

**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
REPLY COMMENTS ON MID-TERM RELIABILITY ANALYSIS AND
PROPOSED PROCUREMENT REQUIREMENTS**

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

Darius Shirmohammadi
Technical Director
California Wind Energy Association
1700 Shattuck Ave., #17
Berkeley, CA 94709
Telephone: (310) 858-1174
E-mail: dariush@gridbright.com

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

April 9, 2021

**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
REPLY COMMENTS ON MID-TERM RELIABILITY ANALYSIS AND
PROPOSED PROCUREMENT REQUIREMENTS**

I. INTRODUCTION AND SUMMARY

Pursuant to Administrative Law Judge (“ALJ”) Ruling Seeking Feedback on Mid-Term Reliability Analysis and Proposed Procurement Requirements issued on February 22, 2021 (“Ruling”), and the email ruling of ALJ Julie Fitch issued on March 12, 2021, granting a request to extend the opening and reply comment deadlines, the California Wind Energy Association (“CalWEA”) submits these comments in reply to parties’ March 26, 2021, opening comments on the Ruling.

CalWEA summarizes its reply comments as follows:

- Parties’ opening comments make clear that operational attributes are, indeed, a vital aspect of mid-term reliability needs, supporting CalWEA’s argument that the Commission must determine the system integration needs associated with its proposed system Resource Adequacy (“RA”) requirements and ensure that the needed integration services are procured.
- State law requires system integration needs to be allocated on a “causer pays” basis. CalWEA’s proposed allocation methodology, which assesses each load-service entity’s (“LSE”) overall portfolio, would obviate parties’ concerns surrounding the baseline cut-off date used to assess technology-specific requirements and would facilitate allocation adjustments needed due to load migration among LSEs.
- Most parties agree that the Ruling’s proposed requirement for 1 gigawatt (“GW”) of geothermal resources by 2025 was not properly supported and that it should be replaced with a requirement for needed operational characteristics. Therefore, rather than specifying the acquisition of geothermal resources, the Commission should require that LSEs procure renewable energy resources that deliver during the critical evening net-peak summer period, which dovetails with the structural RA reforms being contemplated in Track 3B.2 of R.19-11-009. The Commission can reasonably require an amount of

evening-peak renewable-resource deliveries based on the RSP adopted in D.20-03-028 which equates to an NQC-equivalent of approximately 540 MW.

- Consistent with parties' stated concerns, an evening-net-peak renewable energy requirement is necessary to advance the State's climate and clean energy goals, add resource diversity to the grid, and ensure battery charging capacity.
- Both existing and new renewable energy resources should be eligible to meet this requirement, given that existing, diverse renewable resources may be at risk in the market and new resources will be encouraged both by the Ruling's proposal that resources be contracted for a period of at least 10 years and by the requirement that 65 percent of Renewables Portfolio Standard procurement must be derived from contracts of 10 or more years.
- CalWEA is supportive of Pacific Gas & Electric Company's ("PG&E") suggestion that technology-specific procurement requirements be discussed and reviewed by stakeholders "through focused procurement mandates and proceedings outside of the IRP proceeding" based on the example of the 2010 Energy Storage Rulemaking and similar undertakings. Priority should be placed on resources that show considerable long-term promise for enabling cost-effective achievement of California's SB 100 goals and should commence in the near term to develop planning targets.
- CalWEA agrees with many parties that all LSEs, including new entrants, should be required to meet their own mid-term reliability obligations, with no exceptions for new market entrants and with a tradability option.
- CalWEA agrees with many parties that penalties, set at an appropriately high level, should be adopted to incentivize LSE performance, taking into account whether or not an LSE has demonstrated good faith efforts and whether contracts have failed or been delayed for reasons outside an LSE's control. In assessing non-compliance risks, the Commission and LSEs should consider the likelihood of transmission being available for resource delivery in the required timeframe.
- PG&E's assessment that most reliability procurement should occur in Southern California demonstrates the urgent need to upgrade Path 26 and prioritize transmission planning generally.

