

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Oversee the  
Resource Adequacy Program, Consider  
Program Refinements, and Establish Forward  
Resource Adequacy Procurement Obligations.

Rulemaking 19-11-009  
(Filed November 7, 2019)

**COMMENTS OF THE  
CALIFORNIA WIND ENERGY ASSOCIATION  
ON TRACK 3B.2 PROPOSALS ON RA PROGRAM STRUCTURE**

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*On behalf of the California Wind  
Energy Association*

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**I. INTRODUCTION AND SUMMARY**

The California Wind Energy Association (“CalWEA”) respectfully submits these comments in accordance with the Amended Track 3B and Track 4 Scoping Memo and Ruling issued December 11, 2020. Pursuant to the Ruling, CalWEA comments on parties’ proposals submitted on August 7, 2020, and potential revisions submitted on December 18, 2020, that address structural Resource Adequacy (“RA”) changes for a compliance year no earlier than 2023. CalWEA comments on the structural proposals of the Southern California Edison Company (“SCE”) and the California Community Choice Association (“CalCCA”) (“SCE-CalCCA”), the proposal of Pacific Gas & Electric Company (“PG&E”) and the proposal of Professor Frank Wolak that was put forward as a straw proposal by the Commission’s Energy Division (“Energy Division Straw Proposal”).

For reasons explained below, CalWEA supports substantial reform of the Commission’s RA Program and recommends that the Commission focus future workshops and party comments on further evaluating and developing SCE-CalCCA’s and PG&E’s proposals, including consideration of specific issues flagged by CalWEA and other parties. The Commission should eliminate the Energy Division Straw Proposal from further consideration due to its complexity and the excessive burdens that it would place on generators. If the Commission pursues fundamental reforms, it should strongly encourage the CAISO to reform, in parallel, its deliverability methodology so that, like these structural reform proposals, it too encompasses a far greater number of the hours of the year.

## **II. GENERAL COMMENTS ON REFORM PROPOSALS**

### **A. General Comments on the Need for Structural Reform and Considerations in Assessing Proposals**

At the outset, CalWEA endorses the argument that the Commission’s construct for ensuring system reliability requires fundamental change. The RA Program was designed in 2004 around a large majority of resources, such as natural gas and nuclear, whose availability and use were generally unlimited and unconstrained, under the reasonable assumption that having enough capacity to meet the annual and monthly peak-hour demand would ensure sufficient capacity to meet demand at all other times. Since then, California has adopted ambitious clean energy and climate goals to reduce greenhouse gas emissions that are principally centered around use-limited, carbon-free renewable resources (namely, solar and wind energy resources that cannot produce at their rated capacity during all, or even most, hours of a 24-hour day, let alone a 720-hour month or 8,760-hour year). The limitations and proliferation of these resources have led to the need for storage technologies, which themselves have significant energy losses and operational constraints; further, the operational decisions for these resources are subject to the discretion of load-serving entities (“LSEs”). Moreover, as SCE-CalCCA pointed out, even natural gas facilities increasingly face constraints such as noise restrictions and criteria pollutant limitations that cap total production.<sup>1</sup> The transition, which is already well underway, to resources that are fundamentally different in nature demands a commensurate transition in the Commission’s RA framework.

CalWEA emphasizes, however, that while wind and solar facilities are generally not available to meet load in all 24 hours of the day, it is also true that a mix of wind and solar resources, as well as baseload renewables (such as geothermal resources), will inherently be more reliable than over-dependence on one renewable resource, i.e., solar resources, as is the current trajectory under the Commission’s Integrated Resource Planning (“IRP”) efforts. A more-diverse resource mix can also dramatically reduce the need for storage resources, the need to produce additional energy to cover the storage losses, and the need to ensure that sufficient energy will be available for storage charging. Shifting to an RA program structure that places greater focus on meeting energy needs in all hours, rather than just one hour in each month – as all the structural-reform proposals do – should inherently recognize these resource-diversity

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<sup>1</sup> SCE-CalCCA December 18, 2020, Track 3 Proposal at p. 3.

benefits. In so doing, it should create incentives for LSEs to procure a more diverse resource mix that better matches resources to their loads and is thus capable of meeting reliability needs in all hours.

