

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA



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Order Instituting Rulemaking to Oversee the  
Resource Adequacy Program, Consider  
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Local and Flexible Procurement Obligations  
for the 2019 and 2020 Compliance Years.

Rulemaking 17-09-020  
(Filed September 28, 2017)

**REPLY COMMENTS OF THE  
CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES  
ON TRACK 1 PROPOSALS AND WORKSHOP**

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For: CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES

Dated: March 16, 2018

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Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local and Flexible Procurement Obligations for the 2019 and 2020 Compliance Years.

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The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submits CEERT’s Reply Comments on the Comments on the Track 1 Proposals and Workshop. These Reply Comments are filed and served pursuant to the Commission’s Rules of Practice and Procedure, the Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judge (ALJ) issued in R.17-09-020 (RA) on January 18, 2018 (Scoping Memo), and the February 26 ALJ’s Ruling.

**I.  
MULTIPLE PARTIES SHARE CEERT’S CONCERN ON  
ACTIONS NEEDED TO BE TAKEN IN TRACK 1 ON  
USE OF PREFERRED RESOURCES FOR LCR PURPOSES.**

Wellhead Electric Company, Inc. (Wellhead) states in its Comments on the CEERT Track 1 Proposals that it is “supportive of several aspects of CEERT’s proposals”<sup>1</sup> and proceeds to elaborate on the reasons for this position. CEERT appreciates Wellhead’s support and agrees with the arguments made in Wellhead’s comments.<sup>2</sup>

In its Comments on the Track 1 RA Proposals, NRG Energy, Inc. (NRG) similarly states support for CEERT’s Track 1 Proposal, stating:

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<sup>1</sup> Wellhead Comments on the Track 1 Proposals of CEERT (March 7, 2018), at p.1.

<sup>2</sup> *Id.*, at pp. 2-4.

“In sum, NRG agrees with CEERT and the CAISO that significant additional work needs to be done to determine how use-limited resources can be used to meet local capacity requirements and maintain local reliability. Local capacity requirements are currently denominated in MW because of the historic assumption that they would be met by gas-fired generation that does not have restrictive durations limits. Such work to denominate local capacity requirements in terms other than MW terms may, and likely will, need to be local area or sub-area specific. Given the push to displace gas-fired generation with preferred resources, this work should begin immediately.”<sup>3</sup>

NRG also states that it “strongly disagrees, however, that an on-peak energy delivery metric is the sole or even key metric for evaluating how preferred resources not only meet local capacity requirements, but *ensure local reliability*.”<sup>4</sup> CEERT strongly agrees that the objective is to ensure local reliability and never said or meant to imply that on-peak energy delivery of preferred resources was the *sole* metric for this objective. CEERT simply said that it is the portfolio Net Qualifying Capacity (NQC) denominated in megawatts (MW) that is the appropriate capacity metric, and that, since preferred resources are generally use-limited, the portfolio must also have an on-peak energy delivery metric denominated in megawatt hours (MWH). Further, it was CEERT’s point that, in many cases, it is this on peak energy metric that will determine the cost/performance of the portfolio. The California Independent System Operator (CAISO) actually makes the same point in its Comments on the Track 1 Proposals.<sup>5</sup>

Calpine Corporation (Calpine) states that it “generally supports CEERT’s proposal to better understand how energy-limited resources can be used to assure local reliability.”<sup>6</sup>

However, Calpine then proceeds to demonstrate the need for this “better understanding” by

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<sup>3</sup> NRG Comments on Track 1 Proposals (March 7, 2018), at pp. 15-16.

<sup>4</sup> *Id.*, at p.15; emphasis original.

<sup>5</sup> CAISO Comments on Track 1 Proposals (March 7, 2018), at p. 3.

