BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Electric Integrated Resource Planning and Related Procurement Processes.	Rulemaking 20-05-003

CALIFORNIA WIND ENERGY ASSOCIATION COMMENTS ON RULING SEEKING COMMENTS ON STAFF PAPER ON PROCUREMENT PROGRAM AND POTENTIAL NEAR-TERM ACTIONS TO ENCOURAGE ADDITIONAL PROCUREMENT

Nancy Rader
Executive Director
California Wind Energy Association
1700 Shattuck Ave., #17
Berkeley, CA 94709
Telephone: 510-845-5077 x1
E-mail: nrader@calwea.org

On behalf of the California Wind Energy Association

December 12, 2022

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Electric Integrated Resource Planning and Related Procurement Processes.	Rulemaking 20-05-003

CALIFORNIA WIND ENERGY ASSOCIATION COMMENTS ON RULING SEEKING COMMENTS ON STAFF PAPER ON PROCUREMENT PROGRAM AND POTENTIAL NEAR-TERM ACTIONS TO ENCOURAGE ADDITIONAL PROCUREMENT

I. INTRODUCTION AND SUMMARY

Pursuant to Administrative Law Judge ("ALJ") Julie Fitch's Ruling Seeking Comments on Staff Paper on Procurement Program and Potential Near-Term Actions to Encourage Additional Procurement ("Ruling") issued on September 8, 2022, as amended in the ALJ Ruling Seeking Comments on Electricity Resource Portfolios for 2023-2024 Transmission Planning Process issued on October 7, 2022, the California Wind Energy Association ("CalWEA") submits these opening comments, responding to the questions posed in the Ruling.

CalWEA strongly agrees with the premise of the Staff Paper that the Commission needs a procurement framework that ensures all load-serving entities ("LSEs") make economically efficient procurement decisions and procure all needed resources. Without a much firmer link between the Commission's system planning efforts and LSEs' individual plans and procurements, the Integrated Resource Planning ("IRP") process will not serve its intended purpose, which is to produce an overall portfolio of resources that best achieves multiple long-term objectives. Those objectives include delivering a portfolio of resources that maintains grid reliability, achieves California's decarbonization goals, and minimizes costs, while also reducing the risk of failing to achieve some or all those goals.

In summary, CalWEA recommends that the Commission proceed as follows:

- At the outset of the development of the Preferred System Plan ("PSP"), recognize and address: (1) the discontinuity between the sum of individually determined LSE plans

and procurements and a system optimal portfolio identified by the Commission, which represents market failure; and (2) the various risks (e.g., supply chain, operational, land-use) that may result from a resource portfolio that is highly dependent on a few resources and technologies.

- Develop and adopt, in this IRP cycle, a system-optimal 2035 PSP based on the 24-hour RA framework proposed by Southern California Edison Company ("SCE") in its individual IRP filing, with enhanced resource diversity to reduce identified risks. The resulting optimal resource mix would serve as the basis for a Clean Energy Standard to be applied to individual LSEs so that each delivers its respective share of the adopted portfolio. This approach will align long-term system needs with the resource adequacy ("RA") program and deliver the planned system optimal resource mix. In the alternative, the Commission should adopt a non-storage, evening-peak-delivery attribute requirement and an offshore wind procurement requirement.
- Accordingly, resource-specific procurement requirements, including those that require central procurement, or attribute-based requirements, should be included in the programmatic framework and not be postponed or handled on a separate track.
- Develop a cost-based, trans-LSE approach to procurement from the initial offshore wind projects, including both smaller-scale, early projects and the initial full-scale commercial projects.

II. RESPONSES TO QUESTIONS POSED IN THE RULING

1. Objectives

a. Do the stated objectives of the new procurement program in Attachment A appropriately capture the Commission's direction given in D.22-02-004? If not, provide additions and/or alternatives.

Generally, yes. As discussed in response to question 1.c, below, however, CalWEA believes that the discussion of objectives in Attachment A misses the mark in a few important respects. First, an important market failure that requires corrective action by the Commission is that individual LSEs are not likely to procure towards the system optimal portfolio identified by the Commission absent specific direction from the Commission. Second, more attention to the benefits of resource diversity is needed as part of the development of the PSP.

b. How should the program's objectives be prioritized?

CalWEA does not believe that resource-specific procurement requirements require an approach to procurement that is more order-by-order in nature than programmatic (Attachment A, p. 9). Rather, resource-specific procurement requirements, and particularly those requiring central procurement – i.e., offshore wind, determined as part of the overall system-optimal portfolio, should be allocated to each LSE so that the LSE can plan the rest of its portfolio accordingly. The sooner the Commission implements resource-specific procurement requirements, or an evening-peak generation delivery requirement, the greater the ability that LSEs will have to arrange the rest of their future portfolios and procure accordingly. Conversely, the longer the Commission waits to implement measures to achieve the procurement of the diverse resources in the adopted PSP, and a fair sharing of necessary resources more generally, the harder it will become to course-correct.

c. Do you agree with how the four factors motivating the need for a procurement program (reliability, environment, financial risk, and market power) are described in the Appendix and Section 7 of Attachment A? If not, provide alternative viewpoints with supporting rationale.

CalWEA agrees that the four issues described in Attachment A require regulatory correction that should be addressed by the new long-term procurement program. However, the Commission must also recognize an additional, fifth, market failure, which is that the sum of the individual plans is likely to produce sub-optimal procurement for the system overall. The Commission should also fully consider the risk-reduction benefits of a greater level of resource diversity than is produced by modeling that does not consider these benefits.

c.1 IRP regulation should address the discordance between the sum of individual LSE procurements and the optimal, least-cost system plan

In addition to the "externalities" relating to reliability, the environment, and financial risk identified in the staff paper, as well as the potential for market power, there is an additional externality that stems from the difference between the system-optimal, overall long-term portfolio generated by Commission, and procurement by individual LSEs in consideration of their individual needs and goals. Specifically, the difference in cost between the resources in the system-optimized, least-cost portfolio and the sum of the resources procured by individual LSEs to satisfy their own reliability and greenhouse gas ("GHG") goals at the least direct cost to the LSE represents a market failure that requires regulatory action.