In exploring the feasibility of each structural proposal, CalWEA urges consideration of whether the RA obligation would be placed on the entities that provide energy services to energy consumers and are in the best position to meet the obligation efficiently – LSEs, rather than generators. CalWEA also believes that it is wise for the Commission to retain jurisdiction over reliability matters. Finally, it is important that the proposal not be excessively complex and difficult to implement to improve the chances that it can be successfully implemented sooner rather than later. Based on these considerations, CalWEA recommends that the Commission focus future workshops and party comments on SCE-CalCCA’s and PG&E’s proposals and eliminate Energy Division’s Straw Proposal from further consideration.

**B. Reforming the CAISO’s Deliverability Methodology Will Be Required Under Any Structural Reform Proposal that Broadens Emphasis Beyond a Monthly Peak Hour**

Currently, for a resource to count toward an LSE’s RA procurement obligations, the resource must meet the CAISO’s deliverability requirements that ensure that the resource will be able to deliver the resources’ expected output anywhere on the grid. This requirement would presumably be preserved under each of the structural reform proposals, as is suggested in SCE-CalCCA’s proposal.<sup>2</sup> However, it is important for the Commission to recognize that reform of the CAISO’s deliverability methodology would be an essential companion to any structural RA program reform that is focused on a much larger number of energy delivery hours, since the CAISO’s deliverability methodology is designed around extremely rare system operating conditions during the system peak (a condition that would occur for a few minutes every few years). While the CAISO’s current methodology is problematic for several reasons, it would be particularly non-sensical to prevent use-limited resources from obtaining deliverability status based on an exceedingly small number of congested hours while substantially increasing the number of hours relevant to the new RA paradigm. In addition, it would be important to take into account the location of storage resources.

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<sup>2</sup> SCE-CalCCA’s Dec. 18, 2020, proposal at pp. 10-11. Under SCE-CalCCA’s proposal, wind and solar would need deliverability status in order to reduce an LSE’s net peak load.

### III. COMMENTS ON SPECIFIC PROPOSALS

#### A. Energy Division Straw Proposal

**Description:** Energy Division’s straw proposal, entitled “Standardized Fixed-Price Forward Energy Requirement with Financial Hedging Component,” builds off the forward energy requirement proposal that was first presented by Stanford Economics Professor Frank Wolak. Professor Wolak described his proposal in a January 8, 2021, workshop. The proposal involves creating an 8,760-hour annual auction for an hourly standardized fixed-price forward contract (SFPFC), in which sufficient units of SFPFC would be procured from generators to meet forecasted load on a multi-year forward basis. The cost of the SFPFCs would be allocated to LSEs based on their actual share of system demand during each month.

**Comment:** We will leave it to other parties to describe the complexity of this proposed approach and concerns over whether it would result in a reliable system, and simply note that a knowledgeable LSE representative described the concept of an hourly energy construct, while conceptually attractive, as “[making] our heads explode.”<sup>3</sup>

From our perspective as an organization representing many relatively small generation owners, we have serious concerns over the notion of relying on generators to participate in this complex market, to cover any necessary replacement capacity or face penalties, and to engage in cross-technology hedging in secondary markets to reduce risks. Such a construct would be exceptionally onerous for wind energy generators, whose output cannot be specifically predicted in hourly blocks a few days ahead, let alone three years ahead. While the concept may be interesting in theory, this proposal would drive out many market participants, leaving only a handful of large LSEs and energy providers capable of handling the market complexity, and would penalize less-predictable wind energy generation. Moreover, by driving out market participants, the value of solar and, especially, wind resources could be overlooked, resulting in over-procurement of reliability resources.

For these reasons alone, we believe that this proposal does not merit further consideration, particularly since other proposals go a long way toward achieving the main goals of the RA reform initiative in more straightforward and practical ways. These other proposals

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<sup>3</sup> January 8, 2020, workshop recording at minute 1:48, statement of Eric Little, Principal Manager of Regulatory Affairs, CAISO and GHG Market Design, SCE.

also leave it to LSEs to develop balanced portfolios that match their loads, rather than taking away that responsibility and handing it to entities ill-equipped to address it.

