**BEFORE THE PUBLIC UTILITIES COMMISSION**

**OF THE STATE OF CALIFORNIA**

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| Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements. | Rulemaking 16-02-007<br>(Filed February 11, 2016) |

# COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION ON PROPOSED DECISION ON ELECTRIC RESOURCE PORTFOLIOS TO INFORM INTEGRATED RESOURCE PLANS AND TRANSMISSION PLANNING


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


March 12, 2020

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# COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION ON PROPOSED DECISION ON ELECTRIC RESOURCE PORTFOLIOS TO INFORM INTEGRATED RESOURCE PLANS AND TRANSMISSION PLANNING

## I. INTRODUCTION AND SUMMARY

Pursuant to the February 21, 2020, Proposed Decision of Administrative Law Judge Julie Fitch on Electric Resource Portfolios to Inform Integrated Resource Plans and Transmission Planning ("Proposed Decision" or "PD"), the California Wind Energy Association ("CalWEA") submits these opening comments.

The Proposed Decision does not strongly position the state to achieve its SB 100 goals. It would adopt a Reference System Plan ("RSP") for 2030 that would retire virtually no natural-gas generation and is dangerously over-reliant on two technologies: solar photovoltaic ("PV") resources for nearly half of *total* generation capacity (including a projected 20 GW of highly uneconomic behind-the-meter solar), and a six-fold scale-up of battery storage.[1] While the PD would add 973 MW of long-duration storage and a total of 3,443 MW of wind energy capacity, it is nevertheless insufficiently diverse, does not assess the rate impact of behind-the-meter ("BTM") solar, and completely ignores additional wind resources – both offshore and out-of-state – that, with effective planning, should be available to California. Further, no steps are taken to foster the preservation of existing diverse resources which are assumed to continue operating. Finally, and very importantly, the Commission must take steps to empower the CAISO to properly evaluate and approve transmission solutions for achieving SB 100 goals.

[1] PD at Table 6 and Finding of Fact 16. (FOF 16: The RSP includes a "new resource buildout by 2030 of 2.8 GW of wind, 0.6 GW of out-of-state wind, 11 GW of utility-scale solar, 8.9 GW of battery storage, 0.9 GW of pumped (or other long-duration) storage, and 0.2 GW of shed demand response, with effectively all natural gas power plants retained.")

Given these shortcomings, CalWEA makes the following recommendations:

- **Evaluate all promising resource-diversity options, in conjunction with transmission options, before submitting a new RSP into the transmission planning process.** The Commission should commit, in the final decision, to evaluating, in the procurement track of this proceeding, resource and transmission options for retiring gas plants in the Los Angeles ("LA") and achieving greater resource diversity.
    - As part of this effort, consider the local-reliability transmission solutions that have been evaluated by the CAISO that, if paired with system and flexible resources, would enable gas-plant retirements in the LA Basin.
    - Among other promising resource options, consider the system reliability value of 6,000 MW of commercial offshore wind energy projects, beginning with at least 1,000 MW of offshore capacity online by 2027 and a subsea cable between central California and the LA Basin.
- **At the conclusion of the procurement track, provide CAISO with an actionable RSP that will lead to the transmission solutions it should pursue in order to enable gas-plant retirements.**
    - Strive to provide a revised RSP to the CAISO by September 2020 to enable the CAISO to consider and approve transmission solutions in the current transmission planning cycle.
    - Meanwhile, the Commission should amend the proposed decision to provide the CAISO with the clear guidance that it has requested with regard to gas generation: that, notwithstanding the inclusion of the gas plants in the RSP through 2030, the CAISO should plan for, as a public policy need, the retirement of gas plants in disadvantaged neighborhoods in the LA Basin Local Capacity Requirements ("LCR") area by 2030.
- **Evaluate BTM solar.** As part of these evaluations, BTM solar should be treated as a candidate resource, consistent with the proposed methodology for the SB 100 studies.
- **Revise the PD to allow load-serving entities ("LSEs") to address existing, at-risk diverse resources and other promising new diverse resources in their resource plans,** rather than being limited to the diverse resources included in the RSP.