II. REPLY COMMENTS

A. **Parties Recognize the Need for System Integration Resources; the Commission Must Include These Specific Requirements in Its Procurement Directive**

In its opening comments, CalWEA argued (at p. 3) that the Commission must determine the system integration needs associated with its proposed system RA requirements, and specifically require LSEs to sign contracts that specifically deliver these services. Parties'

opening comments make clear that operational attributes are, indeed, a vital aspect of mid-term reliability needs. For example:

- The CAISO states (at p. 8), “Critically, [the required incremental] capacity should be effective after sunset” and (at p. 12). And “The CAISO encourages contracts, such as tolling agreements, that would ensure energy and capacity availability and provide more control over economic bidding. The CAISO also encourages including operational flexibility to ramp up and down quickly to meet grid needs.”
- The California Energy Storage Alliance (“CESA”) states (at p. 20) that its “modeling beyond 2030 has indicated that flexible, not baseload, capacity is needed. ... As a result of the penetration of [variable energy resources], resources capable of shifting generation and/or rapidly respond to supply variations will become instrumental.”
- The CPUC’s Public Advocates Office (“Cal Advocates”) (at p. 17) calls for additional analysis “to determin[e] whether more baseload renewable generation is necessary or if more dispatchable (load-following) resources are appropriate.”
- The Southern California Edison Co. (“SCE”) states (at footnote 31) that its loss-of-load-expectation (LOLE) study identified patterns that indicate unserved load typically occurs in [Hour-Ending (HE)]18 to HE20 during summer peaks.
- PG&E states (at p. 22) that “it may be appropriate for the Commission to order a portion of the procurement to be from resources that: (1) can contribute to meeting the needs during the net system peak, (2) can contribute to meeting the needs across all hours of the day, (3) are dispatchable, (4) have certain ramping rates to meet the needs of the system as solar output begins to quickly decrease prior to the net system peak, or (5) some combination of options (1) through (4).”
- The Independent Energy Producers Association (“IEP”) suggests (at p. 11) that “the Commission’s process for identifying long-term reliability needs should account for ... RA obligations (which) currently consist of system-level capacity, flexible capacity, and local capacity.”
- American Clean Power-California (“ACP-California”) states (at p. 8) that “the Commission should encourage LSEs to pursue portfolios with sufficient diversity, including resources with attributes that the IRP and SB 100 modeling has already determined will become increasingly important (e.g., the ability to provide energy during the late afternoon and evening, consistently).”

As specific operating characteristics – including ramping capability and the ability to move energy from periods of excess production to times of system need – are clearly needed, it is incumbent on the Commission to hone-in on the specific attributes that are needed, and the quantity needed, and to include these specific requirements as part of its mid-term procurement requirement. A requirement for system RA resources will not automatically deliver these

operational characteristics. For example, obtaining a commitment to regularly cycle batteries to meet system ramps will come at an increased cost due to increased wear and tear and round-trip energy losses, and therefore the Commission’s system-RA requirement must specify the portion of required procurements that must be accompanied by specific grid services. In opening comments, CalWEA explained (at p. 3) how these grid-service needs can be distinguished from generic system-RA needs and allocated to each LSE. CalWEA further elaborates on this proposed methodology in an Attachment to these comments.

B. Allocating System Integration Needs on a Causation Basis Addresses Party Concerns Regarding Resource Eligibility and Related Baselines

In its opening comments (at p. 9), CalWEA explained that state law requires integration resource requirements to be allocated among LSEs in a way that reflects each LSE’s contribution to the need for these resources. CalWEA proposed a simple allocation methodology that reflects each LSE’s load shape and supply resources (thus allocating a smaller share of the identified need to LSEs whose supplies and load profiles create less need for system integration resources). Cal Advocates similarly advocates (at p. 24) the “causer pays” principle and supports “basing procurement responsibility on each LSE’s ability to reliably meet its own load needs as the increased penetration of renewable and use-limited resources will impact changes in net load and storage charging needs.”¹