## **B. PG&E Proposal**

**Description:** Under PG&E’s ‘slice-of-day’ concept, seasonal or other general periods would be created, each of which would be divided into several daily time periods, or “slices,” such as morning, midday, evening and night. Thus, assuming four seasons and four daily time periods, each LSE would need to demonstrate adequate resources for 16 RA slices each year. Generation resources would count to the extent that they have historically demonstrated production during each slice for each season. LSEs would also need to commit to operate their storage resources during a particular slice(s) and designate the slice(s) during which storage resources would be charged and discharged; storage resources would count negatively during charging periods.

PG&E indicates that either a top-down or bottom-up approach to establishing RA requirements for each LSE (for each slice) could be used.<sup>4</sup> While PG&E recommends a bottom-up approach, making (unspecified) adjustments to match total system RA requirements, PG&E notes that a top-down approach could be used, taking the system load shape and determining the system requirement in each slice, and allocating it among individual LSEs based on total load in each of the showing periods, either on a peak-load or total-energy-consumed basis for each slice. While not explicitly stated, this should be done on an LSE-specific basis. PG&E notes that this would require “any energy storage used in any slice-of-day to be paired with capacity in earlier periods that would produce the energy to be stored and would only be accommodated by a requirement for energy storage to pair with capacity that produces energy to count to meet RA obligations.” PG&E also notes that a planning reserve margin could be added for each slice-of-day to account for load uncertainty, supply uncertainty, operating reserves, and forced outages of resources.

Regarding resource capacity counting, PG&E proposes to use the relatively simple “exceedance” approach for each slice – a “methodology” that, unlike the ELCC approach, has not been vetted in academic literature and is a more subjective “rule-of-thumb” type of approach.

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<sup>4</sup> PG&E December 18, 2020, Proposal at pp. A-12 - A-13.

**Comment:** PG&E’s proposal would essentially preserve the current RA construct, but increase its granularity in a logical fashion, and would account for the special characteristics of storage. It would encourage LSEs to better match their loads with their supplies, at least for each time slice, and in so doing better reflect the RA value of the resources that LSEs procure. While not addressing 8,760 hours of the year, it would substantially improve the ability to ensure reliability in all hours and, because the granularity of the construct could be increased over time as needed, it should be durable. In preserving the current construct, PG&E’s relatively incremental proposal (compared to SCE-CalCCA’s and certainly Energy Division’s Straw Proposal) has the distinct advantage being easier to understand and quicker to implement.

Regarding resource capacity counting, because it may be less practical to develop ELCC values on such a granular basis, and because exceedance values would be tailored to each slice, it may be possible to develop greater consensus over what the exceedance values should be. It would be critical, however, to build resource vintaging into the process of determining exceedance values. Otherwise, when LSEs make long-term resource commitments, they may lose the associated RA value over their commitment period because other LSEs have purchased additional such resources, or similar resources, based on their average rather than their lower marginal value. Absent correction, this disconnect will skew procurement decisions away from actual system needs. Vintaging can easily be done by limiting exceedance-based qualifying capacity to the amount needed during the slice period. Resources would be counted based on their vintage, older vintages before new ones. Regarding top-down vs. bottom-up allocation of load, CalWEA recommends a top-down approach as discussed below in relation to the SCE-CalCCA proposal.

### **C. SCE-CalCCA Proposal**

**Description:** The SCE-CalCCA proposal creates net load energy, as well as capacity, requirements for all hours of an RA compliance month and focuses on the ability to serve the net peak load during that month, i.e., remaining load after chronologically netting production from wind and solar resources, which generally occurs later in the day when gross load is not at its peak but is still relatively high and solar production has dropped significantly as the sun sets. It is designed to ensure that each LSE meets its own customers’ reliability needs in all hours by matching its load to its procured supply. The net load forecasting process would be applied to

each LSE individually by creating an hourly load forecast for every hour of the compliance month, which would be reduced by anticipated wind and solar generation within the LSE's portfolio.