To wit, according to a Commission report,[1] of the 6,000 MW of renewables currently in development contracted by CCAs and ESPs for delivery on or before 2025, 91 percent are solar PV facilities, with nine percent comprised of wind, geothermal, bioenergy and small hydro, even though wind energy alone accounts for 24 percent of incremental 2025 resources in the Commission's adopted PSP.[2] This lack of procurement towards the optimal system resource plan creates a downward-spiral condition for wind (and other resources) because the PSP reflects resource potential based in part on queue positions as a market indicator, but wind developers are not pursuing many potential resources as a result of limited demand for wind from LSEs. That limited demand will, in turn, depress the market indicators that help drive the next planned portfolio. This situation requires a planning requirement either for specific resources or resource attributes, as discussed in response to Question 4 below.

Similarly, according to one party's review of the recently filed individual IRPs, most LSE plans hedge their commitment to offshore wind resources and some include less than their pro rata share of offshore wind relative to the amount in the 2022 PSP, pledging only to monitor the progression of offshore wind in California.[3] Such weak and halting commitments will be fatal to the achievement of California's goals to develop offshore wind, which requires sending clear signals to the offshore wind industry that they will find a market for their energy and capacity, as well as to others that must make investments to support the development of offshore wind resources, including ports, workforce, and supply chain (e.g., manufacturing of floating foundation components, anchoring systems and potentially other components such as blades, nacelles, substations, and cables).

As the above indicators suggest, the system-optimized portfolio is likely to be more resource-diverse than the procurements of individual LSEs, which are based on a resource's direct costs to the LSE and the resource's ability to meet the individual LSE's reliability, Renewables Portfolio Standard ("RPS") and GHG obligations. Individual LSEs do not fully consider a resource's future system reliability and system integration values – e.g., the declining future reliability value of the growing overall volume of battery storage and solar resources and the increasing need for generation

[1] CPUC, 2022 California Renewables Portfolio Standard Annual Report (Nov. 2022) at p. 8

[2] CPUC D.22-02-004 at Table 2 ("New Resource Buildout of 38 MMT Core").

[3] Comments of the Green Power Institute on the 2022 Individual LSE Integrated Resource Plans (December 2, 2022) at p. 16.

deliveries in the evening net-peak period. Thus, the Commission must correct this market failure and coordinate individual procurements to achieve the optimal overall outcome.

c.2 IRP planning should consider the risk-reduction benefits of greater resource diversity

The risk-reduction benefits of resource diversity *per se* have not been fully considered in the development of the Commission's previous resource plans, although diversity was a consideration in the Mid-Term Reliability ("MTR") decision that mandated procurement of long-duration storage and geothermal resources.[4] Therefore, past planning has generally represented the *minimum* amount of resource diversity that may be warranted. The Commission should seek parties' comments in the current IRP cycle regarding the need for greater resource diversity for the purpose of addressing myriad risks, which include:

- Supply chain, price, and operational risks that will be present with a grid that is heavily reliant on solar and batteries, as California is already experiencing.[5] To CalWEA's knowledge, however, no California state agency has yet carefully considered these risks, and the degree to which they would be ameliorated by a more-diverse portfolio.
- Risks related to limitations on, and conflicts over, land availability in solar-heavy portfolios have been noted by analysts,[6] but also have not been quantified or otherwise considered in the Commission's or SB 100 joint agency planning processes.
- Risks related to the potential reliability impacts of wildfire smoke on a solar-dominated portfolio. According to one study, wildfire smoke could lead to a potential 35-40 GW drop in solar production, with effects that could extend over a week.[7]
- More-diverse portfolios reduce the overall need for capacity, as has been shown by many

[4] D.21-06-035 at p. 25 and Finding of Fact 13. In its March 26, 2021, comments on the proposed MTR decision, CalWEA explained at pp. 5-6 that the geothermal resource requirement was not properly based on any modeling or on stakeholder discussion of the need for resource diversity.

[5] As one example, Southern California Edison noted, in its September 26, 2022, IRP filing, that "the pricing of lithium carbonate has increased dramatically, approximately 450% since 2021." SCE cited "https://tradingeconomics.com/commodity/lithium, approximately 90,000 CNY/T on June 24, 2021 and approximately 500,000 CNY/T on September 16, 2022."

[6] See, e.g., GridLab, Telos Energy and Energy Innovation's "Reliably Reaching California's Clean Electricity Targets: Stress Testing Accelerated 2030 Clean Portfolios" (2022). Available at: https://gridlab.org/wp-content/uploads/2022/05/GridLab_California-2030-Study-Technical-Report-5-9-22-Update1.pdf.

[7] See Goldman School of Public Policy, UC Berkeley's "The Offshore Report: California," presented at an Energy Commission June 27, 2022 Workshop. Presentation available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=243710&DocumentContentId=77544.

previous studies[8] and by the resource mix produced by SCE under its proposed 24-hour RA framework, discussed further below.[9] This reduced capacity need is, in and of itself, a major benefit because it will reduce overall demand for land and sea space and the raw materials needed to achieve our SB 100 goals. In so doing, more diverse resource portfolios will increase the odds that California will meet its clean-energy goals.

As observers have pointed out, sufficient resource diversity is unlikely to occur without direct policy or market intervention.[10] CalWEA's proposals below address the need for such intervention.

d. Do you agree that a new procurement program is needed? If not, explain why.

