BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Oversee The Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local Procurement Obligations.	Rulemaking 11-10-023 (Filed October 20, 2011)

REPLY COMMENTS OF THE CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES ON STAFF RESOURCE ADEQUACY PROPOSALS

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The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submits these Reply Comments on the Staff (Energy Division) Resource Adequacy (RA) Proposals served in this proceeding on January 16, 2014. These Reply Comments are filed and served pursuant to the Commission's Rules of Practice and Procedure and the Phase 3 Scoping Memo and Ruling of Assigned Commissioner (AC) and Administrative Law Judge (ALJ) (Phase 3 Scoping Memo) issued on August 2, 2013.

I. PARTY COMMENTS, CONSISTENT WITH COMMISSION POLICY, UNDERSCORE THE NEED TO ENSURE THAT PREFERRED RESOURCES AND STORAGE ARE APPROPRIATELY VALUED FOR RESOURCE ADEQUACY PURPOSES.

A. Overview

At issue here are the merits of proposed methodologies for determining the Qualifying Capacity (QC) that will be counted toward meeting a utility's or load service entity's system and local RA requirements for certain, specific energy resources. What is important to emphasize is that the resources at issue in the two pending Staff Proposals[1] are *preferred resources* ("renewable power, demand response resources and energy efficiency") at the top of the

[1] The two Staff Proposals are (1) Effective Load Carrying Capacity (ELCC) and QC for Wind and Solar Resources and (2) QC/Effective Flexible Capacity (EFC) Calculation Methodologies for Energy Storage and Supply-Side Demand Response (DR) Resources.

Commission's Loading Order to meet energy needs.[2] While energy storage is not listed as a "preferred resource" "because it stores power regardless of how that power is produced," the Commission considers it a priority resource given its "potential enabling technology."[3]

The status of these "preferred resources" in the Loading Order is certainly relevant to any consideration of their valuation, including qualifying capacity for RA purposes. The Commission has made clear that it "must balance its reliability mandate with other statutory and policy considerations," "primarily" "reasonableness of rates and a commitment to a clean environment."[4] As a result, "consistency with the Loading Order and advancing California's policy of fossil fuel reduction demand strict compliance with the loading order" and require utilities "to continue to procure the preferred resources 'to the extent that they are feasibly available and cost effective.'"[5] In terms of RA valuation of preferred resources, PU Code Section 399.26 makes clear that its directive to the Commission to determine the ELCC of wind and solar energy resources is for the purpose of using those "values" to establish "the contribution of wind and solar energy resources toward meeting the resource adequacy requirements" of the utilities.[6]

This background is significant because it heightens the Commission's obligation to carefully review and ensure that the Staff Proposals, which impact procurement of "preferred resources" (wind and solar (renewable generation) and demand response) and storage, are based on appropriate assumptions and, in turn, properly value (QC) of these resources for RA purposes. For solar resources alone, both Pacific Gas and Electric Company (PG&E) and the Large-Scale

[2] D.13-02-015, at pp. 10-11; R.12-03-014 (LTPP) Track 4 Proposed Decision (Pending), at p. 2.
[3] D.13-02-015, at pp. 2-3; R.12-03-014 (LTPP) Track 4 Proposed Decision (Pending), at n.3 at pp. 6-7.
[4] D.13-02-015, at pp. 35-36.
[5] D.13-02-015, at pp. 10-11 (quoting from D.12-01-033, at p. 21); R.12-03-014 (LTPP) Track 4 Proposed Decision (Pending), at n.3 at pp. 6-7.
[6] PU Code §399.26(d).

Solar Association (LSA)/ Solar Energy Industries Association (SEIA) have both commented that "[a]doption of the ELCC methodology to determine QC of solar resources will likely have a significant impact on their RA value" and that "[s]olar generators are the resources whose capacity value will be most affected by the proposed adoption of the ELCC methodology." [7]

Yet, there is "little or no practical experience with such calculations for large aggregations of solar megawatts" or "how the implementation of ELCC for solar resources will interact with and affect other energy policy measures and goals."[8] These concerns, along with the absence of "actual results," also extend to the Staff Proposals for calculating the ELCC/QC and EFC/QC for wind and demand response resources as well. As addressed below, the Opening Comments of multiple parties demonstrate that, before the Staff Proposals can be adopted by the Commission, additional work on, and revision to, these methodologies is required to ensure the appropriate QC valuation of these preferred resources.

As the Commission considers these changes for preferred resources, it must also ensure that preferred resources are treated commensurately with other resources.[9] This objective may require revisions to assessment of conventional resources to avoid distortion of overall capacity valuation, which otherwise could (i) contradict the Loading Order by disfavoring preferred resources and/or (ii) harm reliability and/or unnecessarily increase ratepayer cost.

