BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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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.

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

TRACK 1 PROPOSALS OF THE CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES

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For: CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES

Dated: February 16, 2018

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The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submit CEERT's Track 1 Proposals in Rulemaking (R.) 17-09-020 (Resource Adequacy (RA)). CEERT's Track 1 Proposals are filed and served pursuant to the Commission's Rules of Practice and Procedure and 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").

I. OVERVIEW

The Scoping Memo identifies 4 main issue areas as being within the scope of Track 1 of this proceeding: (1) adoption of the 2019 Local Capacity Requirements (LCRs); (2) adoption of the 2019 Flexible Capacity Requirements (FCRs); (3) adoption of the 2019 System RA Requirements; and (4) "Top Priority Modifications to the Resource Adequacy Program."[1] CEERT's Track 1 Proposal, as described below, addresses the first and fourth topic areas.

[1] Scoping Memo, at pp. 5-6.

II.
CEERT'S TRACK 1 PROPOSALS

In 2018, there will be two preferred resource RFO/RFPs to procure LCR capacity – one by Southern California Edison Company (SCE) for 80-100 MW in the Santa Clara sub-area of Ventura County and one by Pacific Gas & Electric Company (PG&E) to procure roughly 40 MW in Oakland. Both of these procurements are designed to avoid high priced fossil fueled capacity. The SCE procurement replaces the suspended Puente project, a new simple cycle gas plant with an LCR cost of roughly $16/kw-month. The PG&E procurement replaces the existing obsolete, low efficiency, high emissions oil fired Oakland peaking plant that has a Reliability Must Run ("RMR") contract to supply LCR for $7-8/kw-mo. The average LCR price in 2016 was roughly $3.25/kw-mo.[2] Thus, large environmental benefits and economic ratepayer savings are involved in procuring preferred resource alternatives.

Both procurements contemplate diverse portfolios of resources including transmission upgrades on existing rights of way and within existing substations, battery storage, targeted energy efficiency projects, local solar, and demand response.[3] Other than minor contributions from preferred resources including pilot procurement projects in Orange County,[4] these procurements represent the first time that preferred resources have played the dominant role in addressing LCR needs in a load pocket.

However, current LCR metrics and counting protocols that assume LCR resources are overwhelmingly natural gas fired are not designed to fairly count and price preferred resources. Thus, unless LCR rules are modified to accommodate the unique attributes of preferred resources,

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[2] The 2016 Resource Adequacy Report, CPUC Energy Division, June 2017, at p.23.
[3] There are no commercially available wind or geothermal resources in either LCR area. However, fuel cells would qualify.
[4] www.sce.com/wps/wcm/connect/74ccef9b-9ea7-4e70-8fld-fbcOb44fe715/2016_PRP_Annual_Report_Final.pdf

much of the potential ratepayer savings will be lost, and it is possible that some new expensive natural gas facility in Santa Barbara may be unnecessarily required. As demonstrated below, although the technology is clear and the preferred resource products are commercially available, the changes to LCR protocols to properly account for preferred resources are complicated, controversial, and simply impossible to change in Track 1 for a 2018 procurement.

CEERT's central Track 1 proposal, therefore, is for the Commission to adopt a multi-step process for the adoption and evaluation of interim rules for these two procurements and only these procurements that are indicated by planning studies and ongoing stakeholder processes at the CAISO and the Commission. Thus, following adoption of those interim rules, the efficacy and cost effectiveness of these rule modifications within the RFP/RFOs would be evaluated. Afterward, the Commission should adopt and authorize construction of preferred resource portfolios that are cost effective and solve the particular LCR needs that have been identified in these two cases.

In effect, these two procurements would be treated as "pilots." The information developed through this process would be used to guide "durable" preferred resource rule changes in Tracks 2 and/or 3 for generic use. Thus, by using this approach valuable information and knowledge can be achieved by doing and rule revisions can be based on real data obtained by competitive processes in real situations, rather than by hypotheticals that may or may not apply in all circumstances or by poorly understood forecasted generic costs and performance metrics. In addition, CEERT proposes specific actions to be taken by the Commission relative to both the SCE and PG&E procurements, which are detailed in the Conclusion herein (Section III below).