<sup>6</sup> Calpine Comments on Track 1 Proposals (March 7, 2018), at p. 19.

asserting that “the duck curve pattern” in local areas greatly diminishes the value of solar in providing LCR value and increases the need for more batteries.<sup>7</sup>

In fact, however, the duck curve pattern (surplus energy in the middle of the day) and an amplification of that pattern by the addition of new local solar *reduces* the requirement for batteries to mitigate LCR needs by providing the surplus energy to recharge shorter duration batteries during the contingency event.<sup>8</sup> Thus the “duck curve pattern,” when batteries are a significant part of the portfolio, increases the local capacity requirements (LCR) value of incremental local solar even though its marginal Effective Load Carrying Capability (ELCC)-derived NQC is lower. This is the same point made by Wellhead in its Comments when discussing the difference between a “collection” and a “mixture or hybrid” set of resources.<sup>9</sup>

In its Comments on the Track 1 Proposals, CAISO repeats its February 23 Workshop proposal to freeze current “availability-limited” planning protocols and RA counting rules through the 2020 RA year.<sup>10</sup> This proposal, in conjunction with CAISO’s support for mandatory multi-year procurement obligations,<sup>11</sup> effectively means that there would be little room to increase use of preferred resources for LCR purposes through 2023. It would also mean that CEERT’s proposal to pilot enhancements to current practice in two 2018 RFO/RFPs to help inform the complicated debate in Tracks 2 and 3 on how to “evolve” RA protocols to encourage generic preferred resources would be moot.

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<sup>7</sup> Calpine Comments, *supra*, at p. 19.

<sup>8</sup> Battery size and cost is generally denominated in mwh or the amount of energy stored, not the instantaneous capacity or ability to deliver that energy denominated in mw.

<sup>9</sup> Wellhead Comments, *supra*, at p. 2.

<sup>10</sup> CAISO Comments, *supra*, at p.3. Ironically, the only apparent exception to this freeze is possibly raising the minimum duration requirement for RA eligibility for storage and demand response which will serve to reduce the supply and/or significantly increase the cost of these preferred resources. (*Id.*, at p. 4.)

<sup>11</sup> *Id.*, at p. 8.

These two procurements, however, are the first of their kind where new preferred resource portfolios are fully competing to replace retiring existing fossil resources in locations that are not amenable to new gas development. For the Commission to adopt the CAISO freeze proposal would mean applying CAISO's current "evolving" "CAISO-developed methodology for determining the maximum amount of availability-limited resources in each local capacity area and sub-area based on current resource adequacy program requirements"<sup>12</sup> to these two preferred resource procurements. This effectively means that the two procurements will be more expensive and/or less likely to ensure local reliability. Further, the Track 2 and Track 3 debate over how to generalize preferred resource LCR procurements would either be delayed or proceed without the benefit of real world experience.

CEERT strongly opposes this freeze, which will only serve to delay the transition to a future where preferred resource options play a significant role in LCR procurements in competition with existing gas resources. On the other hand, CEERT completely understands the need to be deliberate and be careful with the pace of evolution as the grid evolves to accommodate significantly higher levels of preferred resources. Waiting five years to effectuate meaningful change is simply unconscionable and will do nothing except raise the cost and slow the pace of this critical policy objective of decarbonizing California's grid. CEERT is *not* proposing an immediate change in RA protocols without scrutiny that could potentially threaten reliability, only that the necessary evolution process start now, including testing new measures during that transition based on actual experience in defined locations and, in turn, promoting learning by doing.

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<sup>12</sup> CAISO Comments, *supra*, at p. 3.

The CAISO proposes the freeze in the face of its admissions that its understanding of how to appropriately plan, analyze and use preferred resources is “evolving”<sup>13</sup> and that “the CAISO’s market systems and optimization does not have the ability to ‘stage’ distinct and unrelated resources so that one resource is used after another, or resources are used collectively to serve a single purpose or outcome.”<sup>14</sup> The example CAISO used during the February 23 Workshop was, if faced with an eight hour need for LCR reserves, CAISO’s optimization software was not capable of dispatching one four-hour battery, then, when those particular batteries were depleted, dispatching another distinct but identical four hour battery to meet the eight hour total need. This simple, basic “staging” feature clearly needs to be added to CAISO’s market system if it is to have any hope of “optimizing” the dispatch of a future portfolio of resources where more than half of the available resources will have the characteristic of being “availability-limited.”