Finally, we encourage the Commission to strive to more thoroughly summarize parties' thoughtful comments in future proposed decisions.

## II. THE COMMISSION SHOULD EVALUATE ALL PROMISING RESOURCE-DIVERSITY OPTIONS, IN CONJUNCTION WITH TRANSMISSION OPTIONS, BEFORE SUBMITTING A NEW RSP INTO THE TRANSMISSION PLANNING PROCESS

The proposed RSP would retire only 30 MW of thermal gas capacity by 2030. At the same time, the CAISO has made clear in its draft 2019-20 Transmission Plan (and in its previous plan) that it is holding back transmission projects that could relieve local congestion in the LA Basin and enable gas-plant retirements as a direct result of the lack of CPUC planning guidance on gas-plant retirements. Given the long lead-time required for transmission projects, this situation must be remedied immediately in order to put the electric sector on a path towards achieving SB 100 goals. To do that, the Commission should, in the final decision, commit to considering, in the procurement track, the transmission solutions that have been evaluated by the CAISO which, if paired with system and flexible resources, would enable gas-plant retirements in the LA Basin. Among other promising resource options, the Commission should consider the system reliability value of 6,000 MW of commercial offshore wind energy projects, beginning with at least 1,000 MW of offshore capacity online by 2027, and a subsea cable between central California and the Los Angeles ("LA") Basin.

### A. The CAISO Needs CPUC Guidance to Approve Transmission Projects that Would Close LA Basin Gas Plants

The CAISO's draft 2019-20 Transmission Plan states, "As no actionable direction has yet been set [in the IRP process] regarding the future of the existing gas-fired generation fleet beyond known retirements, the uncertainty necessitated taking a conservative approach in this planning cycle in assigning a value to upgrades potentially reducing local gas-fired generation capacity requirements."[2] The CAISO also raises the issue of the system and flexible capacity provided by the existing gas plants, which also requires Commission planning.[3] The CAISO reiterated this point in recent comments in the SB 100 joint agency process, stating "policy

[2] CAISO 2019-2020 Transmission Plan (January 31, 2020 Draft) at pp. 8-9. (Available at: http://www.caiso.com/Documents/Draft_2019-2020TransmissionPlan-January312020.pdf.)

[3] *Id* at p. 234. ("[I]t cannot be assumed that gas-fired generation no longer required for local capacity purposes will not continue to be needed for system or flexible capacity reasons," suggesting that further CPUC guidance is needed on this point also.)

makers need to decide when resources will be retired and/or new resources needed so that transmission solutions can be timely."[4]

The result of the "conservative approach" taken by the CAISO is that the CAISO was unable to identify as viable any projects that would substantially reduce gas-fired generation in the LA basin because it could not credit projects with the value they would provide to LCR areas.[5] In other words, because the existing gas plants are shown to be operating in the Commission's adopted resource plan, alternatives could not be credited with the benefits they would provide were those plants to be retired. This creates an untenable "Catch-22" situation in which no gas plants will ever be retired and no transmission replacements will ever be approved.

This is why the Commission must send to the CAISO for transmission planning purposes an actionable RSP that will lead to the transmission solutions it should pursue in order to enable gas-plant retirements. This will require the Commission to consider a broad array of resource and transmission options in the procurement track of this IRP cycle, which should culminate with an actionable RSP. Given the long lead-time associated with transmission development, the Commission should strive to provide a revised RSP to the CAISO by September 2020 that will enable the CAISO to approve transmission solutions in the current transmission planning cycle.[6]

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[4] Energy Commission Docket 19-SB-100, "Planning for reliability and resource adequacy under SB100 - California ISO Presentation." (February 25, 2020.) (Available at: https://www.energy.ca.gov/event/workshop/2020-02/senate-bill-100-modeling-inputs-and-assumptions-workshop.)