The SCE-CalCCA proposal envisions that LSEs will purchase RA peak capacity products only for their net peak load which, by definition, excludes wind and solar. However, wind and solar provide capacity-like value to the extent that their production coincides with net peak load hours, thus reducing net peak load, and avoids generating excess energy. The revised proposal suggests that the value of wind and solar in reducing net load could constitute an unbundled product.<sup>5</sup> Wind and solar also reduce the energy needed to meet the net energy load requirements during all other hours of the compliance month as well as providing the energy that storage resources need to help meet the net peak load capacity requirement.

The SCE-CalCCA proposal would be based on a bottom-up assessment of load. While noting that the current RA program is based on a top down approach, SCE-CalCCA argue that this was only possible because the loads and resources of all LSEs were similar, making the allocation of RA on a load-ratio-share basis an approximation that was once sufficiently accurate but no longer is because of the substantially different portfolios of proliferated LSEs.<sup>6</sup> However, adding up each LSE's load produces a non-coincident peak load that will likely be higher than the coincident net peak load of all LSEs. SCE-CalCCA note that its proposed construct will need to account for this over-estimation of net peak load to avoid over-procurement.<sup>7</sup>

**Comments:** This proposal has the major advantage of strongly encouraging LSEs to match their load with their supply, and in so doing inherently reflecting the true RA value of the resources that LSEs procure. This brings the same important benefits as using a marginal ELCC approach: providing an accurate assessment of the reliability benefit that each resource provides at the time it begins operations, thereby establishing correct market-price signals and avoiding constantly changing RA values that make it difficult, if not impossible, to meet RA targets. These and other benefits were articulated by SCE, CalCCA, CalWEA and other parties in the Track 2 proposal process last year.

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<sup>5</sup> SCE-CalCCA Revised Proposal at p. 11-12.

<sup>6</sup> SCE-CalCCA August 7, 2020, Proposal at p. 19 (or Revised Proposal at p. A-21).

<sup>7</sup> *Id.* at pp. 5-6 (Revised Proposal at pp. A-7 - A-8).



As noted above, the revised proposal suggests that the value of wind and solar in reducing net peak load could constitute an unbundled product and that this would result in efficiency gains by allowing LSEs to procure optimally.<sup>8</sup> CalWEA underscores this point. Further, we believe that “productizing” the value of wind and solar in reducing net peak load would be necessary to be properly valued. Otherwise, the value for this contribution to reducing the LCEs’ RA compliance obligations may not be fully credited in the marketplace. A separate (and tradable) “Net Peak Load Reduction” product would have its price competitively determined, alongside RA Capacity products that meet the Net Peak Load – similar to payments for firm and as-available capacity.

Regarding top-down vs. bottom-up assessment of load, CalWEA recommends that, in considering SCE-CalCCA’s proposal, the Commission and the parties explore whether employing a “top-down” approach would be more efficient. SCE-CalCCA note that, with the proliferation of LSEs, LSE portfolios are now significantly different, which, they argue, makes the use of a “top down” approach difficult because allocation on a load-ratio-share basis is no longer sufficiently accurate to ensure reliability.<sup>9</sup> CalWEA is concerned with a bottom-up approach because the CAISO must approach the system as a whole and because of the inefficiencies inherent in a bottom-up approach. Currently, the CAISO assigns RA responsibility to Local Regulatory Authorities based on the LSEs that those authorities have jurisdiction over. A top-down approach would simply use this same methodology, down to the level of specific CPUC-jurisdictional LSEs, to allocate responsibility for RA resources.

#### **IV. CONCLUSION**

CalWEA appreciates this opportunity to provide comments on these proposals. We understand that all proposals require substantial additional analysis and refinement, and we look forward to discussing these issues in further workshops.

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<sup>8</sup> Note 5 *supra*.

<sup>9</sup> Note 6 *supra*.

Respectfully submitted,

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***On behalf of the California Wind Energy  
Association***

January 15, 2021

## VERIFICATION

I, Nancy Rader, am the Executive Director of the California Wind Energy Association. I am authorized to make this Verification on its behalf. I declare under penalty of perjury that the statements in the foregoing copy of “Comments of the California Wind Energy Association on Track 3B.2 Proposals on RA Program Structure” are true of my own knowledge, except as to the matters which are therein stated on information and belief, and as to those matters, I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on January 15, 2021, at Berkeley, California.

/s/ Nancy Rader  
Nancy Rader  
Executive Director  
California Wind Energy Association