Perhaps the clearest illustration of why CAISO’s freeze proposal is bad policy is the current treatment of so-called Reliability Demand Response Resources (RDRR). After first stating that existing “availability-limited resources” are currently effective to meet local capacity constraints and therefore will be counted towards local requirements, CAISO adds the following footnote:

“Slow responding Reliability Demand Response Resources (RDRR) being the only exception. Slow RDRR is not effective at resolving local contingencies due to its unique dispatch limitations agreed to in the settlement agreement adopted in D.10-05-034. Pursuant to that decision, RDRR can only be dispatched in the event of an actual emergency.”<sup>15</sup>

Thus, the lowest cost, most widely available demand response (DR) resource that has the easiest and most understandable contract terms for customers who are not glued to the CAISO

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<sup>13</sup> CAISO Comments, *supra*, at p. 2.

<sup>14</sup> *Id.*, at p. 6.

<sup>15</sup> *Id.*, at p. 4, n. 5.

market and have no intention of intervening in these proceedings is *categorically* excluded from LCR consideration simply because those resources cannot be activated instantaneously and can only be used in an “actual emergency.” These resources cannot be used in the much more common situation where loads and resources are such that an “emergency” *could* happen if there is an equipment failure.

Clearly, however, if RDRR resources were paired with storage using a common resource ID<sup>16</sup>, the storage could supply the quick response dispatch at the start of the “emergency,” and the RDRR could be called “post-contingency” to recharge the batteries or relieve them from further discharge. This portfolio of resources would clearly count towards ensuring local reliability. Even if the CAISO market system is not currently capable of dealing with these “staged” resources, there are at least two obvious “almost optimum” ways to allow RDRR resources (or any other “slow response” resource) to “count” without any change to CAISO software.

Thus, first, the battery/RDRR combination could be presented to the CAISO under a single resource ID by the Scheduling Coordinator and bid into the CAISO ancillary service market for spinning reserves. If and when the “emergency” occurred, the CAISO software would call the spin and the battery would immediately respond by discharging energy to the grid. The Scheduling Coordinator or the resource aggregator would then “call” the RDRR that would respond and drop load over time to allow the battery to cease discharging or even begin to recharge. The CAISO software would simply see a drop in load and dispatch the battery down as the need for spinning reserves decreased.

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<sup>16</sup> CAISO makes it clear that this pairing using a common resource ID with the aggregate characteristics conveyed to the CAISO would count for LCR purposes. CAISO Comments, *supra*, at p. 5.

Second, the battery could be bid into the CAISO spinning reserve market as a stand-alone resource and the market software would call the spin “automatically.” After the emergency occurred, the CAISO could call the RDRR resource through manual “exceptional dispatch” to accomplish the same result as the first method.

The details and pros and cons of these two methods could easily be worked out and applied as appropriate to the individual circumstances. The CAISO’s standard response to “exceptional dispatch” is that they never “plan” for its use. However, exceptional dispatch is commonly used to deal with an “actual emergency.” Moreover, other creative and efficient solutions could be implemented if CAISO software was changed to accommodate. This process is certainly well beyond Track 2 and would require some real world experience followed by a rather lengthy software upgrade and probably a tariff amendment at the FERC.

CEERT believes the obvious workaround(s) listed above could be implemented today by the Commission since the CAISO has already stated that it can accommodate bundling of separate resources under a common resource ID. The real world experience gained would guide the software upgrade process.

Numerous examples like this exist and have been the subject of multiple filings, proposals, workshops, etc., over the past few years. Parties have generally been willing to slog it out and make slow, painful halting steps forward. Now comes the CAISO to say “stop” and instead to freeze this process where it is, defer any real discussion of improvements until there is time to pick up the discussion “later,” and, meanwhile, ignore the opportunity to learn important information by “piloting” real world procurements. CEERT believes that this approach is simply unacceptable.



It has been one month since CEERT first made its “piloting” proposal in the run-up to the February 23 Workshop. Events have overtaken some of the specifics in CEERT’s original recommendations. Southern California Edison Company (SCE) has launched its RFP, posted its RFP Instructions, and held the bidder’s conference. It is too late to modify the Instructions without delaying the RFP. Besides, SCE did a good job listening to stakeholders. The final procurement plan was an improvement over the original plan released late last fall. The specifics in the RFP Instructions are an improvement over the final procurement plan.