Yes. The Commission must require all LSEs to share in the realization of the optimal resource mix as reflected in the adopted PSP if that plan (which ensures system reliability) and the state's longer-term SB 100 goals are to be realized. LSEs should be required to deliver their respective shares of a system-optimal portfolio – with enhanced resource diversity to reduce risks – that achieves the state's reliability and GHG goals at least cost. As the Commission's MTR decision indicated, small (and even larger) LSEs can undertake joint procurement or other purchase and/or sale configurations as necessary to meet their obligations.[11] The alternative is uncoordinated LSE plans and procurements that will, almost by definition, produce higher costs for CPUC-jurisdictional utility customers overall, and may fail to produce a sufficiently diverse resource portfolio. Moreover, unless needed resources are planned for *and procured*, they will not become available to fulfill the short-term contracting requirements of the RA program.

---

[8] As examples: (1) the UCB study referenced in note 7 *supra* found that 50 GW of offshore wind in 2045 would reduce solar and storage deployments by 121 GW (77 GW and 44 GW, respectively). As 10 GW of offshore wind was in the base case, the remaining capacity was replaced by 40 GW of offshore wind, and the overall capacity requirement was reduced by 61 GW (121 GW - 40 GW); and (2) the Energy Commission's 2018 *Deep Decarbonization* study showed that the resource diversity provided by out-of-state wind would reduce needed solar and storage by approximately 40 percent. See Mahone, Amber, Zachary Subin, Jenya Kahn-Lang, Douglas Allen, Vivian Li, Gerrit De Moor, Nancy Ryan, Snuller Price. 2018. *Deep Decarbonization in a High Renewables Future: Updated Results from the California PATHWAYS Model*. California Energy Commission. Publication Number: CEC-500-2018-012. (See Figure 16.)

[9] See response to Question 4.a. SCE showed, in its individual IRP filing, that a systemwide plan generated by a 24-hour RA framework produced a portfolio that includes substantially more offshore wind and requires substantially less solar and battery capacity than was included in a comparable 2021 PSP and was significantly less expensive as well.

[10] Note 6 *supra.*

[11] D.21-06-035 at p. 37.

e. Should the program be designed to drive resource attribute-focused procurement by all LSEs, or should it also be able to deliver some form of centralized, resource-specific procurement (*e.g.*, large-scale and/or long lead-time resources)? Explain your reasoning.

CalWEA proposes below that the long-term procurement program be designed to deliver the optimal portfolio adopted by the Commission. Thus, each LSE would be assigned its appropriate share of the overall portfolio on a resource-specific basis, while accounting for its long-term energy and capacity needs. In the alternative, the Commission should adopt a non-storage, evening-peak-delivery attribute requirement and an offshore wind procurement requirement. CalWEA also proposes a trans-LSE framework for the centralized procurement of offshore wind, discussed in response to Question 8, below.

2. The "fundamental program elements" and "additional design features" introduced in Section 4 of Attachment A build on concepts detailed in the November 2020 Staff Proposal for a Procurement Framework in IRP. Comment on their general suitability for discussing potential procurement program designs.

The approach that CalWEA advocates in response to question 4 incorporates all the fundamental program elements and several additional design features discussed in the Staff Paper. The approach enables the Commission's long-term reliability and GHG goals to be assessed and allocated using essentially the same framework, with a single compliance mechanism and a single enforcement mechanism. In part for that reason, but also because it avoids the need to calculate marginal or vintaged ELCC values or track GHGs, it is relatively straightforward compared to the other approaches discussed. It would certainly be more straightforward than the standardized fixed-price forward energy contract ("SFPFC") approach, for reasons explained in response to Question 7 below.

As our proposal seeks to achieve the least-cost portfolio identified by the Commission using a 24-hour RA framework, it would require each LSE to procure its full share of each resource type in the portfolio (although alternative approaches are presented below) approximately 5-7 years in advance, with increasing forward procurement showings required as the target year is approached. Obligations would be adjusted in the same way that short-term RA obligations will be adjusted as LSEs' loads change.

CalWEA's proposal identifies total resource requirements and does not require specifications concerning new or existing resources; LSEs can apply their existing portfolio against their required resources allocations, which should well serve LSEs that have developed balanced portfolios to date.

In the proposed solution, those LSEs that are over-reliant on any resource will need to adjust in the secondary market.

Given the unique circumstances surrounding offshore wind, CalWEA proposes that the Commission work with interested stakeholders to develop a cost-based, trans-LSE approach to procurement from offshore wind projects, including both small-scale, early projects and full-scale commercial projects, to achieve development of that resource consistent with the adopted portfolio and individual-LSE allocations of such (see response to Question 8, below). In addition, CalWEA urges the Commission to invite the parties to consider whether the optimal portfolio should be adjusted to reduce risks posed by heavy reliance on solar and battery storage. This could be achieved by applying a constraint on these resources in determining the least-cost system portfolio.

3. Comment on any content in the November 2020 Staff Proposal for a Procurement Framework in IRP that you think is particularly relevant to developing a programmatic approach to procurement now, especially if it was not included in Attachment A.

CalWEA very much encourages the Commission to develop and adopt, in this IRP cycle, a 2035 PSP based on SCE's proposed 24-hour RA framework, also considering the need for greater resource diversity. The Commission should then allocate to each LSE a share of the resulting resource mix for 2026 and 2030, including offshore wind. We caution against placing offshore wind or consideration of greater resource diversity on a separate track, as the rest of the portfolio must be planned in consideration of these important resource elements and because the state has considerable ports and transmission infrastructure planning to do to support the needed amount of offshore wind that must begin immediately. Some certainty around the amount of offshore wind that will be needed in the 2026-2035 timeframe will be the bedrock of that planning.

Such comprehensive planning will provide LSEs with enough time to plan for the clear resource needs that would be identified in this IRP cycle, which will avoid the need for additional "one-off" procurement requirements that this long-term planning and procurement discussion seeks to avoid. Conversely, waiting to implement measures to achieve the procurement of the diverse resources in the adopted PSP will create uncertainties and introduce undesirable complexities that will distract attention away from achieving the optimal portfolio and will risk achievement of important goals.

