatory authorities, which would be an inequitable result. Thus, the ISO must ultimately calculate and set the final effective capacity values to ensure that all local regulatory authorities are treated equitably when assessing if a flexible capacity deficiency exists and when allocating backstop procurement costs.

The Stakeholder Process Should Not Be Hurried.

In its January 31st comments, TURN noted the CAISO’s Fifth Revised Straw Proposal was a radical departure from all of its prior proposals. Though the Draft Final Proposal is not as radically changed as the Fifth Revised Straw Proposal, it also proposes significant new modifications to these prior proposals.⁴ TURN remains concerned that some of the major changes in both the most recent revisions need more significant review and discussion than allowed for in prior stakeholder meetings.⁵

Further, both the CAISO’s and Energy Division’s (ED’s) recent reviews of the 2014 Resource Adequacy (RA) showings suggest that substantial amounts of flexible capacity are already being provided to the CAISO. For example, based on its review, the CAISO decided it did not need to require a higher daily energy requirement for its new “base flexibility category” at this time.⁶ And ED stated that in 2014 “almost all of the flexible resources reported by LSEs were in Category 1” (which offer more flexibility than Category 2 or 3 resources).⁷ Given these apparent facts about actual procurement of flexible capacity, the CAISO should take the time needed to fully consider FRAC-MOO tariff.

⁴ *Draft Final Proposal*, pp 5-7.

⁵ As TURN stated in its January 31st comments, in making this point, TURN is *not* criticizing the CAISO for the act of proposing major changes to its prior proposals. Rather, TURN is concerned that a truncated stakeholder process will not yield adequate consideration of such changes.

⁶ See *Draft Final Proposal*, p. 6.

⁷ See ED’s *Staff Proposal on the Implementation of the Flexible Capacity Procurement Framework*,

published February 10, 2014, p. 14.

ISO Response

Thank you for your comments.

Ambitious Data Requirements for Computing Flexible Capacity Requirements and Allocations May Stymie Credible Implementation.

As with prior proposals, the Draft Final Proposal would also compute Flexible Capacity Requirements (FCRs) and their allocations based on renewable resource portfolio data to be provided by the Load-Serving Entities (LSEs) through their Scheduling Coordinators.⁸ Though the latest proposal continues to include means for holding LSEs accountable for their submissions,⁹ TURN remains concerned that the CAISO is embarking on a path that will pose major challenges for gathering, validating, and applying renewable resource data in a consistent and accurate manner.

⁸ *Draft Final Proposal*, pp. 13 and 19-24. Many aspects of these proposals were offered in prior versions.

⁹ *Id.*, pp. 13-14.

ISO Response

Thank you for your comments.

Delay May be Preferable to a Hurried, Partial Implementation

TURN questions whether implementation of the FCR and FRAC-MOO tariff in 2015 is advisable. As TURN already noted in its January 31st comments, there is no evidence that an implementation in 2015 is necessary to maintain reliable service. The CAISO and ED statements cited above further support this recommendation. TURN reiterates that the CAISO and CPUC should consider whether implementation of a flexible capacity requirement should be deferred for another year until the difficult challenges can be addressed more fully and deliberately.¹⁰

¹⁰ Although TURN questions whether an FCR and related FRAC-MOO tariff are necessary to provide reliable service in 2015, TURN supports efforts to work through the challenging implementation issues in time for a 2016 implementation.

ISO Response

Thank you for your comment.

Company	Date	Submitted By
Wellhead	2/20/2014	Grant McDaniel
Comment 1		
<p>Wellhead supports the CAISO's Draft Final Straw Proposal of the Flexible Resource Adequacy Criteria and Must-Offer Obligation. Wellhead agrees that it is appropriate for the ISO to consolidate the four flexible capacity categories it previously proposed into the three categories as Base Flex, Peak Flex, and Super-Peak Flex. Wellhead also supports the ISO's methodology for determining the EFC of energy storage resources selecting the full flexible capacity option.</p>		
ISO Response		
<p>Thank you for your support.</p>		