Although CEERT is convinced that when the next RFP is conducted, there will be further improvements, that is the advantage of learning by doing, and the process will not be advanced by stopping the process, holding workshops, issuing new rulings and reissuing revised instructions.

The CAISO has made a final recommendation to approve and partially fund Pacific Gas and Electric Company’s (PG&E’s) Oakland Clean Energy Initiative and also to approve and fund the transmission upgrade that frames the SCE RFP need. The CAISO Board is poised to issue final approval on these proposals next Thursday, March 22, 2018.

There is still time to “amend” the Commission jurisdictional piece of the PG&E procurement to remove the restriction that any Demand Response must be dispatched pre-contingency. As noted above, the CAISO has stated that it could accommodate demand response measures paired with short duration batteries under the same resource ID to bridge the need for instant response in the defined transmission contingency. This “hybrid product” should be allowed to bid into the PG&E RFO and should be dispatched post-contingency without any specific response time or duration restriction on the demand response for eligibility to “count” for this very specific, very well defined LCR need. This would be an excellent real world data

point of what this new hybrid storage product could mean for potential demand response quantities and prices.

At this point in time, the emphasis in the “pilot” shifts to ensuring transparency and timeliness in the evaluation process, developing a set of lessons learned by all of the RFO/RFP participants and the CAISO, and injecting these lessons into the Tracks 2 and 3 record to guide the discussion about how to generalize the process. Clearly, this is a delicate process during an ongoing procurement process given the needs for fairness and confidentiality in the bidding and evaluation process. At a minimum, this transparency could be built into the Advice Letter approval process that will be filed at the Commission following the procurements. This milestone is currently scheduled for Spring 2019. CEERT believes it should also be possible to issue a public status report this Fall 2018 with generic, aggregated statistics, such as, bid coverage ratios and short listed quantities for each product solicited for inclusion in the record in Track 2.

Finally, under current protocols, the CAISO would “certify” after-the-fact that the two processes had indeed resulted in sets of resources that met the respective LCR needs and could be accommodated in real time by grid operations when the annual LCR showings are made. CEERT believes it is critical that this CAISO “certification” take place as early as possible in the evaluation and approval process. CEERT recommends that the Commission in its Track 1 Decision this June should direct Energy Division to consult with SCE, PG&E and the CAISO and present a “sunshine plan” for early CAISO approval and public release of relevant data from the RFO/RFP.

**II.**  
**CEERT SHARES MANY OF THE CONCERNS AND POSITIONS OF SEVERAL PARTIES ON OTHER APPROPRIATE OPTIONS FOR THE TRACK I DECISION.**

While CEERT's focus in Track 1 has been on the single issue of use of preferred resources for meeting LCR needs, it is not blind to the other issues at stake here. CEERT offers the following observations on party comments to date, which are mainly geared towards Track 2 and Track 3 issues, and makes a few suggestions for inclusion in the Track 1 decision.

The first issue is the cost allocation controversy between the Utilities and Community Choice Aggregators (CCAs). CEERT is not directly involved in this issue, but notes the obvious that, until this issue is "settled," procurement of any kind by any party will have a large extra layer of complexity. It is bad enough that this is seriously impacting long-term procurement decisions, such as in the Integrated Resource Planning (IRP) process or Diablo Canyon Power Plant replacement. However, given the current circumstances, the dispute is now potentially impacting even short-term reliability-based decisions where there is consensus on the need and the solution. CEERT fears that parties will not "pull the trigger" for fear that the cost allocation process used for even the most obvious and urgent grid level procurement needs will be opposed simply because they might serve as a precedent in the larger cost allocation debate.

CEERT has some sympathy for the position of both sides and appreciates the difficult position the Commission faces. It has no specific suggestion other than to plead that all sides take care not to hold hostage otherwise clear and present danger signals for resource adequacy such as the historic peak loads during last year's Labor Day heat storm, the 1 in 10 heat storm that occurred in late June 2017, or the "near miss" of serious bulk grid issues with the wildfires and landslides last year. CEERT believes that a "workshop" on lessons learned from an analysis

of these events should be convened in Track 1 to underscore the urgency and help point the way for prioritizing actions that require immediate response in the interest of all parties.