4. Comment on each of the fundamental program elements and features described in Section 5 of Attachment A on Designing for Reliability. Is the range of options for each design element or feature appropriate? Explain your rationale.

a. Need Determination

The Staff Paper only briefly mentions the 24-hour slice framework, which the Commission has already adopted for the RA program, as an option for determining long-term reliability needs. However, in its individual IRP filing, SCE proposed that the Commission use the 24-hour RA framework for IRP reliability planning.[12] CalWEA supports this 24-hour framework for determining long-term reliability needs *and* for developing an optimal resource mix that satisfies both system reliability and clean energy needs. The optimal mix would serve as the basis for a Clean Energy Standard ("CES") to be applied to LSEs, as discussed in response to Question 5.

CalWEA agrees with SCE that its more sophisticated 24-hour approach does a better job of identifying hourly reliability needs, particularly for the growing challenge of the late-evening period, than does the Commission's current modeling practices,[13] which was not developed for that purpose and may not be readily adaptable to the 24-hour RA framework. The 24-hour framework applies a reserve-margin constraint across all 24 hours of the highest load day of the year, rather than a single hour. CalWEA agrees that the 24-hour framework will better ensure that long-term reliability needs are timely identified, better align the IRP process with the RA program, and identify the most economic mix of resources.[14]

Further, SCE's proposed 24-hour RA framework produces a somewhat more resource-diverse portfolio, on an energy basis, than does the comparable resource portfolio identified by the Commission in the updated 2021 portfolio provided to the LSEs for development of their own plans.[15] SCE's approach produces an optimal portfolio with ~15,100 MW less incremental capacity

[12] 2022 Integrated Resource Plan of Southern California Edison Company ("SCE Individual IRP" or "SCE IIRP") (Nov. 1, 2022) at pp. 3-4.

[13] The Commission's modeling approaches for the current cycle focus on a single-point reserve margin and rely on precalculated annual ELCC values for determining resource' reliability contributions. See SCE's IIRP at p. 12.

[14] SCE IIRP at p. 14.

[15] SCE IIRP at Table III-7. CalWEA notes that, on a capacity basis, the 24-hour RA framework and the Commission's modeling approach produce portfolios that rely on nearly the same share of solar and battery storage (~71 percent). On an energy basis, however, CalWEA calculated that the portfolio produced under the 24-hour framework will be less reliant on solar energy (and the storage resources required to store it), assuming the capacity factors in the CPUC's September 22, 2022, Inputs and Assumptions presentation (slide 126).

overall in 2035 – a 27 percent reduction in incremental capacity that saves $1.7 billion annually – than the Commission's comparable portfolio.[16,17]

Finally, the Commission should also invite the parties to consider whether to adjust the optimal portfolio to reduce a variety of risks not captured in the modeling exercise, discussed in response to question 1 (response c.2) above. While the 24-hour approach should better value generation resources that can deliver during the time periods with the highest capacity needs (i.e., in the evening net-peak period), the Commission should consider whether further diversifying the portfolio away from heavy reliance on solar and batteries is warranted.

b. Need Allocation

In advocating the 24-hour RA framework for determining IRP reliability needs, SCE argues that it provides "a clearer link" between planning and procurement. SCE nevertheless proposes a flexible, all-source, technology agnostic approach to procurement by LSEs[18] even as it proposes a portfolio for itself that largely conforms to the system optimal portfolio generated under the 24-hour approach.[19] CalWEA strongly disagrees in this laissez-faire approach to need allocation. While SCE strives, in its individual IRP, to match its share of the overall portfolio, other LSEs will likely take greater liberties, potentially resulting in a hodge-podge of resources that fail to add up to anywhere near the optimal resource portfolio, which was designed to ensure that we achieve our GHG and reliability goals at least cost.

In referring pejoratively to resource-specific requirements as "carve-outs," SCE ignores the fact that the 24-hour RA framework selects resources in the first place based on their ability to cost-effectively contribute to hourly reliability on a technology-agnostic basis. SCE also effectively dismisses the very benefits of the portfolio that the 24-hour framework produces, which it touted, as noted in 4.a above, and overlooks the market failures that occur. To achieve the optimal portfolio and obtain these benefits, the Commission must adopt that portfolio as its PSP and assign a need-based allocation of each resource in that portfolio to each LSE using the same 24-hour allocation

[16] SCE IIRP at p. 47 and Table III-7. The SCE portfolio includes substantially less solar, storage and onshore wind – both in-state and out-of-state, and substantially more offshore wind. The 27 percent figure was calculated by CalWEA.

[17] At p. 49, SCE attributes the selection of more offshore wind to its high energy contribution during the evening and late-night peak hours, which are not considered under a single-point PRM reliability construct, as well as its ability to reduce GHG emissions, as well as a lower OSW capacity limit in the assumptions underlying the Commission's portfolio.

[18] SCE IIRP at p. 5.

[19] SCE IIRP at pp. 17-18.

obligation on an hour-by-hour basis from the most recent RA cycle. We describe two possible allocation methods in an Appendix to these comments.

Under this approach, each LSE would be required to procure its full share of each resource type in the optimal portfolio approximately 5-7 years in advance (e.g., the 2023 PSP would require each LSE to procure its share of the 2026 and 2030 portfolios). LSEs would be required to show forward contracting for a certain portion of needs ahead of the target year, with the portion increasing to 100 percent one year prior to the delivery year. Obligations could be adjusted during each IRP cycle in the same way that short-term RA obligations will be adjusted as LSEs' loads change.

Under this approach, it would not be necessary to create specifications for new and existing resources. As SCE explained, the 24-hour slice framework accounts for hourly resource contributions to reliability whether for old or new resources, conventional or renewable.[20] Moreover, this approach to allocating resources is effectively causation-based, as required by AB 1584,[21] because it assesses each LSE's individual reliability requirements based on its hourly load shape, and the LSE is able to use the resources already in its portfolio to meet those requirements.