The issues that make CEERT's Track 1 proposals necessary are as follows:

- **The principal LCR metric of measuring the peak load of a 1-in-10 forecast for the LCR area is not sufficient for use-limited resources**.

When valuing gas-fired resources, the assumption is that once the resource is committed and dispatched, it can run indefinitely. Although this assumption may ignore the risks of forced outages or fuel supply issues, the net qualifying capacity (NQC) of the resource at the 1-in-10 needle peak load is deemed to be sufficient to characterize its LCR value. With preferred resources that are use-limited, this indefinite run time assumption is no longer valid, and the metric becomes delivery of on-peak energy during the planning contingency event when local load is above the compromised transmission import limit. The metric is MWh, as well as peak MW.

Thus the load forecast required is different, and the "peak shift" factor that uses a single MW number to scale historic load shapes to account for rooftop solar as practiced today is simply wrong. Also, current RA counting conventions such as minimum four-hour run time for storage, but no NQC value associated with run times longer than four hours, or the maximum 20 minute call time for demand response (DR) resources are no longer appropriate.

- **The NQC of the portfolio is not the sum of the individual resource NQCs.**

Because of the above circumstances, the NQC of the portfolio is not the sum of the individual resource NQCs. For example, the combination of a 3-hour battery storage installation plus a 1-hour response time DR package of several hours duration would have zero NQC under current LCR RA rules, but have an NQC equal to the nameplate inverter size of the battery installation in the real world (assuming that the duration of the DR response plus the battery duration was sufficient to cover the high load hours). As another example, the capacity value of a

PV installation plus the NQC of a battery installation cannot be simply added together but must be valued based on their respective contribution to the on peak energy shortfall.

- **Solar ELCC value that may be used to calculate system RA value cannot be used for LCR purposes.**

The load shape within the load pocket is different than the system load shape normally used to calculate Effective Load Carrying Capability (ELCC). In general, the "duck curve" load shape that causes a significant "discount" for solar ELCC due to high penetration and saturation of solar on the system does not apply to a load pocket under a transmission contingency that effectively cuts off the impact of solar outside the load pocket. The only relevant impact of saturation of solar is related to the quantity of solar within the load pocket itself.

- **So called "slow response" DR does not need to be dispatched pre-contingency in order to have value.**

As long as DR can be called and dispatched during the contingency event itself, and there is sufficient battery capacity to supply the spinning reserves, slow response DR is of significant value as "non-spin reserves" that can be thought of as serving to recharge the batteries during the high load hours. Similarly, even "fast response" DR whose call time is less that 20 minutes does not need to be dispatched pre-contingency in LCR pockets where the consequence is voltage collapse as long as there is sufficient battery capacity that can be "committed" pre-contingency and dispatched post-contingency to provide the spinning reserves to prevent voltage collapse.

It is noteworthy that this also applies to fossil resources that are, today, many times committed pre-contingency in Residual Unit Commitment (RUC), Short-Term Unit Commitment (STUC) or Minimum Online Commitment (MOC) (day ahead, 4 hour ahead, and one hour ahead reliability based commitments) creating a Pmin burden and crowding out renewable resources. Thus, battery packs with a duration as short as one half hour associated

with peaking plants in the so called "EFG" configuration have significant LCR value by avoiding pre contingency dispatch.

- **Cost effectiveness measures for Energy Efficiency (EE) and Demand Response (DR) programs must be adjusted to account for LCR value.**

The value of additions to EE and DR programs in the SCE procurement must be valued for cost effectiveness purposes using an avoided cost of the Cost of New Entry (CONE) of a gas fired resource or something like $16/kw-month as an adder to program value. For the PG&E procurement, the avoided cost adder is the reliability must run (RMR) contract price of the current peaking facilities or something like 50% of CONE. In other instances, the appropriate metric could be the forecasted price of future LCR or something like 25% of CONE. This does not necessarily mean that these resources should automatically be paid 100% of this value in cash, but programmatic cost/benefit ratios much be adjusted accordingly.