Adopting CalWEA’s proposed approach for allocating system integration requirements would automatically address the request of the California Community Choice Association (“CalCCA”) (at p. 12) that any new geothermal or long-duration storage (“LDS”) resources procured in response to D.19-11-016 count toward technology requirements to “avoid penalizing early actors and avoid discouraging early action in response to future procurement orders.” By assessing each LSE’s overall portfolio, CalWEA’s method would accomplish this objective without penalizing those LSEs that procured such resources apart from the requirements of that 2019 decision, as would CalCCA’s proposal. CalWEA’s approach would also thereby obviate

¹ CalWEA appreciates Cal Advocates’ proposal (at p. 27) to use a Common Resource Valuation Methodology framework to track the energy and ancillary service values embedded in IRP analysis to “help the IOUs procure the energy resources that provide the most value to ratepayers.” This proposal relates to CalWEA concern about the need to value integration needs and services but, as it would apply only to IOU procurements, including any backstop procurements which could be non-existent, it would not provide cost signals to all LSEs to ensure appropriate reliability procurements overall.

concerns surrounding the baseline cut-off date used to assess technology-specific requirements² and would facilitate allocating re-adjustments needed due to load migration among LSEs.³

CalWEA opposes The Utility Reform Network's ("TURN") notion (at p. 17) that the allocation methodology should take into account the fraction of newly developed resources in each LSE's portfolio. As stated by Silicon Valley Clean Energy Authority ("SVCE") and Central Coast Community Energy ("3CE") (at p. 9) long-term contracts with existing resources brings substantial benefits that should not be ignored. CalWEA has long explained that existing, diverse renewable resources may be at risk in the market.⁴ New resources will be required to address the overall insufficiency of resources, and new resources will be encouraged by the Ruling's proposal (at p. 29) that resources must be contracted for a period of at least 10 years and by the requirement that 65 percent of Renewables Portfolio Standard procurement must be derived from long-term contracts of 10 or more years.

C. Most Parties Agree that Directives Aimed at Operational Characteristics Should Replace Technology-Specific Directives

Reflecting CalWEA's opening comments (at pp. 5-6), most parties agree that the Ruling's proposed requirement for 1 GW of geothermal resources by 2025 was not properly supported.⁵ (Some parties argue that this may be true of the LDS requirement as well.⁶) Cal

² See, e.g., SVCE and 3CE's comments at p. 5.

³ Allocation of remaining system-RA capacity needs should similarly be done on a causer-pays basis, i.e., "contract position" rather than "peak share" basis.

⁴ See, e.g., CalWEA's Comments in R.16-02-007 on Proposed Reference System Portfolio and Related Policy Actions at p. 4 (Dec. 17, 2019).

⁵ For example:

- CalCCA states (at p. A-5) that "There is neither support in the record nor justification for any allotment for geothermal. The Reference System Portfolio did not select geothermal in any scenarios, and this ruling provides no modeling to support any departure from the RSP."
- The Independent Energy Producers Association ("IEP") states (at p. 5) that the Ruling "did not include any analysis" to support its technology-specific proposals.
- SCE stated (at p. 21-23) that "there was no analysis determining what specific attributes are needed, no sensitivities run, and no market test included in the Ruling." Further, SCE provides evidence that the geothermal requirement would displace wind energy (which was included as cost-effective in the RSP) and substantially increase 2030 annual portfolio costs.
- PG&E similarly states (at p. 21) that the Ruling's proposed geothermal requirement was not justified and that "restricting the procurement order to specific resource technology types instead of operating characteristics ... and least-cost best fit resources could unnecessarily result in increased costs to customers."

⁶ While the LDS requirement is supported by the most recent RSP, several parties argue either that the RSP got it wrong and LDS is not, in fact, needed in the 2026 timeframe (SCE at p. 23) or that "it is not

Advocates and CESA separately documented (at p. 17 and pp. 21-22, respectively) that PG&E's decision to retire Diablo Canyon was based on changed circumstances that "have combined to reduce the need for large, inflexible baseload power plants," reduced the need for baseload power from Diablo Canyon, and that "there is less room on the electric system for energy from inflexible and large baseload resources such as Diablo Canyon."