Next, CEERT has essentially stayed on the sidelines and only kibitzed on the debate over multi-year RA procurement and whether this should be a centralized capacity market or a continuation of the current bilateral annual procurement process. At this point, as mainly an interested observer, CEERT simply does not believe the record supports a shift to a central capacity market that carries a whole new set of uncertainties and pros and cons that mainly look good only under a “grass is greener” lens. CEERT is highly skeptical that simply making the current annual bilateral procurement process three years in advance will solve or even materially improve the gas fleet economic viability issue.

CEERT observes that, until recently, when the Utilities’ and CCA’s cost allocation debate loomed its ugly head, that much of the bilateral RA contracting was multi-year anyway, even though the obligation to show specific resources is only one year ahead. CEERT understands that, at some point, the Commission will have to call a halt to the chatter and make a decision. That time may be approaching and several parties urge that the decision be taken or at least clearly framed in Track 1.

While reserving any specific comments on that decision, CEERT would urge that the year 2 and year 3 obligations, especially for local and flexible capacity be heavily discounted to accommodate the obvious material changes that will be occurring in the short term for at least local and flexible capacity. It is not simply the preferred resource transition that is CEERT’s focus here, but also the following:

- CAISO is embarking on a two-year process to take a comprehensive look at transmission upgrades that could cost effectively materially decrease the LCR need.

- This Commission and the California Energy Commission have called for a study to be led by the CAISO and including the other Balancing Authorities in the State (especially, Los Angeles Department of Water and Power (LADWP)) to examine the current use and possible expansion of the direct current interconnection with the Pacific Northwest (PDCI) with an eye towards improving gas supply flexibility and reduce local capacity needs in the Los Angeles Basin without Aliso Canyon. This interconnection is half again as large as Diablo Canyon and has served the State as a conduit for capacity for energy swaps with the Pacific Northwest for decades.
- CAISO is deep into the process of reassessing the grid flexibility needs from an operational perspective. This “FRACMOO 2” process is likely to result in new ancillary service products for improving daily and hourly grid performance. This will have profound implications for Flex RA. CEERT believes it is even possible that, if these products are successful, Flex RA forward procurement obligations could be dropped completely or relegated to a minor post processing check on system and local RA needs.

None of these important initiatives are far enough along to quantitatively assess their impact on RA requirements in Track 1. However, they all point in the direction of potentially significant changes in requirements and increased supply and/or decreased demand for all of System, Local and Flex RA within the timeframe of three-year forward RA commitments.

### **III. CONCLUSION**

With the support of several other parties, as detailed above, and its own March 1 Comments, CEERT again renews its proposal for the Commission to adopt CEERT’s Track 1 multi-step proposal for piloting the SCE and PG&E LCR procurements. In doing so, and in response to parties’ discussion on other issues, CEERT recommends that the Commission also take the following specific actions in Track 1:

1. Revise the PG&E “procurement plan” for the Oakland Clean Energy Initiative to strike the asterisk requiring pre-contingency dispatch of demand response. Allow demand response paired with batteries to bid into the RFO without specific response time or duration requirements for the demand response piece.
2. Confirm that cost allocation of both of these procurements will be governed by the current CAM (cost allocation mechanism) protocols at the time the Advice Letters are adjudicated.
3. Find that, if the CAISO determines that the resource portfolio that results from these procurements satisfies the particular LCR needs in Santa Clara and Oakland respectively, each will satisfy the load serving entity (LSE) LCR obligations regardless of how they score by then current RA protocols.
4. Hold a Track 1 Workshop that analyzes the impact on bulk grid operations of the heat storms, wildfires, and landslides that occurred in 2017 that are relevant to RA planning standards, modeling inputs, and mitigation packages. The purpose of this Workshop would be to inform the current RA process and identify priority actions that should be expedited to ensure grid reliability over the next few years.
5. Should the Commission decide to adopt a framework for multi-year RA procurement in Track 1, ensure that part of that framework be to significantly discount the System and Local RA obligations in years 2 and 3. The purpose of this discount would be to allow room for accommodating significant revisions to resource characteristics and quantities required that may arise from significant policy initiatives that are underway today.

Respectfully submitted,

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