[5] *See* note 2 *supra* at p. 264. ("In the 2018-2019 and continuing on in the 2019-2020 transmission planning cycle, the ISO undertook a review of the existing local capacity areas to examine the local capacity needs in the ISO footprint and identify potential transmission upgrades that would economically lower gas-fired generation capacity requirements in local capacity areas or sub-areas. … These studies were conducted under the economic analysis framework, as there is currently not a basis for identifying solutions on a reliability basis or policy basis. If there are sufficient local resources to maintain reliability, reducing the use of those resources is not necessary to meet NERC or ISO planning standards. Further, there are no applicable federal or state policies at this time that necessitate planning for reduced local capacity levels beyond state policies for generation relying on coastal waters for once-through-cooling, and those needs have been addressed in previous transmission plans. … It was recognized that actual viable economic-driven opportunities may be unlikely, but that even if that was the case, examining and understanding the needs – and the load, generation and system characteristics driving those needs, could be valuable in future resource procurement processes outside of the ISO's transmission planning process."

[6] Given that the CAISO will already have established its base cases for TPP modeling, the Commission should discuss with the CAISO the types of changes in the RSP that can be accommodated in the current cycle.

Meanwhile, the Commission should also amend the proposed decision to provide the CAISO with the clear guidance that it has requested with regard to gas generation. Specifically, the Commission should state that, notwithstanding the inclusion of the gas plants in the RSP through 2030, the CAISO should plan for, as a public policy need, the retirement of gas plants in disadvantaged neighborhoods in the LA Basin LCR area by 2030. In later plans, the Commission should continue to establish timelines for further gas-plant retirements.

### B. The Commission Should Provide for Further Analysis of LCR Alternatives and Diverse-Resource Options in The Procurement Track

#### 1. The Commission should consider the LCR alternatives that have been studied by the CAISO

In its 2019-20 draft Transmission Plan, the CAISO explained that it has studied dozens of alternatives to eliminate or materially reduce local capacity requirements in the selected areas, exploring not only the most limiting conditions and issues, but often exploring the "next level" of limitation that would be binding once the most limiting conditions were addressed. The CAISO concluded that "[m]any of those alternatives are quite complex, relatively costly, and require further coordination with the CPUC's integrated resource planning framework and the longer-term needs for gas-fired generation for system purposes before recommendations could be seriously considered."[7] The Commission should take the opportunity presented by the procurement track of this proceeding to consider these alternatives, in conjunction with other public policy objectives embodied in SB 100 and the Renewables Portfolio Standard ("RPS") statutes, and potentially provide the CAISO with the guidance it needs to select one or more of these alternatives.

#### 2. The Commission should study additional diverse-resource options

CalWEA appreciates that the PD states the Commission's openness to evaluating other resources besides pumped storage and out-of-state wind in the procurement track of this proceeding, which will be ongoing.[8] The Commission should go one step further, however. It

[7] *Supra* note 5.

[8] PD at p. 48 and Conclusion of Law ("COL") 15. (p. 48: "While we are ready to endorse and support the need for development of pumped, or other long-duration, storage and out-of-state wind in this decision today, we remain interested in further exploring the development of geothermal and offshore wind resources, as both continue to hold promise for meeting resource diversity and capacity needs for the future.")

should commit, in its final decision adopting the RSP, to evaluate other resource diversity options and BTM solar in the procurement track of this proceeding and leave the door open to the results of this evaluation before committing to the diverse-resource options preliminarily identified in the RSP.