B. Staff Proposal for ELCC/QC for Wind and Solar Resources

With respect to the Staff Proposed ELCC/QC (wind and solar) methodology, Southern California Edison Company (SCE) expresses an overarching concern about the need for "greater

[7] PG&E Opening Comments, at p. 2; LSA/SEIA Opening Comments, at p. 2. Due to this impact, and the potential for "an immediate, significant loss of value due to the ELCC calculation methodology being applied to solar resources," PG&E even goes so far as to propose a six-year "transition period" (2016-2022) to achieve "full implementation of ELCC for solar resources at the beginning of 2022." (PG&E Opening Comments, at p. 4.)
[8] LSA/SEIA Opening Comments, at p. 2.
[9] See, e.g., CalWEA Opening Comments, at pp. 3-4.

transparency" and "greater access" to "the information used [by Staff] in computing ELCC, methodology and analytical approach," especially to enable parties to "provide meaningful input on the ELCC calculation."[10] Similarly, the California Independent System Operator (CAISO), noting that the "modeling is extremely technical and complex" and requires "greater transparency," asks that "further consideration of the proposals would be beneficial before they are finalized."[11]

However, *if* the Commission proceeds to adopt the ELCC/QC for wind and solar resources in the upcoming June 2014 RA decision based on the information available, a broad range of parties have identified the following specific shortcomings of the Staff Proposal that must be addressed, with appropriate revisions, before the Staff Proposal can be adopted by the Commission.[12] As the California Wind Energy Association (CalWEA) advises, it is important to "improv[e] the accuracy and transparency of the staff's modeling effort, so that all interested parties can have confidence in the merits of the staff's proposal."[13]

Among the needed revisions to the ELCC/QC methodology for wind and solar resources identified in Opening Comments are the following:

- *Assumptions in Conflict with GHG Emission Reduction Targets*

  Critically, especially with respect to applicable environmental policies, Sierra Club and Vote Solar point out that the Staff's conclusion that a "steadily declining" ELCC value of solar resources with increased solar deployment fails to account for likely increases in energy consumption "during peak solar periods as electric vehicles are increasingly deployed" to achieve California's greenhouse gas (GHG) emission reduction goals.[14] While the increased deployment of electric vehicles may have a greater impact on longer term valuation, Sierra

[10] SCE Opening Comments, at pp. 1-2, 4.
[11] CAISO Opening Comments, at pp. 2, 4.
[12] SCE Opening Comments, at p. 4.
[13] CalWEA Opening Comments, at p. 2.
[14] Sierra Club/Vote Solar Opening Comments, at p. 1.

Club and Vote Solar believe that it is important for the Commission not to adopt ELCC values "that decrease the capacity value of solar at this juncture."[15] Given the Commission's need to balance its duties to maintain reliability, ensure reasonable rates, and preserve and foster the State's environmental policies, the emphasis should be on a framework that is consistent with GHG emission reduction goals, while avoiding degradation in reliability.

- *Need for Increased Wind Data Accuracy and Comparably Applied Standards*

  As noted above, the Commission must ensure that the Staff Proposal properly values key preferred resources, like wind generation. In its Opening Comments, however, CalWEA renews concerns it has previously expressed regarding the accuracy of the wind energy output data used by Staff in its proposal. In addition, CalWEA details a number of considerations, including treatment of output data for intermittent resources, that must be reflected in ELCC modeling "so that wind resources are treated fairly" in comparison to conventional and other generation resources.[16] In this regard, CalWEA further notes that "the use of a 'perfect generator' standard for the ELCCs of wind and solar will not be an equitable or useful approach unless staff benchmarks all major generating technologies against this standard."[17]

- *Proposed Technology and Regional Aggregation Assumptions Are at Odds with Geographic- and Project-Specific Values*

  Notably, all stakeholder groups (CAISO, utilities, ratepayer advocates, industry organizations, and developers) contest the Staff's "proposed technology and regional groups [which] include a broad range of projects with varied performance due to differences in technologies and micro-climates."[18] CAISO finds that the Staff proposal "offers little discussion about what trade-offs there are in using this assumption" and whether it will "allow for an accurate, long-term assessment of the value/benefit of the resource."[19] The

[15] Sierra Club/Vote Solar Opening Comments, at p. 2.
[16] CalWEA Opening Comments, at pp. 3-4.
[17] CalWEA Opening Comments, at p. 4; emphasis original. Although the Staff Proposal for the ELCC/QC methodology for wind and solar resources claims that "fossil resources are also subject to a derating from the CAISO, reducing their qualifying capacity to their 'dependable' capacity," this claim was not substantiated beyond this conclusory statement or supported by any confirmation that this de-rating is to a degree that is approximately equal to the impact of Staff's proposed ELCC methodology on wind and solar resources. (Staff Proposal (ELCC/QC)), at p. 6).
[18] SCE Opening Comments, at p. 5.
[19] CAISO Opening Comments, at p. 7.