Alternative proposed approaches

If the Commission is willing to sacrifice optimal, least-cost overall procurement to enable greater LSE procurement flexibility, there are two suboptimal alternatives. The first would be to enable limited adjustments to the LSE's portfolio shares of the various resources. For example, in its proposed portfolio, SCE proposes to substitute long-duration storage for a portion of its share of battery storage to better match its load.[22] Similarly, it would be reasonable to allow baseload resources of one type to be substituted with another. However, the Commission should keep in mind that the goal is achievement of the optimal overall portfolio and establish guardrails to ensure that LSEs do not stray too far from their required resource mixes.

A second alternative would be to abandon resource-specific requirements for each LSE – except for offshore wind, which must have very clear offtake certainty to support major infrastructure requirements – and replace it instead with an evening peak delivery requirement that must be satisfied with renewable energy resources, not storage. Under this attribute approach, the amount of

[20] SCE IIRP at p. 13.

[21] 1584 (P.U. Code § 397) obliges the Commission to allocate integration resources based on causation. The Commission has previously stated that "every resource that requires procuring" is an integration resource. (See D.19-04-040, issued May 1, 2019, at p. 136.)

[22] SCE IIRP at p. 18.

evening peak deliveries in the portfolio produced by the 24-hour RA framework that are satisfied with various renewables (wind, geothermal, bioenergy, small hydro) should be translated into an evening peak delivery requirement. This would provide greater procurement flexibility to LSEs while guarding against a portfolio that is over-reliant on storage. It would accomplish that by creating a market for several generation resources that can deliver in the evening peak; such a market is badly needed to attract development capital to advance these types of projects.[23] To promote additional resource diversity, the evening peak requirement could be enlarged.

c. Compliance

CalWEA's proposed 24-hour RA framework would simultaneously serve both long-term goals of reliability and GHG reduction; therefore, only one compliance framework would be needed. We reserve further discussion for our reply comments.

d. Enforcement

CalWEA's proposed 24-hour RA framework would simultaneously serve both long-term goals of reliability and GHG reduction; therefore, only one enforcement framework would be needed. We reserve further discussion for our reply comments.

5. Comment on each of the fundamental program elements and features described in Section 6 of Attachment A on Designing for GHG-Reduction. Is the range of options for each design element appropriate? Explain your rationale.

a. Need Determination
&
b. Need Allocation

As described in question 4, above, CalWEA proposes that the 24-hour RA framework be used to develop an optimal resource mix that efficiently achieves both the Commission's long-term reliability and GHG-reduction requirements. After considering whether further resource diversity is needed, the Commission would adopt the optimal mix as its PSP, which would serve as the basis for a CES that would be applied to each LSE. Two allocation approaches are described in an appendix.

c. Compliance

As CalWEA's proposed 24-hour RA framework would simultaneously serve both long-term goals of reduction, only one compliance framework would be needed. We reserve further discussion for our reply comments.

[23] Developers must have confidence that, if they successfully invest in California's risky, time-consuming, and costly development process for resources reflected in the plan, they will find offtakers.

d. Enforcement.

As CalWEA's proposed 24-hour RA framework would simultaneously serve both long-term goals of reliability and GHG reduction, only one enforcement framework would be needed. We reserve further discussion for our reply comments.

6. Comment on the other program design considerations raised in Section 7 of Attachment A. Should they affect the design of the program and, if so, how?

a. Financial risk and risk of LSE market exit – CalWEA comments on the SFPFC approach in response to Question 7.

b. Risk of market power – CalWEA's proposed framework for applying long-term reliability and clean energy obligations on each LSE would reduce market power opportunities since LSEs would plan and procure resources identified in the optimal portfolio well in advance of need. Moreover, the greater market certainty provided for diverse resources under our plan would incentivize investment in the development of these resources, which would increase their availability in the market. CalWEA proposes a trans-LSE, open-book framework for the centralized procurement of offshore wind which will reduce, if not eliminate, the potential for exercise of market power for this resource.

c. Past and centralized procurement – See responses to 6.b, above, and Question 8, below.

7. Assess the straw options in Section 8 of Attachment A. Include in your comments an assessment of the options against the program's objectives listed in Section 3 of Attachment A.

CalWEA's proposal fully meets the objectives of the list of program objectives.

CalWEA believes that our proposal (described in response to Questions 4 and 5) using the 24-hour slice framework to simultaneously address long-term reliability and GHG goals, and establish resource-specific requirements for each LSE, best meets the objectives for the Reliable and Clean Power Procurement Program. It would:

- assure the most cost-effective and reliable achievement of SB 350 and SB 100 goals and would provide a predictable and stable long-term transition of the electric fleet,
- achieve economically efficient procurement overall, and particularly for offshore wind, where it is needed most,

- enable LSEs to anticipate and comply with their specific obligations,
- perfectly complement the IRP planning track and eliminate the need for one-off procurement orders, although the Commission would adjust plans in each IRP cycle as demand forecasts, extreme weather forecasts, and other conditions warrant,[24]
- perfectly complement the 24-hour-slice-based RA program and ensure that existing resources are retained (or replaced by competitive alternatives),
- complement the RPS program to meet GHG goals through 2030 and beyond,
- ensure achievement of demand-side procurement solutions to fill long-term needs, which would be built into the adopted portfolio as load reductions,
- co-optimize transmission planning with procurement, as transmission could be planned around the adopted portfolio with confidence,
- recognize retail choice and allocate requirements and costs fairly, and
- fulfill relevant objectives of the Environmental and Social Justice Action Plan by enabling the transmission and resources planning that is necessary to allow gas plants to retire (or at least operate at minimal levels) and to enable transportation-sector electrification.

Comments on SFPFC Framework Proposal

The Staff Options Paper discusses a potential alternative compliance metric, the standardized fixed-price forward energy contract ("SFPFC") approach presented, but not adopted, earlier in RA proceeding R.19-11-009. This SFPFC approach relies on a new, centrally administered forward market in which generators would bid to enter into fixed price energy supply contracts with LSEs.