Most parties also agree that the Ruling's proposed requirement for 1 GW of geothermal resources should be replaced with a requirement for needed operational characteristics.⁷ Therefore, rather than specifying the acquisition of geothermal resources, the Commission should require that LSEs procure renewable energy resources that deliver during the critical evening net-peak summer period. (This would be in addition to specifying that some fraction of the overall NQC requirement include the procurement of ramping and load-shifting services.) As noted above, SCE identified HE18 to HE20 as the typical unserved load hours during summer peaks and CAISO identified "after sunset" hours as a critical requirement for incremental capacity. Focusing on these critical hours will dovetail with the structural RA reforms being contemplated in Track 3B.2 of R.19-11-009, where proposed reforms seek to ensure that LSEs assemble portfolios that meet energy needs during all times of day, particularly during the critical evening-net-peak periods.

The Commission can reasonably require an amount of evening-net-peak renewable-resource deliveries based on the RSP adopted in D.20-03-028, which includes 2.7 GW of wind along with over 6 GW of battery storage, 8 GW of utility-scale solar, and nearly 1 GW of long-

clear that a 100 MW / 800 MWh LDS unit is more cost-effective or provides more grid reliability benefit than an equivalent amount of 4-hour storage" (CalCCA at p. 11). To the extent that the Commission concurs, it could translate the LDS requirement to an operational requirement as well.

⁷ For example:

- CalCCA states (at p. A-5): "Rather than a technology-specific mandate, the Commission should couch all such requirements in performance characteristics."
- SCE encourages (at pp. 22-25) "the Commission to define any reliability need by attributes and characteristics (e.g., hours of availability, ramping capability, turn-down thresholds, supply duration, etc.), and not by specific resource types."
- PG&E (at p. 44) states that "the significant amount of procurement being proposed in this Ruling should be closely coordinated with the RA proceeding to ensure that ... resources with certain operating characteristics ... also satisfy the procurements required by the RA proceeding."
- IEP (at p. 2) states: "If modeling results indicate that some amount of new capacity must meet certain generation profile or dispatchability requirements, any carve-outs for new capacity should be attribute-based rather than technology-specific."

duration storage.^{8,9} The wind resources included in the RSP presumably cost-effectively reduced the amount of storage that would otherwise have been required by virtue of the fact that wind energy capacity generally operates during the critical evening net-peak period.¹⁰ The 2.7 GW of wind included in the RSP would support a Commission requirement for an NQC-equivalent of approximately 540 MW (assuming a conservative wind ELCC of 20%) of renewable resources capable of producing energy during the evening net-peak period.¹¹

While it would be reasonable to expand the technologies eligible to meet the evening-net-peak resource requirement to include any resource capable of producing during that period, such as geothermal and biomass, it would not be reasonable to exclude the most cost-effective such resource, i.e., wind energy.¹² While an LSE might choose to procure geothermal or biomass to fulfill its evening net-peak requirement at a higher cost, the IRP process found that wind energy fulfilled that need most cost-effectively. LSEs should be provided that same option rather than be limited to geothermal resources.

As SVCE and 3CE attest (at p. 4), geothermal resources can succeed against other resources based on their expected value despite being offered at significantly higher cost on a per megawatt-hour (“MWh”) basis. SVCE, 3CE and other LSEs support an attribute-based requirement over a technology-specific one because it provides them with procurement autonomy and flexibility in assessing specific resource technology types while delivering the operating characteristics that maintain system reliability. (See PG&E at p. 22, SCE at p. 25, and SVCE and 3CE at p. 10.)

⁸ D.20-03-028 at Table 5.

⁹ IEP’s suggestion (at p. 4) that the geothermal requirement could be replaced with a requirement for storage or generation capable of continuously generating/discharging at nameplate capacity for 8 hours per day should not be adopted as the proposal was not supported by analysis.

¹⁰ This relationship between wind and storage is also clearly demonstrated in Figure 16 of the Energy Commission’s 2018 Deep Decarbonization Report (available at https://www.ethree.com/wp-content/uploads/2018/06/Deep_Decarbonization_in_a_High_Renewables_Future_CEC-500-2018-012-1.pdf).