- **Preferred resources present unique cost recovery and cost allocation challenges.**

The SCE Santa Clara RFP procurement plan[5] treats storage installations as generation assets procured by purchase power agreements (PPAs) whose costs would be recovered in retail rates through the Commission. The PG&E Oakland procurement plan[6] treats the proposed storage facility as a transmission asset whose ownership costs would be recovered in the PG&E low voltage transmission charge administered by the CAISO under its tariff. The SCE procurement plan allows "value stacking." What is being procured by the PPA is really only the LCR value of the resources that are then free to recover other revenue streams from either

[5] SCE Moorpark Sub-Area Local Capacity Requirement Plan Submitted to Energy Division Pursuant to D.13-02-015 (12/21/17, revised 2/7/18).
[6] caiso.com/Documents/Presentations-2017-2018TransmissionPlanningProcessMeeting-Feb8-2018.pdf , Northern Area – Reliability Assessment, at p.33

wholesale energy or ancillary services markets or retail customers as long as these other uses do not conflict with use as an LCR resource.

The Commission recently issued Decision (D.) 18-01-033 in its Energy Storage Rulemaking (R.) 15-03-011 on principles of how this value stacking may be administered, but leaves details up to a future working group.[7] Such value stacking is not currently contemplated for the storage piece of the PG&E procurement because no such provision is included in the CAISO tariff. However, analogous provisions are included in the current RMR pro forma contract, and the CAISO has indicated that it will be studying this issue in next year's Transmission Planning Process[8] with the intent of allowing value stacking with some refund to the transmission revenue requirement to account for the fact that transmission customers paid for the full cost of the resource.

CEERT believes that either cost recovery mechanism can be made to work in a just and reasonable manner, and both should be allowed to proceed as proposed for the Moorpark and Oakland procurements. Any added complications to the current cost allocation debate among load serving entities (LSEs) should not be prejudged at this time for the two RFO/RFPs.

III.
CONCLUSION

All of the above issues are ripe for adjudication and refinement in Tracks 2/3 of this proceeding and future RA proceedings as well as other Commission and CAISO proceedings. Some of the issues mentioned above will turn out not to be significant, and, surely, other issues not mentioned above will arise as experience with these procurements accumulates and markets and product development evolve.

[7] D.18-01-003, at p. 28.
[8] Oral statement by Neil Millar at CAISO Feb 8 2017/2018 TPP Workshop in Folsom, which is to be included in 2018/2019 TPP Study Plan, the first draft of which is due to be posted February 22, 2018.

There is no time and no experience to deal with these two procurements generically. What is critical is not to pre-judge the answers and unnecessarily restrict the supply of preferred resources or drive up their costs for no good physical reason in *these two specific* procurements. There is plenty of time to deal with the specific issues that may arise with the specific portfolios when the procurements are concluded, the CAISO certifies that the proposed packages indeed do satisfy the specific LCR needs, and the IOUs file Advice Letters to satisfy LCR RA obligations and allow cost recovery in retail rates. Some of the lessons learned can potentially be added to Track 2 issues and surely the scope of Track 3.

However, as described above, there is a distinct advantage of understanding the relevance and pros and cons based on actual experience. CEERT, therefore, urges the Commission to adopt CEERT's Track 1 multi-step proposal above for the SCE and PG&E preferred resources procurements and, in doing so, also take the following specific actions:

1. Clarify that, for the proposed SCE procurement plan, "Stand-By Demand Response" paired with short duration battery storage is allowed for bidding into the RFP for both the Goleta resiliency need and the Santa Clara LCR need.[9]
2. Revise the PG&E "procurement plan" to strike the asterisk requiring pre-contingency dispatch of demand response.[10]
3. 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.
4. Conclude 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,

[9] As originally filed, the SCE procurement plan allowed so called "Stand By DR" to be bid for solving the Goleta resiliency need, but not for the Santa Clara LCR need because Stand By DR does not currently count for LCR purposes but would otherwise meet grid requirements. In the "final" procurement plan posted on February 8, 2018, footnote 56, at page 28, states this distinction was struck making it unclear whether the intent is to disallow Stand By DR in both cases or allow it in both cases.

[10] PG&E's 2017 Request Window Proposals, CAISO 2017/2018 Transmission Planning Process, Pacific Gas and Electric Company, September 22, 2017, Oakland Reliability Proposal.

each will satisfy the LSE LCR obligations regardless of how they score by current RA protocols.

Respectfully submitted,

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