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)

OPENING COMMENTS OF THE CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES ON TRACK 3 PROPOSALS AND WORKSHOP AND ON ADMINISTRATIVE LAW JUDGE'S RULING ON EFFECTIVE LOAD CARRYING CAPACITY

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For: CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES

March 22, 2019

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The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submits these Opening Comments on Track 3 Proposals and Workshop, and Administrative Law Judge's (ALJ's) Ruling on Effective Load Carrying Capacity (ELCC) in Rulemaking (R.) 17-09-020 (Resource Adequacy (RA)). These Opening Comments are filed and served pursuant to the Commission's Rules of Practice and Procedure, the Amended Scoping Memo and Ruling of Assigned Commissioner, issued on January 29, 2019 (Amended Scoping Memo) and the ALJ's Ruling on ELCC (ALJ's ELCC Ruling), issued on February 13, 2019.

I.
OVERVIEW

The Amended Scoping Memo requested that parties and the Commission Energy Division file and serve Track 3 Proposals on five (5) main issue areas: (1) Adoption of the 2020 Local Capacity Requirements (LCR), (2) Adoption of the 2020 Flexible Capacity Requirements (FCR), (3) Adoption of the 2020 System RA Requirements, (4) Further Refinements to the RA Program and (5) Consideration of Other Modifications and Refinements to the RA Program as Identified in Proposals by Energy Division or by Parties. Several parties including CEERT, and Energy Division filed and served Track 3 Proposals on March 4, 2019 pursuant to the Amended Scoping Memo and ALJ Chiv's E-mail Ruling, dated February 22, 2019.

In addition, the ALJ's ELCC Ruling requested comments on the "Energy Division Monthly ELCC Proposal for 2020 RA Proceeding" (Energy Division ELCC Proposal) which is attached as an Attachment to the ALJ's ELCC Ruling. The ALJ's ELCC Ruling instructed parties to incorporate their comments on the Energy Division ELCC Proposal into the Track 3 comments due March 22, 2019.[1] Workshops on Track 3 proposals and the Energy Division ELCC Proposal were held on March 12 and 13, 2019.

II.
CEERT SUPPORTS THE TRACK 3 PROPOSALS THAT DEAL WITH THE USE OF PREFERRED RESOURCE PORTFOLIOS TO MEET LCR REQUIREMENT NEEDS

CEERT is almost indifferent to the detailed content of all of the Track 3 proposals that deal with some aspect of the use of preferred resources and resource portfolios to meet LCR needs. The Track 1 decision removed the prohibition of hybridizing storage and demand response.[2] This year's RA procurement cycle included three distinct preferred resource solutions that met residual LCR need after transmission upgrades mitigated the local deficiency and competitive existing gas was not available.[3] The record in this proceeding in this RA cycle must be robustly developed to allow preferred resources to reliably, cost effectively and routinely compete with existing gas.

The technology and resource economics are in place to achieve this result. However, significant modifications to both Commission counting and procurement protocols; California Independent System Operator (CAISO) tariffs, unit commitment, dispatch and settlement protocols; plus validation of granular California Energy Commission (CEC) 8760 load forecasts are required. Unless and until these changes are implemented, no form of multi-year

[1] ALJ's ELCC Ruling, at p. 2.
[2] D.18-06-030, Ordering Paragraph 14, at p. 54.
[3] See Oakland Clean Energy Initiative RFO Solicitation Protocol April 13, 2018, at www.pge.com/pge-global/common/pdfs/for-our-business-p;artners/energy; https://scemoorparkgoletarfp.accionpower.com/_scemg_1701/home.asp; Resolution E-4909

procurement or central buyer obligation will mitigate the significant issue of the near monopoly use of gas-fired resources to supply LCR as renewable resources displace natural gas in wholesale energy markets. Falling gas market share and falling wholesale energy prices will continue to exert significant retirement pressure on the natural gas fleet, and greenhouse gas (GHG) emission targets, gas supply woes, and environmental justice concerns will demand that the remaining gas necessary for reliability be used sparingly and efficiently.

Southern California Edison (SCE), the Joint Demand Response Parties (Joint DR Parties), Pacific Gas & Electric (PG&E), CAISO, California Energy Storage Alliance (CESA), Sunrun, and Alliance for Retail Energy Markets (AReM) all put forward incremental Track 3 proposals at the March 12 and 13, 2019 workshop aimed at reducing the existing bias against preferred resources in Commission and CAISO counting, procurement and usage protocols for local RA[4]. CEERT recommends that they all be adopted as proposed.

CEERT's Track 3 proposals are aimed at learning lessons from this year's preferred resource solicitations and creating space to allow load-serving entities (LSEs), resource developers and grid operators to gain confidence in the ability of preferred resources to supply vital LCR capacity. We will learn the details of how to achieve competitive balance with gas by innovating, testing and incrementally modifying tariffs and procedures over several RA cycles. We will gain confidence in local load forecasting for LCR purposes by continuing multi-year efforts in the CEC Demand Analysis Working Group (DAWG) and annual Integrated Energy Policy Report (IEPR) process.