As expressed when the SFPFC proposal was first introduced in R.19-11-009, CalWEA has significant reservations about employing such a complex and novel approach to reliability procurement.[25] Among other concerns, shifting compliance risk to generators (especially wind generators whose output cannot be reliably predicted) in a complicated forward market such as that presented, may make participation in that market by generators difficult at best.[26] CalWEA was not

[24] In its 24-hour IRP framework, SCE proposes a climate sensitivity analysis to better understand climate impacts on loads and supply resources. See note 12 *supra* at p. 36.

[25] R.19-11-009, Comments of the California Wind Energy Association on Track 3B.2 Proposals on RA Program Structure, January 15, 2021, at 4-5.

[26] *Id*. at 4.

alone in its concerns, as other parties raised these same and other issues, including jurisdictional questions and concerns about any transition from the current capacity-based reliability metric to the SFPFC.[27]

Although Commission staff sought to address some of the concerns raised after receiving parties' comments via an addendum to their initial proposal,[28] CalWEA's primary concerns, that of market complexity and negative impacts on potential suppliers, remain. It is not too far in the past for us to remember what happened the last time the California energy markets employed a mandatory, centralized energy market that looked good in concept. The Commission should be very wary of putting its reliability eggs into the SFPFC basket. At most, the Commission should consider implementing a limited trial of the SFPFC, as one of several potential compliance tools.

8. Do you recommend adopting any of the options as presented in Attachment A? Explain your reasoning and justify your recommendation, by including assessment of your preferred approach against the program's objectives listed in Section 3 of Attachment A. If you do not recommend any of the option in Attachment A, indicate whether you recommend: a) hybrid of elements described; b) A hybrid of some elements described and some not described; or c) An entirely different approach than the options described.

As discussed in response to Questions 4 and 5, above, CalWEA proposes a hybrid of the 24-hour slice and Clean Energy Standard approaches. CalWEA also proposes that the Commission adopt, as part of its 2023 PSP decision, a framework for the procurement of offshore wind, including early, small-scale projects, discussed next. Our proposal meets the objectives outlined by staff, as reviewed in response to Question 7.

Proposed Framework for OSW Procurement

As discussed above, the long lead-time, significant capital cost requirements, and regulatory and other uncertainties facing offshore wind developers requires offtake certainty and a novel approach to procurement. To trust that some 40-plus independent LSEs will be able to make commitments that, combined, will be adequate to facilitate offshore wind development, procurement, financing and construction is just not realistic. In addition, in the relatively near-term, offshore wind project development will be concentrated in just a few firms, as the federal government has issued

[27] See, e.g., R.19-11-009; Comments of the Independent Energy Producers Association on Revised Track 3B.2 Proposals, January 15, 2021, at 5-6; Southern California Edison Company's (U 338-E) Comments on Track 3B.2 Proposals, at 3-5.

[28] R.19-11-009, Addendum to Staff Draft Straw Proposal for Consideration in Track 3B.2 of Proceeding R.19-11-009.

leases to developers for just three Morro Bay sites, all of which may be needed to meet 2030-2035 goals.[29] This raises potential concerns that, with only limited suppliers, competition may not be sufficient to warrant traditional market-based procurement. At the same time, offshore wind developers require some degree of offtake certainty to support the major investments required for their projects.

Accordingly, CalWEA proposes that the Commission approve a framework for procuring offshore wind as part of its 2023 decision adopting the Proposed System Plan. The framework would provide for interested stakeholders to develop a cost-based, trans-LSE approach to procurement from offshore wind projects. In particular, the Commission should designate one or more of the three large investor-owned utilities to serve as a procurement entity. The designated utility(ies) would act on behalf of all CPUC-jurisdictional LSEs to procure the amount of offshore wind capacity identified in the 2023 PSP, and the costs and benefits of the offshore wind procurement would flow down to all LSEs on a proportional basis based on a predetermined allocation methodology.[30] The designated utility would form and chair a procurement committee comprised of representatives from other LSEs that would guide the utility in its decision-making relative to the identified offshore wind procurement.

Once established, the designated utility (under direction from the procurement committee) would solicit and evaluate proposals from offshore wind developers, considering the same range of factors as more traditional developments (such expected development timelines, permitting risks, strength of development team) as well as plans for cost containment. Based on an assessment of these factors, the committee would determine which project(s) should be developed first, and ultimately enter into a long-term contract for the development, construction and operation of each given offshore wind project. The contract would function much like a traditional long-term power purchase agreement, such as the ones used in the Commission's RPS program, with two principal differences.

First, pricing under the contract would be cost-based and developed over time through an open-book process. Because of the uncertainties and long-lead times associated with offshore wind project development, it is not practical to expect that project developers could lock in prices at the time of contract execution. There are many possible ways to design a cost-based and open-book

[29] Given the 10-year lead time generally required for major new transmission lines, as will be required for the two Humboldt Bay resource areas, developments in this area are unlikely to deliver before 2033 at the very earliest.

[30] CalWEA proposes such a methodology in the appendix.

procurement process. As there are many regular participants in utility rate case and procurement proceedings, there is no shortage of expertise in this respect. CalWEA envisions a standard, periodic budget review and approval process for each project, with the developer, designated utility and procurement committee participating. Budget expectations should be specified up front but should be flexible enough to account for "change orders" in the face of changing circumstances.

The second major difference between traditional third-party power procurement and the system needed for offshore wind flows from the first. While it is expected that costs for offshore wind projects may exceed those of more traditional renewables projects, the designated procurement entity should not be expected to write a blank check to the developers and allow offshore wind project output to be procured at any cost. Therefore, it should be expected that the designated utility will have predetermined contract termination rights, in the event that project development costs are excessive and potentially for other valid reasons (e.g., project development timelines become too extended).