¹¹ Data presented by the CAISO (Figures 1 and 1A) demonstrates that wind energy resources perform during the critical evening net peak period. In opening comments (at footnote 6), CalWEA noted that wind energy performed at approximately its ELCC value during the August 2020 rolling blackouts. These data contradict SCE suggestion, at p. 14, that solar and wind performance “is negligible” during evening peak hours (although SCE goes on to focus only on solar’s lack of performance during the evening net peak and suggests, at p. 25, that stand-alone solar not be permitted to count toward the procurement target).

¹² SCE, at footnote 28, notes that its modeling suggests that a 1-GW geothermal requirement would come at the expense of 900 MW of lower-cost wind energy in the 2030 portfolio.

An evening-net-peak renewable resource requirement is also supported by the Union of Concerned Scientists (at p. 5), which points out that renewable energy procurement above what is proposed in the Ruling is required to reduce GHG emissions by mid-decade. Importantly, the California Energy Justice Alliance (“CEJA”) and Sierra Club highlight (at p. 8) the fact that “if all the LSEs procured only batteries, California would be left with a system by which batteries would be charged by fossil fuel facilities and the total GHGs and air pollution would worsen.” As stated by the Center for Energy Efficiency and Renewable Technologies (“CEERT”) (at p. 3), the Commission must use this opportunity – likely the last large-scale procurement for the next 5-7 years – “to advance the State’s climate and clean energy goals, add meaningful capacity and resource diversity to the grid, and eradicate [...] environmental injustices.” Also supporting a renewable energy requirement for the evening peak hours is San Diego Gas & Electric’s (“SDG&E”) point, at p. 11, that “it is unclear whether the system will be able to provide the charging energy for all of this new battery storage or whether the battery storage will have the state of charge to provide the needed capacity during the peak and net peak summer months.”

D. Technology-Specific Requirements Can Invite Market-Power Concerns

Even TURN, which supports the geothermal technology carve-out based on an outdated Preferred System Plan, warns (at p. 10) that the Commission “should be mindful that an iron-clad obligation to procure specific quantities of this resource could create potential seller market power and result in unreasonable prices relative to the actual cost of resource development” and thus recommends that the Commission assign procurement responsibility to one IOU or LSE on behalf of all customers with the costs and benefits allocated using the Cost Allocation Mechanism (CAM) and an off-ramp if market power concerns are realized. While this might be a preferable course of action were a single-technology mandate properly justified, it also underscores the benefits of a mandate based instead on needed operational characteristics which would avoid these procurement concerns by increasing the compliance options available to LSEs.

As stated by the Joint Solar Parties (at pp. 8-9), relying on technology-specific mandates increases the risk of not meeting the Commission’s goals to ensure system reliability. Several parties raise concerns about the practical ability to bring new geothermal and any necessary transmission infrastructure online by 2025.¹³

¹³ See, e.g., CEERT at p. 12 (“CEERT echoes party comments from the March 10th Workshop regarding ... the potential lack of transmission available to deliver these resources”) and SCE at p. 24 (“As a practical matter, it is questionable whether new geothermal generation, along with any transmission

E. Technology-Specific Requirements Warrant Special Consideration

CalWEA is supportive of PG&E’s suggestion (at p. 22) that technology-specific procurement requirements be discussed and reviewed by stakeholders “through focused procurement mandates and proceedings outside of the IRP proceeding” based on the example of the Commission’s Energy Storage Rulemaking pursuant to 2010 legislation and similar undertakings. SCE expresses support (at p. 44) for a similarly structured approach. However, while CalWEA believes that increasing resource diversity is important for its own sake, priority should be placed on those diverse resources that show clear long-term promise for enabling cost-effective achievement of California’s SB 100 goals and should commence soon given the need to develop near-term planning goals that consider resource technology risks, supply chain and workforce development needs, and siting challenges specific to each resource technology type.