CalWEA appreciates that many methodological changes recommended by CalWEA were made in producing the RSP.[9] However, two huge problems remain: First, BTM solar is not treated as a candidate resource and, therefore, 20 GW of that uneconomic resource are included in the RSP. The added cost resulting from that unjustified assumption could pay, instead, for greater resource diversity, as CalWEA has demonstrated.[10] Second, while we appreciate that staff created a 2045 scenario to check the implications for the 2030 portfolio, that scenario almost completely ignored the major wind resources that can be made available to California with appropriate planning and leadership. Only 3,000 MW of out-of-state wind was made available to the model, despite vast out-of-state and offshore wind resource potential. As a result, the RSP would retire almost no gas generation and is over-reliant on solar photovoltaics and batteries.

Nevertheless, by adopting a relatively high 46 MMT GHG target and by using the 2017-18 RSP for transmission planning, the proposed RSP refrains from taking any concrete steps toward the limited and preliminary diversity resources identified. This is appropriate because other very promising resources have not been fully vetted or evaluated at all. What is needed, therefore, is for the Commission to commit, in its final decision adopting the RSP, to more-fully evaluate other resource diversity options and BTM solar in the procurement track, before directing the planning for, and procurement of, the diverse resources preliminarily identified by the still-incomplete 2045 analysis.

[9] These methodology changes include excluding the once-thru-cooling plants and the 3,300 MW required by D.19-11-016 from the resource baseline, and revising the import limit to apply only during hours of greatest reliability concern.

[10] CalWEA ran the RESOLVE model to show that moving from the "Mid BTM PV" case of 20 GW in 2030 (which is reflected in the proposed RSP) to the "Low BTM PV" case of 15.6 GW in 2030 (a 4.5-GW reduction) – would save about $278 million per year in installation costs, not accounting for cost shifts associated with Net Energy Metering. These savings could pay for 500 MW of offshore wind in 2026 with $95 million left over. *See*, in this docket, Comments of the California Wind Energy Association on Proposed Reference System Portfolio and Related Policy Actions (December 17, 2019) at pp. 5-6 and 21-22.

A commitment to specific diversity resources should not be made at this juncture because the need for those and other resources is likely to be affected by further consideration of offshore wind and LCR transmission solutions, among other diverse-resource options. For example, studies have demonstrated that more wind energy dramatically reduces the need for storage generally[11] and offshore wind enables gas plant retirements.[12]

### 3. The Commission should advance resource diversity in the near-term to reduce risks and gear-up for future development

Advancing, in the near-term, those resource-diversity options that can be obtained at a reasonable or no cost premium[13] to address the various risks associated with a portfolio that would otherwise be over-reliant on a narrow set of resources will build the momentum necessary to exceed the 46 MMT target in 2030 or sooner. Beginning to deploy those resources sooner rather than later will create the experience and capabilities needed to build the momentum for larger-scale deployment of these resources by 2030, which will position the state to accelerate its GHG targets.

In recent comments before the Joint Agency SB 100 process, the CAISO raised significant concerns about a portfolio dominated by solar and batteries, including charging during multiple-day periods of cloud coverage and dramatically increasing ramping requirements.[14] The CAISO stated, "It is critical for policy makers to act now to diversify the fleet based on energy and reliability needs, rather than wait for technologies to be cost effective" and recommended that intentional steps be taken to "unlock value." The CAISO recommended "limited testing of a variety of new(er) technologies rather than significant investment in a limited portfolio that reduces diversity," and noted that new technologies will need to be proven at scale before transitioning away from current technology.

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[11] *See* (at Figure 16): 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.

[12] The 2045 High Electrification sensitivity that was run by staff and included in the November 6, 2019, Commission Ruling on the 2019-2020 RSP showed that adding just under 7 GW of offshore wind and 3 GW of out-of-state wind would allow for the retirement of 5.2 GW of gas capacity, whereas adding 23 GW of out-of-state-wind-with-new-transmission would allow for the retirement of just 1 GW of gas capacity (compared to the base case retirement of 4.5 GW).

[13] Higher costs could be more than offset if these options replace BTM solar.

[14] *Supra* note 4.