Office of Ratepayer Advocates (ORA) concludes that the "aggregation of technologies and weather regions" may "not properly incent the most ideal locations for renewables or encourage new technologies which increase efficiency."[20]

In this regard, SCE comments that "[a]pplying a single ELCC value for all projects in such a broad group without consideration of their individual performance will significantly reduce the incentive for developers to consider capacity value when designing projects,"[21] a view also expressed by LSA/SEIA.[22] Instead, the "ELCC/QC Staff proposal should include a process that enables the calculation of project specific ELCC values, which would provide proper market signals" and "incentives that maximize customer value during the development and procurement cycles."[23] It is SCE's position that "the differences in value that exist among various projects within each of the proposed categories should be captured within the RA counting framework."[24]

In fact, CalWEA states that this "'regional' approach may undervalue the capacity value of wind and solar resources on a system, statewide basis," noting that there can be "differences between the major wind resource areas in California in their calculated ELCCs" and "the state's solar resource is appreciably different depending on location."[25] While CalWEA, in contrast to SCE, shares Staff's determination that "it is not feasible at this point to calculate separate ELCC values for individual wind and solar projects," CalWEA does recommend that the Staff "add an additional statewide analysis to capture the full geographic diversity of wind and solar resources" and work toward developing "a simpler metric for the RA value of individual wind and solar resources that is calibrated to the ELCC results for the region in which a wind or solar project is located."[26]

According to LSA/SEIA's Opening Comments, as supported by detailed examples, "overly simplified categorization can miss critical project design differences within each class of technology that could affect QC."[27] From LSA/SEIA's perspective, "there is sufficient

[20] ORA Opening Comments, at p. 5.
[21] SCE Opening Comments, at p. 5.
[22] LSA/SEIA Opening Comments, at p. 5.
[23] SCE Opening Comments, at pp. 4, 18. See also, LSA/SEIA Opening Comments, at p. 6.
[24] SCE Opening Comments, at p. 6.
[25] CalWEA Opening Comments, at p. 5.
[26] Id., at pp. 6, 7.
[27] LSA/SEIA Opening Comments, at pp. 7-12.

potential variation in the ELCCs" from alternative technology, project designs, and geographic location, that any simplified "aggregation" by technology or region requires "further review."[28] In both cases (aggregation by technology and by region), LSA/SEIA asks for further workshops to evaluate both in further detail (i.e., technology, weather, site, reliability, and operational differences), including, in the case of geographic aggregation, "how the proposed methodology uses the data to capture the regional diversity."[29]

In the case of concentrating solar power (CSP) with storage, the Opening Comments of the Concentrating Solar Power Alliance (CSPA) demonstrate that this technology offers "unique attributes" that provide "high value solutions to achieving RA, RPS, and climate goals while minimizing cost impacts to ratepayers."[30] Yet, this value can only be realized "if the RA valuation accurately reflects CSP's capabilities relative to true grid needs."[31] From CSPA's perspective, however, the Staff's current approach – using a "single 'technology category' for solar thermal" and a "single modeling region" – fails to accurately assess ELCC and QC values for "this diverse technology grouping" and resources located "across a massive geography, with diverse weather characteristics that substantially modify solar projects' performance."[32] Instead, CSPA urges the Commission to adopt "separate categories for CSP with storage, CSP hybridized with other fuels, and for CSP without storage," along with a process for evaluating and setting QC for new "technology categories."[33] In fact, specific to ELCC for CSP with storage, CSPA believes that a "specialized modeling approach" is required, and LSA/SEIA suggests that such "analysis" can be "deferred until the 2016 RA compliance year."[34]

These Comments make clear that much work is left to be done to ensure that an adopted ELCC/QC methodology for wind and solar generation properly values these *preferred resource* in the RA counting framework. This work requires revisions and increased access to, and transparency of, data and results to provide this Commission and all stakeholders with

[28] LSA/SEIA Opening Comments, at pp. 12-13.
[29] Id., at pp. 12-14; see also, pp. 19-20.
[30] Concentrating Solar Power Alliance (CSPA) Opening Comments, at p. 1.
[31] CSPA Opening Comments, at p. 1.
[32] Id., at pp. 2-7.
[33] Id., at pp. 2-4, 8.
[34] CSPA Opening Comments, at pp. 4-5; LSA/SEIA Opening Comments, at p. 11.