Contract termination rights pose a particular challenge to project developers and financing providers, however, as the uncertainty created thereby usually precludes the long-term commitments needed to fund needed project investment. Accordingly, a mechanism to appropriately compensate developers and their investors for the investments made in the project up to the point of potential contract termination will be necessary to induce their participation in project development efforts notwithstanding the contract termination rights. This breakage fee would be cost-based and, thus, would increase with time (as development proceeds) to provide appropriate incentives to the designated utility. In other words, as the project moves closer to completion, the breakage fee would increase, making contract termination a more difficult choice.

CalWEA appreciates that procuring offshore wind projects requires a major investment by many stakeholders, and it is essential that the procurement process work efficiently and equitably. The CADEMO project, discussed below, and other early offshore wind projects that could facilitate the development of the large-scale projects in many ways, could also be used to form and develop the procurement mechanism described here. While there will be important differences between demonstration and full-scale projects, the opportunity to test this procurement approach earlier, on a small-scale project, presents a valuable learning opportunity.

Finally, an additional critical task of the procurement committee would be to provide the Commission with its assessment, having closely reviewed the plans of offshore wind developers and related factors such as port and transmission development timelines, of realistic timelines and costs for offshore wind development. This information can be used to refine the inputs for future IRP

cycles, possibly leading to adjustments in the amounts of offshore wind included in the portfolios adopted for specific years. The committee could also inform the Commission, or other state agencies, of any barriers to offshore wind development over which they may have purview.

Early, Small-Scale OSW Projects

Proposed early, small-scale offshore wind projects should be included in the 2023 PSP, based on their planned in-service dates, and evaluated by the procurement committee described above. CalWEA has discussed, in previous comments,[31] how early deployments of floating offshore wind technology, such as those being contemplated by the Redwood Coast Energy Authority[32] and a proposed demonstration project in state waters – the CADEMO project,[33] can promote economic and workforce development benefits by initiating the scale-up necessary to support California fabrication of the floating platforms and development of other domestic content for commercial-scale facilities. The Commission should consider, along with the Energy Commission in its preparation of the offshore wind strategic plan required under AB 525, the role that such projects could play as part of a carefully planned scale-up of the local infrastructure that will be necessary to support the large-scale build-out of offshore wind that captures economic benefits for California. Such initial projects could help to secure and build port infrastructure, develop industrial and workforce experience with the assembly (and potentially manufacturing) of complex floating platforms, and secure vessels to deploy the turbines and foundations.

Redwood Coast's Individual IRP includes 40 MW of offshore wind by 2030. News accounts regarding the recent BOEM lease auction report that "developers are expected to start with a smaller community-scale project"[34] and quote Redwood Coast's executive director as stating that "RCEA hopes to work with" the two entities that successfully bid on a North Coast BOEM lease to develop

[31] See CalWEA's Comments on the Proposed System Plan at pp. 11-13 (Sept. 27, 2021).

[32] 2022 Integrated Resource Plan of Redwood Coast Energy Authority (Nov. 1, 2022) ("Redwood Coast IIRP").

[33] The California State Lands Commission is currently evaluating the CADEMO project. The project would demonstrate two different floating wind technologies by installing four 12-15 MW floating wind turbines in the area off Vandenberg Space Force Base. See https://www.slc.ca.gov/renewable-energy/offshore-wind-applications/. The CADEMO project has entered into an agreement with the Department of Defense, has completed Phase 1 studies in PG&E's interconnection queue, and recently entered into a Project Labor Agreement with California's labor unions to build and operate the state's first offshore wind project with a union workforce – see cademo.net/pla/ .

[34] Eureka Times-Standard, "Winning bids for North Coast offshore wind leases top $331 million," (Dec. 7, 2022). Available at: https://www.times-standard.com/2022/12/07/winning-bids-for-north-coast-offshore-wind-leases-top-331-million/.

150 MW of offshore wind energy.[35] RCEA's individual IRP states that it expects to be a principal purchaser of the power but other off-takers are needed, and lists organizing that joint procurement as one of the project's risks and challenges.[36] RCEA envisions that the proposed project would obtain energy-only rather than fully deliverable transmission service, owing to the weak grid on the North Coast.[37] Pending BOEM permitting timelines, building an initial energy-only project could enable the community-scale project to come on line ahead of the major transmission upgrades necessary to support gigawatt-scale developments, and support the scale-up of local workforce and economic development, port revitalization, and potential offshore wind manufacturing.[38]

CADEMO has a much shorter permitting timeline than the BOEM's federal process and plans to build full-scale turbines four or five years ahead of the BOEM projects. The project is engaged with the California Workforce Development Board in a High Road Training Partnership under a three-year grant to identify job opportunities and pathways, working together with supply chain industries, the Workforce Development Boards of Ventura, Santa Barbara, and San Luis Obispo, and California labor unions. Given the tight timelines to achieve 2030 goals for gigawatt-scale projects, this project could play a critical role in developing infrastructure and workforce capabilities. It could also provide evidence regarding environment and fisheries impacts of the BOEM projects to inform and accelerate their permitting processes. Thus, this (and potentially the RCEA) pilot projects could provide a crucial initial step that will support the rapid scale-up that will be necessary for the first large-scale projects, especially if they are to include local content. California or U.S. manufacturing of floating foundation components, anchoring systems and potentially other components (blades, nacelles, substations, cables, etc.) would also require considerable time and planning to allow sufficient time for the local supply chain to mature.

9. Should the new program's compliance showings be combined with the current annual compliance reports required by the renewables portfolio standard program, filing of LSEs' individual IRPs, and/or other existing regular planning and procurement filings? Do you have any other suggestions to minimize the time and effort required of LSEs and staff?

CalWEA defers to other stakeholders on this question but may offer comments in reply.

---

[35] Utility Dive, "First West Coast offshore wind lease auction generates $757 million, lagging East Coast result" (Dec. 8, 2022). Available here.