The Commission should use the procurement track to determine which technologies merit such near-term investment. The PD notes that the levels of solar and battery development in the proposed RSP will be a challenge to achieve.[15] Resource diversification will help by spreading the challenges among different industrial goods sectors.

**4. A combination of offshore wind and offshore transmission offers substantial promise as an initial concrete step towards SB 100 goals**

Among the most promising resource diversity options is a combination of (1) a subsea cable that functionally relieves congested transmission capacity between northern and southern California and enables multiple LA Basin gas plants to close by 2027, which is one of the LCR projects that has been evaluated by the CAISO,[16] and (2) sustained development of commercial offshore wind energy projects, beginning with 1,000 MW of capacity online by 2027, which would provide substantial system resource adequacy capacity. Both of these technologies are supported by the general recommendations of the CAISO as put forward in its recent SB 100 comments.[17] Consideration of LCR solutions for the LA Basin paired with the resource diversity offered by offshore wind may be the best first step towards meeting the Commission's multiple long-term planning goals.

i. Offshore wind

As noted above, studies for California have already shown that developing offshore wind resources would substantially lower the cost of achieving SB 100 goals, enable gas-plant closures, and reduce the need for storage (and associated battery waste).[18] Beyond these hard benefits, the diversity benefit of adding offshore wind to the portfolio will reduce the "all of California's eggs in a few baskets" risks that both the Commission and the CAISO have flagged.[19]

To realize these benefits, development of at least 1,000 MW of offshore wind in one or more locations should be targeted for no later than 2027. This recommendation is consistent with the Ocean Protection Council's goal to develop a commercial offshore wind project by

[15] PD at p. 24.

[16] *Infra* note 24.

[17] *Supra* note 4.

[18] *Supra n*otes 10, 11and 12.

[19] Commission Ruling on the 2019-2020 RSP (November 6, 2019) at p. 22-23; and *supra* note 4.

2026.[20] We note that, on the East Coast, a recent offshore wind bid came in at $58/MWh over the life of the contract.[21] Given the dramatic recent cost declines observed in fixed-bottom installations in both Europe and U.S., we anticipate that floating offshore wind projects will have an LCOE below $50/MWh by the early 2030s.[22]

However, to fully anchor the floating offshore wind supply chain in the State of California, a larger pipeline will be necessary, such as a 6-GW pipeline, with 1,000 MW of capacity added by 2027 and on an annual basis thereafter. Only by achieving this critical mass will California trigger the certainty required to spark the significant investments in manufacturing facilities, port improvements, and related infrastructure needed to create a domestic floating offshore wind supply chain based in the State of California. A recent study[23] noted the necessity of a coordinated state-wide approach to maximize the in-state economic benefits of the floating offshore wind industry.

ii. Subsea cable

One of the projects evaluated by the CAISO that could provide LCR benefits and close LA Basin gas plants in disadvantaged areas is a high-voltage direct-current ("HVDC") subsea cable connecting this area to the Diablo Canyon substation, which would relieve congested Path 26.[24] Among the various benefits of this project is that the associated converter stations can replace, and even enhance, the high-quality reliability and flexibility benefits that are currently

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[20] California Ocean Protection Council, *Strategic Plan to Protect California's Coast and Ocean 2020-2025* at Objective 4.4 (p. 28) ("Work towards development of a commercial scale offshore wind project in California that minimizes impacts on marine biodiversity or habitat, currents and upwelling, fishing, cultural resources, navigation, aesthetic/visual, and military operations by 2026.") Adopted on February 28, 2020.

[21] *See* https://www.bloomberg.com/news/articles/2020-02-11/shell-edp-set-record-low-price-for-u-s-offshore-wind-power.

[22] An October 2019 analysis by the National Renewable Energy Laboratory (NREL) concluded that floating offshore wind installations off the Oregon coast could, by 2032, attain a levelized cost of energy (LCOE) in the $53 - $74/MWh range. (*See* NREL, Oregon Offshore Wind Site Feasibility and Cost Study, October 2019, https://www.nrel.gov/docs/fy20osti/74597.pdf.) The NREL analysis noted that these cost figures were also relevant to California offshore wind projects.