"confidence in the merits of the staff's proposal,"[35] which will, in turn, provide the right incentives and price signals for the preservation and development of these preferred resources. Given the widespread concerns expressed regarding the current Staff Proposal, final adoption of the methodology by the Commission should not be undertaken until these concerns are addressed and appropriate revisions are made.

C. Staff Proposal for EFC/QC for Supply-Side Demand Response

As in the case of the Staff's ELCC/QC proposed methodology for wind and solar resources, a broad range of stakeholders also take exception to the complexity and lack of transparency of the EFC/QC model for supply-side demand response (DR) and question many of Staff's assumptions and definitions applied to DR for purposes of its proposed methodology.[36] In particular, many of the "criteria" and assumptions adopted by the Staff are not consistent with DR programs and goals today and certainly justify "skepticism" regarding the value of the proposed EFCC methodology to "preferred resource development in the State," which could prove "disruptive or damaging to the development of DR resources as supply-side resources."[37]

In this regard, the Staff proposal fails to recognize differences between generation resources and demand response, which could lead to de-rating the capacity value of DR and inappropriately limiting eligibility to only DR bid into the wholesale market or imposing inappropriate performance or delivery requirements.[38] On this latter point, the Opening Comments of both ORA and California Large Energy Consumers Association (CLECA) underscore that neither Commission programs nor directives today identify "which types of DR programs" would be covered or would even qualify by the Staff Proposal limited to "supply-

[35] CalWEA Opening Comments, at p. 2.
[36] EnerNOC, Inc. (EnerNOC) Opening Comments, at p. 2.
[37] EnerNOC Opening Comments, at pp. 2, 12-13.
[38] Id., at pp. 2-10.

side" DR.[39] ORA and CLECA both note that "current DR programs lack the necessary information technology and telemetry needed for directly bidding into the CAISO markets" and that the CAISO stakeholder process for considering metering and telemetry requirements for DR has not even been completed and "current requirements are indeed onerous." [40] Further, because DR "may not be available to bid into CAISO's markets until 2016 or 2017," ORA urges the Commission to avoid "a potential mismatch" with the implementation of an EFC/QC methodology that requires such participation by "carefully align[ing]" those schedules before adopting such changes to ensure that "ratepayers receive the benefit of the DR programs they fund."[41]

The disconnect between Staff DR assumptions and programs as they exist today also gives rise to questions regarding testing and verification requirements and the need to modify load impact protocols.[42] Both PG&E and CLECA identify the need for Staff to clarify how "test results" would be adjusted to reflect changes in weather, enrollment, or program design.[43] In fact, the Alliance for Retail Energy Markets (AReM) contends that "requiring application of the Load Impact Protocols or complex probabilistic modeling to set RA capacity for third-party DR resources creates barriers to entry."[44]

Clearly, the Commission has set a course to "enhance the role of demand response programs in meeting the state's long-term clean energy goals while maintaining system and local

[39] CLECA Opening Comments, at pp. 1-2; ORA Opening Comments, at p. 6. In the current circumstances, ORA also takes exception to Staff's proposal that "most of the current supply side DR resources" be considered "RA-ineligible" until Energy Division completes its reliability modeling study. Instead, the "presumption should be reversed," with resources presumed to be RA-eligible unless otherwise demonstrated by a completed study. (ORA Opening Comments, at p. 8.)
[40] ORA Opening Comments, at p. 6; CLECA Opening Comments, at p. 3.
[41] ORA Opening Comments, at p. 6.
[42] SCE Opening Comments, at pp. 10-11; PG&E Opening Comments, at pp. 6-7.
[43] PG&E Opening Comments, at pp. 6-7; CLECA Opening Comments, at p. 3.
[44] AReM Opening Comments, at p. 2.

reliability."[45] That goal is not achieved by imposing barriers on DR, but instead requires the Commission to "adopt approaches that *encourage* participation by DR resources and are *consistent with* the rules put in place by the CAISO."[46] Given the need to revise core assumptions of the Staff's proposed EFC/QC methodology for DR, CEERT urges the Commission to undertake further workshops to allow for its refinement consistent with the programs and rules that are applicable to, and in effect for, *demand response*, not other resource types, to ensure that this preferred resource *will* play a greater role in meeting this State's environmental and energy goals.

III.
CONCLUSION

The Comments of multiple parties reflect the need for further refinement and revision of the Staff's ELCC and EFC methodologies to ensure that the preferred resources each addresses are properly valued. Such an outcome is consistent with, and required by, the Commission's commitment to the Loading Order of preferred resources to meet all energy needs on an ongoing basis.

Respectfully submitted,

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[45] R.13-09-011, at p. 2.
[46] AReM Opening Comments, at p. 3.