F. All LSEs Should Be Required to Meet Their Own Obligations, with No Exceptions for New Market Entrants and with a Tradability Option

CalWEA joins other parties in the view that each LSE should be required to self-provide its share of new capacity to meet long-term reliability needs, with the IOUs serving only as a backstop for deficient LSEs.¹⁴ As SDG&E notes, this is appropriate as CCAs and ESPs “will serve the majority of customers in the future which necessitates their cooperation in long-term resource planning and associated procurement.” As Cal Advocates states, assurance of timely meeting the reliability targets will be provided by “the proposed continuance of biennial compliance filing requirements and triggering of annual LSE backstop procurement, along with a final true-up.”

CalWEA disagrees with CalCCA’s proposal (at p. 10) that any CCAs commencing operation after January 1, 2021, should be given a full or partial opt-out option, with the IOU or another third-party providing front-stop resources for the 2023 and 2024 compliance dates. New market entrants should have been aware of the substantial need for new resources in the 2026 timeframe, given the 18,000 MW of new nameplate capacity by 2026 that was included in the RSP adopted a year ago in D.20-03-028 after a months-long process. As the Ruling stated (at p. 14), its proposed Mid Need scenario closely approximates the amount identified in that RSP,

infrastructure necessary to bring the generation into the CAISO system, can be built by 2025”). Similarly, see CalCCA at p. A-5. The Joint Solar Parties (at p. 9) also underscore (at p. 10) the need for the required resources to have full capacity deliverability status.

¹⁴ See, e.g., Joint Solar Parties at p. 12, Cal Advocates at pp. 24-25, PG&E at p. 34 and SDG&E at pp. 17-18.

when added to the 3,300 MW of effective capacity required by D.19-11-016. Compliance by new entrants will be facilitated by CalCCA’s “tradability” proposal (at p. 17), which CalWEA supports, that would allow one CCA to combine with another LSE to meet compliance obligations without the need for any backstop. In addition, CCAs that are not yet operational and are not ready to fulfill their obligation may have the option of postponing their launch dates.

G. Penalties Should Be Adopted to Incentivize Performance

CalWEA joins several other parties in supporting the Ruling’s proposal that penalties be levied on LSEs that fail to procure sufficient resources to meet their obligations, in addition to reimbursing the costs of backstop procurement incurred on their behalf.¹⁵ As SCE explains, in determining whether penalties are warranted, the Commission should take into account whether or not an LSE has demonstrated good faith efforts, such as demonstrating that their PPAs include commercially reasonable terms and requirements that properly incentivize performance, and whether contracts have failed or been delayed for reasons outside an LSE’s control. In determining risks, LSEs and the Commission should, as suggested by CEERT (at p. 10), “ensure the transmission actually exists and is available for resource delivery when needed” “as opposed to using theoretical transmission availability from projects approved in the TPP up to 7-10 years ago.”

CalWEA agrees with IEP (at pp. 10-11) that the penalty rate must be set high enough to ensure that LSEs are substantially better off complying instead of relying on backstop procurement. Cal Advocates notes (at p. 31) that, if the Commission uses the cost of new entry figure for new batteries in the Avoided Cost Calculator (“ACC”) to determine the penalty rate, it should use values at the higher-end of the current ACC range of \$69-444/kW-year, or \$5.75-\$37.00/kW-month, since summer capacity prices are in the range of \$15.25.

H. The Commission Must Prioritize Transmission Planning

PG&E’s review of the congestion during the August 2020 heat wave and its zonal stack analysis shows that the planned once-through-cooling (“OTC”) thermal plant retirements create a zonal deficiency and system resource need in Southern California that require resources to be physically located south of Path 26.¹⁶ The possible need to procure most, if not all, of the

¹⁵ See, e.g., IEP at p. 10, Cal Advocates at p. 31, PG&E at p. 41, SCE at pp. 41-42 and SDG&E at p. 23.