[23] UC Berkeley Labor Center, California Offshore Wind: Workforce Impacts and Grid Integration, September 2019, http://laborcenter.berkeley.edu/pdf/2019/CA-Offshore-Wind-Workforce-Impacts-and-Grid-Integration.pdf.

[24] This is the "Pacific Transmission Expansion Project" ("PTEP"), which the CAISO found could enable the closure of 1,993 MW of in-basin gas plants. *See* note 2 *supra* at section 4.8.2.

provided by the gas plants they would replace.[25] An additional benefit of this project is the mitigation of service interruptions in LA due to land-based wildfire risks. Finally, the project could provide delivery capability for the substantial system reliability value offered by offshore wind resources off of the Central Coast to the LA Basin load center. The combination of offshore wind and a subsea transmission solution enabling LA gas plant retirements thus has tremendous overall value that warrants the Commission's serious near-term consideration.

## III. THE COMMISSION MUST TAKE FURTHER STEPS TO PRESERVE EXISTING DIVERSITY LEVELS

The proposed RSP continues to make the error of assuming the continued operation of existing diverse resources -- including 2,752 MW of existing biomass and geothermal projects that are particularly at risk, as well as existing wind resources that do not have long-term contracts[26] -- while taking no steps to ensure this outcome. Two steps should be taken to address this problem.

### A. Allow LSEs To Address Existing and Other Promising Diverse Resources in Their Resource Plans

LSEs should be able to address other promising diverse resources in their IRPs, rather than being limited to those included in the RSP (out-of-state wind on new transmission lines and pumped storage).[27] For example, the Redwood Coast Energy Authority has taken the lead on coordinating the extensive planning and research process required for what could be California's first floating offshore wind project off of the Humboldt County coast.[28] Other community choice aggregators have chosen to contract with existing wind projects, enabling them to repower with

[25] *See* Comments of Western Grid Development, LLC, to the CAISO (Feb. 21, 2020). (Available at: http://www.caiso.com/Documents/WesternGridComments-2019-2020TransmissionPlanningProcess-Feb072020Meeting.pdf).

[26] *See*, in this docket, CalWEA's comments on Proposed Reference System Portfolio and Related Policy Actions (December 17, 2019) at p. 4.

[27] PD at 45: "while we are not ordering any new resource procurement with this decision, we do strongly encourage the LSEs to initiate procurement activities and planning activities within their individual IRP portfolios, to bring these resources [out-of-state wind and pumped storage] to market."

[28] *See* https://redwoodenergy.org/community-choice-energy/about-community-choice/power-sources/offshore-wind-energy/.

modern technology,[29] and biomass and geothermal projects in their local areas.[30] These efforts should be recognized for the important roles they play in maintaining and enhancing resource diversity.

### B. Allocate Integration-Resource Requirements or Costs to LSEs Based on Their Individual Contribution to the Need for These Resources

To secure the diversity from existing resources included in the proposed RSP, it is critical that the Commission allocate integration-resource requirements or costs to LSEs based on their individual contribution to the need for these resources. Absent these cost signals, procurement decisions will not take into account the indirect costs that are factored into the IRP analysis, and thus will not collectively produce results similar to the RSP. Integration costs include flexible-RA resources[31] as well as any integration resources that are identified and mandated in the IRP process.[32]

## IV. IN FUTURE PROPOSED DECISIONS, THE COMMISSION SHOULD STRIVE TO MORE THOROUGHLY SUMMARIZE PARTIES' THOUGHTFUL COMMENTS

CalWEA finds that the summaries of parties' comments in the PD does not adequately convey the positions of the parties,[33] let alone adequately convey any sense of the thoughtful proposals that were put forward in comments.[34] We encourage the Commission to consider a different way of summarizing party comments, such as including party-supplied summaries of

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[29] *See* https://ebce.org/ebce-green-lights-over-155-mw-of-new-renewable-energy-projects-and-30-mw-of-energy-storage/.