[36] Redwood Coast IIRP at pp. 62-63.

[37] *Id.* at p.68.

[38] Redwood Coast states the realization of these benefits as goals of the project at p. 62.

10. Local reliability is raised briefly in Section 5.1.1 of Attachment A. Requirements are currently set for the near-term as part of the resource adequacy program. Are these sufficient, or should there be medium-to-long-term procurement requirements as well? If so, should they be part of the new program or should they be addressed on an order-by-order basis in parallel with the program? Explain your reasoning.

No comments at this time.

11. How would the approaches described in Section 5.1.1 of Attachment A need to be amended or expanded in order to minimize local air pollutants and other GHG emissions in disadvantaged communities associated with location-specific procurement?

Achieving a 25 MMT or 30 MMT portfolio by 2035 will necessarily substantially reduce gas emissions, and those reductions can occur in urban areas that are currently transmission-constrained if transmission is built to relieve those local constraints. A 24-hour planning approach can account for transmission availability and approximate the transmission upgrades that will be needed to achieve the portfolio, which will then inform the CAISO's transmission planning process. Achieving these GHG goals, including building transmission to relieve local constraints, will also enable electrification of the transportation sector, which is the most significant source of pollutants affecting DACs in many parts of California.

CalWEA looks forward to hearing from other stakeholders on this question and responding in reply comments.

12. D.22-02-004 ordered two storage projects be procured to mitigate the need for transmission upgrades and noted that the new procurement program may be able to address opportunities of this nature. Do you think that is appropriate? If so, explain why, and how the program design should consider this.

No comment at this time.

13. Comment on the need to develop interim approaches to manage the risk of the preferred program design taking longer to implement.

CalWEA does not believe that interim approaches are necessary or advisable. Please see CalWEA's response to question 3.

14. Assess the interim options discussion in Appendix 10.3 of Attachment A. Include in your comments an assessment of the options against the program's objectives listed in Section 3 of Attachment A.

Please see CalWEA's response to question 13.

15. **Do you recommend adopting either of the interim options in Appendix 10.3 of Attachment A? If not, what do you recommend? Explain your rationale.**

Please see CalWEA's response to question 13.

III. CONCLUSION

SB 350 requires the Commission to "identify a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner."[39] CalWEA encourages the Commission to embrace that requirement and adopt the policies recommended above that are necessary to achieve such a portfolio.

Respectfully submitted,

/s/ Nancy Rader

Nancy Rader
Executive Director
California Wind Energy Association
1700 Shattuck Ave., #17
Berkeley CA 94709
Telephone: (510) 845-5077 x1
Email: nrader@calwea.org

On behalf of the California Wind Energy Association

December 12, 2022

[39] Pub. Util. Code § 454.51.

APPENDIX

LSE Resource Portfolio Determination Consistent with Optimal System Resource Plan

As emphasized in the main body of CalWEA's filing, one of the major challenges facing resource procurement by LSEs is the fact that such resource procurement, if largely left to each LSE's discretion, can be expected to create a system resource portfolio that has little relationship to the optimal system resource plan. In this appendix, CalWEA presents the principles of two methods for allocating each LSE's share of total resources to be procured that not only meets the LSE's specific needs but also results in achievement of the optimal system resource portfolio. In determining the optimal system resource plan, existing resources are included in the development of the system resource portfolio, but each LSE's existing resources are not included in the development of the LSE-specific portfolios. Both approaches, however, call for LSEs to partially satisfy their specific resource obligations with their existing contracted resources, addressing any imbalances in the secondary market where the LSE has contracted too much capacity of a certain type.

Method 1 – Systematic LSE Resource Portfolio Determination

In this approach, every LSE will run a long-term expansion model consistent with the one run by the Commission in determining the PSP with the following very high-level objective function and set of constraints (depending on ease of finding the feasible solutions, these constraints could be hard or soft):

- High-level objective function: Minimize the total cost of resource procurement and operation
- High-level constraints:
    1. Meet energy requirement for the LSE
    2. Meet GHG target requirement for the LSE
    3. Meet the 24-hour capacity requirements for the LSE using the latest available 24-hour RA capacity requirements for that LSE
    4. Ensure that the ratio of (a) the LSE's total capacity (existing plus incremental) for each resource type to (b) the LSE's total capacity across all resource types matches the same ratio in the optimal system resource portfolio.

Once individual resource portfolios for all LSEs are calculated in this fashion, the Commission could adjust individual LSEs' resource portfolios as necessary to address potential systemwide over- or under-procurement resulting when the individual LSE portfolios are combined.

Method 2 – Approximate LSE Resource Portfolio Determination

In this approach, every LSE would use its latest hourly generic capacity requirement from the 24-hour RA framework and the hourly share of a resource type in the optimal system resource portfolio to determine its total (existing plus incremental) capacity requirement for each resource type for each hour. Obviously, since this process involves selecting resources to meet the capacity requirement for a particular hour, the resource choices should be constrained to resources capable of generating during that hour.

For example, if an LSE's capacity requirement for hour 14 is 800 MW (based on its load profile), and the system total capacity requirement for hour 14 is 20,000 MW and the total solar capacity (existing plus incremental) in the optimal system profile is 40,000 MW, the LSE could consider 1,600 MW (800/20,000 * 40,000) of solar generation to cover its capacity requirement for hour 14. While this is a simple process, it could require several iterations as the LSE solves for all 24 hours for all months of the year.

Once individual resource portfolios for all LSEs are calculated in this fashion, the Commission could adjust individual LSEs' resource portfolios, if necessary, to address any systemwide over- or under-procurements of various resource types that results from combining the individual LSE portfolios.

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 "California Wind Energy Association Comments on Ruling Seeking Comments on Staff Paper on Procurement Program and Potential Near-Term Actions to Encourage Additional Procurement" 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 December 12, 2022, at Berkeley, California.

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