¹⁶ See PG&E at p. 2 and Section II(A). PG&E states (at p. 6) that there are generally sufficient resources physically located north of Path 26 to meet a 20.7% PRM even after the retirement of the Diablo Canyon Power Plant.

identified need in Southern California will constrain resource options and lead to higher procurement costs and a greater risk of failing to meet the need. This situation points to the urgent need to plan transmission upgrades to relieve congestion on Path 26, as CalWEA advocated for the present Transmission Planning Process (“TPP”) cycle.¹⁷ Unfortunately, the portfolios that the Commission provided to the CAISO are unlikely to result in identifying Path 26 upgrades because, among other factors preemptively disfavoring transmission, the Commission did not identify any thermal generation retirements or locate such retirements in disadvantaged communities in the LA Basin, nor did it recognize the commercial interest in developing lower-cost resources in the Central Valley and potential offshore wind resources off Central Coast.¹⁸ Therefore, CalWEA strongly agrees with CEERT (at p. 10) that transmission interconnection and deliverability issues “are the keystone of this procurement and must be top priority for immediate analysis to ensure this effort is successful.”

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

April 9, 2021

¹⁷ See CalWEA’s Comments on Ruling Seeking Comments on Portfolios to Be Used in the 2021-22 Transmission Planning Process at pp. 2 and 7 (November 10, 2020).

¹⁸ See CalWEA’s Comments on Proposed Decision on Transferring Resource Portfolios for the 2021-22 Transmission Planning Process (January 27, 2021).

**Attachment:
Proposed Allocation of Integration Resources Requirement**

In its opening comments (at p. 10), CalWEA proposed a simple methodology to determine the total MW of needed integration resources and to allocate that need among LSEs on a causation basis. The principal behind the methodology is the understanding that all non-RPS resources (existing and new) identified in the adopted RSP, such as 4-hour batteries, are intended to either provide RA capacity or integration services, such as shifting the generation profile or helping to meet hour-by-hour load ramping needs. The process to allocate the total integration-resource requirement among LSEs, once distinguished from resources needed to provide total RA capacity need, was presented in our opening comments, and is further elaborated here:

Step 1) Using the RESOLVE model, determine the marginal impacts of each non-dispatchable resource type by forcing an additional block of each specific resource into the RSP and note the associated change in system integration capacity (e.g., additional storage capacity). This information can then be used to calculate the MW of integration-resource need for each additional MW of wind or solar resources.

Step 2) Develop a few representative profiles into which LSE loads can be classified (e.g., four profiles representing coastal and inland areas for northern and southern California). Using the RESOLVE model, determine the marginal impact of each load shape by adding a block of load for each load profile, noting the change in system integration capacity (e.g., additional storage capacity). Subtract the MW capacity associated with additional RA capacity for the added load to develop the system integration capacity need for the studied load profile. This information can then be used to calculate the MW of integration resources for each additional MW of load of each profile.

Step 3) Use the information in steps 1 and 2 to determine the total integration-resource needs of each LSE based on the total owned/contracted capacity of various non-dispatchable resources and load types (simple multiplication and addition); and

Step 4) Determine each LSE's incremental integration-resource requirement by subtracting all integration resources already owned or contracted by that LSE from its total integration-resource needs calculated in Step 3.

The allocation methodology noted above is simple to administer and can readily recalculate the integration resource needs of LSEs due to load and/or supply migration between LSEs. A critical element of the methodology is the ability to separate the need for the systemwide RA capacity from total non-RPS capacity identified by IRP (as determined from the

RESOLVE and SERVVM model runs). In our opening comments, we noted that this step would be rather simple because we have traditionally been able to calculate total system RA need and have been allocating that need based on the contribution of each LSE to the system peak load.

In the future, if the determination of each LSE's RA capacity requirement is changed from the simple formulae used today based on the structural reform methodologies being proposed in Track 3B.2 of the RA proceeding, the total system RA capacity requirement and the contribution of each LSE to that total system need will also be known. Hence, the total integration capacity requirement can still be calculated by subtracting the total system RA capacity requirement from total non-RPS resources capacity from the RSP.

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 Reply Comments on Mid-Term Reliability Analysis and Proposed Procurement Requirements” 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 April 9, 2021, at Berkeley, California.

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