[30] *See* https://sonomacleanpower.org/power-sources.

[31] *See* CalWEA's Comments on Preliminary Scoping Memo and Determinations in R. 19-11-009 (Dec. 3, 2019).

[32] The IRP Procurement Track decision (D.19-11-016) states (at Finding of Fact 6), "Additional electric capacity resources are necessary to ensure integration of large volumes of renewable energy being procured by LSEs." (Emphasis added.)

[33] For example, the discussion (p. 32) of the decision to relax the import constraint by limiting it to hours when RA capacity counting is critical does not credit those, including CalWEA, who made that recommendation. The PD also fails to summarize recommendations that it has chosen to disregard, such as CalWEA's point that high levels of BTM solar should be justified, not assumed.

[34] For example, there is almost no discussion of the very detailed 38 MMT plan put forward by Southern California Edison, nor CalWEA' proposal to study diverse resource options prior to making procurement decisions.

their own comments in an appendix, perhaps along with a matrix of topics that is filled in by the parties.

## V. CONCLUSION

Wherefore, for the above reasons, CalWEA urges the Commission to revise the Proposed Decision to better position the state to achieve its SB 100 goals by evaluating and pursuing promising resource diversity and transmission options in the upcoming procurement track phase, and delivering to the CAISO a revised, actionable RSP in time for the current 2020-21 TPP cycle.

Respectfully submitted,

*/s/ Nancy Rader*

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

March 12, 2020

## APPENDIX

## RECOMMENDED CHANGES TO PROPOSED DECISION

**Proposed Changes to Findings of Fact**

15. Limiting the annual buildout of solar resources in RESOLVE does not modify the ultimate amount of solar selected by the model by 2030. The level of BTM solar included in the 2030 portfolio was assumed, not found to be economic in RESOLVE modeling.

21. A diverse resource portfolio will help the state reach its 2030 and 2045 GHG goals in a reliable and least-cost manner. Near-term advancement of diverse resources, potentially in combination with transmission solutions that enable local gas-plant retirements, can facilitate achievement of SB 100 goals.

**Proposed Changes to Conclusions of Law**

14. The LSEs should be required to detail in their individual IRPs their plans for procuring pumped storage resources, or other long-duration storage resources with similar attributes, and out-of-state wind resources, or other resources that would add commensurate diversity to their resource portfolios.

15. The Commission should, in the procurement track of this proceeding, continue to consider steps required to develop and procure not only the resources identified in the 2019-2020 RSP, but should also ~~potentially~~ evaluate BTM solar as a candidate resource, additional geothermal and offshore wind resources, or other resources designed to bring diversity to the portfolio

16. In the procurement track of this proceeding, the Commission should also review the alternatives studied by the CAISO in its 2018-19 and 2019-20 Transmission Plans that would eliminate or materially reduce local capacity requirements in the Los Angeles Basin and, in view also of resource-diversity options, determine whether adjustments to the 2019-20 RSP are warranted that would enable near-term transmission solutions that allow for the retirement of LA Basin gas plants.

17. Notwithstanding the inclusion of the gas plants in the RSP through 2030, the CAISO should plan for, as a public policy need, the retirement of gas plants in disadvantaged neighborhoods in the LA Basin LCR area by 2030.

## VERIFICATION

I, Nancy Rader, am the Executive Director of the California Wind Energy Association. I am authorized to make this Verification on its behalf. I declare under penalty of perjury that the statements in the foregoing copy of "Comments of the California Wind Energy Association on Electric Resource Portfolios to Inform Integrated Resource Plans and Transmission Planning" 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 March 12, 2020, at Berkeley, California.

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