One audience comment during the workshop on CEERT's "Portfolio Net Qualifying Capacity (NQC)" proposal suggested a pilot -- perhaps in San Diego Gas and Electric's

[4] Workshop presentation material sent by e mail from Simone Brant to R17-09-020 service list on March 11, 2019 at 5:51 PM, 6:03 PM, and 6:18 PM, and March 12, 2019 at 9:25 AM.

(SDG&E's) Transmission Access Charge (TAC) area where LCR needs loom large relatively quickly. Indeed, CEERT's proposal can be thought of as an "auto-pilot" for preferred resources. It allows parties to innovate, grid operators to validate, and LSEs to earn a revenue stream based on avoided cost of the gas resources in each LCR sub-area. Further workshops and stakeholder initiatives should be conducted in this RA cycle to flesh out details that could not be covered in CEERT's 15-minute presentation on March 13, 2019.

III.
CEERT'S COMMENTS ON THE ENERGY DIVISION ELCC PROPOSAL

CEERT appreciates the efforts of the Energy Division to continue to refine its ELCC modeling to capture the true capacity value of variable renewable resources and storage for RA purposes. The latest iteration presented at the March 12, 2019, workshop indeed advances the record but is hardly "durable" and ready for "permanent" adoption. The focus to establish a single "durable and fungible" NQC value for each resource type as a percentage of a "perfect generator" is, by definition, an approximation only applicable to a narrow set of circumstances. The fundamental mathematical problem is that there are more variables than equations that describe the landscape. Therefore, a single, simple NQC value for any resource still requires at least some additional "arbitrary" allocation algorithms (e.g., no resource can have an "ELCC" of greater than 100%) to arrive at an individual resource NQC value.

The simple fact is that use limited, variable output resources do not have a discrete stand alone NQC value that can be added algebraically to other discrete stand-alone resource NQC values to achieve an accurate representation of the ELCC of a portfolio of resources. The capacity value of the same solar installation in the same location with the same portfolio of other resources surrounding it will vary significantly depending on whether it is being used for system or local RA (the shape of the load to be served is different) or the peak occurs in June or October

(the solar output profile is different). When you add in the additional variable of a different set of resources making up the rest of the dispatch bid stack, a precise answer of solar "capacity value" becomes indeterminate—especially in the presence of storage.

All is not lost. It is still perfectly reasonable to establish a precise capacity value for a resource in a "worst case" dispatch that ensures that procurement of this resource (or, more likely, a set of resources) will result in a reliable system in the real world by whatever metric one chooses. ELCC modeling for LCR should focus on the "portfolio capacity value" of a specific set of resources in a specific load pocket with a specific load shape at a specific time of the year that defines a reasonable "worst case." The issue is similar to how the CAISO models resource deliverability for determining reasonably required network transmission upgrades.

CEERT recommends that the worst case be chosen as occurring in late September/early October during a 1 in 10 heat storm where solar output and hydro runoff are lower due to the season, and ambient temperature is still high derating both solar output and gas turbine capacity. It is critical to not "disqualify" valuable resources like storage of less than 4 hours or demand response with greater than 20 min call up time simply because they do not meet some arbitrary cutoff. Valuing resources in this "worst case" will ensure that enough capacity is available during heat storms earlier in the year when solar output and hydro runoff are higher. Further, it would not be reasonable to assume that cloud cover reduces solar output -- a 1 in 10 peak load will never occur on a cloudy day.

Allocation of a portion of that portfolio capacity value to a specific resource or resource type can follow with full recognition of the limitations of that allocation, and that allocation should only be used for the narrowest of reasons and the most limited period of time possible. We are clearly at an awkward time where the penetration of variable output, use limited

resources is significant but the metrics are designed for, not "perfect generators," but "perfectly dispatchable, non-fuel constrained, unlimited emission profile, large centralized fossil resources with no forced outages." 10 years ago, the crude approximation of the "exceedance methodology" for preferred resources was acceptable. 10 years from now, when use limited preferred resources dominate the resource stack, ELCC uber alis will prevail. In the meanwhile, we will have to slowly adapt the metrics to match the then current resource stack.

IV.
CONCLUSION

For the reasons detailed above, CEERT recommends that all of the Track 3 proposals dealing with preferred resources be adopted. In addition, further workshops should be scheduled to: (1) conduct a 'Lessons learned" exercise for the 2018 preferred resource procurements and (2) flesh out details of a workable "Portfolio NQC" protocol for procurement of LCR preferred resources. ELCC modeling should continue to evolve and inform LCR procurement with an emphasis on portfolio NQC rather than individual resource NQC.

Respectfully submitted,

March 22, 2019

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