BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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 (Filed February 11, 2016)

REPLY COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION ON PROPOSED REFERENCE SYSTEM PLAN AND RELATED COMMISSION POLICY ACTIONS

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

Telephone: 510-845-5077 x: E-mail: nrader@calwea.org Dariush 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

November 9, 2017

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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 (Filed February 11, 2016)

REPLY COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION ON PROPOSED REFERENCE SYSTEM PLAN AND RELATED COMMISSION POLICY ACTIONS

Pursuant to the September 19, 2017, *Ruling Seeking Comment on the Proposed Reference System Plan and Related Commission Policy Actions* ("Ruling") by Administrative Law Judge Julie Fitch, the California Wind Energy Association ("CalWEA") submits these reply comments in response to opening comments filed by parties on October 26, 2017.

In summary, these reply comments argue that:

- The Commission should <u>separately consider</u> early wind procurement and early solar procurement. Capturing federal wind tax benefits requires immediate action, and wind energy provides resource diversity that will bring integration and reliability benefits. Therefore, the early procurement of wind addresses <u>all</u> of the benefits identified in the Integrated Resource Planning ("IRP") statute while <u>saving</u> ratepayer dollars.
- The Commission can reasonably rely on RESOLVE modeling results for the purpose of directing early wind procurement.
- The Commission can easily address market power and other concerns regarding early procurement. Market power, solar tariff and wind production tax credit ("PTC") availability concerns can be addressed by conditioning actual procurement on the confirmation of expected benefits, and PCIA issues are expected to be resolved before final decisions are made on early procurement.
- With regard to specific early-procurement details, LSEs other than the investorowned utilities ("IOUs") should be provided an opportunity to self-procure; repowers should fully count towards an early procurement obligation; and the Commission should take steps to ensure "additionality" and should enable flexible delivery dates.
- The Commission should take additional steps with regard to greenhouse gas ("GHG") accounting to ensure meaningful outcomes.

I. The Commission Should Separately Consider Early Wind Procurement and Early Solar Procurement

In arguments opposing early procurement, the investor-owned utilities ("IOUs") and California Community Choice Association ("CalCCA") do not distinguish between the early procurement of wind and solar. Some parties that support early procurement propose solicitations open to both solar and wind resources. The justification for and purpose of procuring different types of resources are, however, very different, warranting the Commission's separate consideration of the two. There are three distinct reasons justifying the early procurement of wind energy:

- (1) Imminent loss of federal wind benefits. If wind procurement does not occur in 2018, the full value of the wind PTC will be lost, whereas the solar ITC does not start ramping down until 2020.³ Notwithstanding IOUs' suggestions to the contrary,⁴ there is clearly very little likelihood that the PTC will be extended. First, in 2015, the wind industry reached a bipartisan agreement on tax reform that phased out the PTC over five years.⁵ Second, as discussed further below, the House is currently considering a tax bill that would renege on this agreement.⁶ Third, we have a president whose dislike of wind energy is well-known and whose term ends three years hence.⁷
- Imminent loss of resource diversity. Early procurement of wind energy brings much more than the cost benefits that were the focus of the CalCCA comments.⁸ Early wind procurement is essential to (a) preserving and repowering some 1,000 MW of 1980s-vintage wind projects that are likely otherwise to deteriorate and

¹ See, e.g., CalCCA at p. 19-20; PG&E at p. 2; SCE at p. 22-28.

² See, e.g., AWEA California Caucus at p. 11; LSA at p. 3.

³ See PTC and ITC phase-down schedules in CalWEA's opening comments at p. 13.

⁴ SCE at p. 13; PG&E at p. 9.

⁵ https://www.awea.org/HouseTaxProposal2017.

⁶ Ibid.

⁷ See, e.g., https://www.washingtonpost.com/news/powerpost/paloma/the-energy-202/2017/06/22/the-energy-202-trump-takes-on-wind-energy-talks-solar-powered-border-wall-in-iowa-speech/594aaf07e9b69b2fb981ddef/?utm_term=.4deb803c848d.

⁸ CalCCA opening comments at p. 19 ("For CCA programs, the decision to plan for and procure resources to take advantage of the expiring ITC and PTC tax credits is a <u>cost and procurement issue</u> that falls solely within the discretion of each CCA program's governing board." (Emphasis added.)

reduce existing resource diversity, and (b) increasing resource diversity beyond what modeling results clearly show will otherwise be a portfolio overwhelmingly dominated by solar resources. The California Independent System Operation ("CAISO") expressed concern in its opening comments (at pp. 2 and 4) that the baseline assumptions in the RESOLVE modeling "unduly bias results in favor of instate solar resources" "rather than a more diverse portfolio of renewable generation," echoing several of CalWEA's stated concerns and further justifying the procurement of wind energy. A more diverse portfolio brings important benefits, discussed next.

• Imminent loss of integration and reliability benefits associated with resource diversity. Public Utilities Code Section 454.51(a) requires the Commission to "[i]dentify 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." (Emphasis added.) The early procurement of wind addresses all of these underscored benefits.

A more diverse portfolio is – by reducing the need for integration resources and by enhancing reliability – essentially an integration resource. Indeed, CalWEA's RESOLVE modeling runs show that adding wind will significantly reduce the need for storage resources. Therefore, greater diversity – in this specific case, wind energy – can and should be considered an integration resource. CalCCA implicitly acknowledges that non-bypassable charges are appropriate for CCAs that elect not to self-provide their share of renewable integration resource need identified in the Commission's portfolio. 11

Absent Commission action on cost-effective early <u>wind</u> procurement, more than 40,000 MW of resources on the CAISO system will switch on and off with the sun.¹² As CalWEA stated in opening comments (at p. 8-9), this dependence on a single variable and essentially non-dispatchable resource could create both economic and system vulnerabilities. With regard to reliability, it is not a coincidence that the first Stage 1 emergency declared by the CAISO in 10 years occurred near sunset, when

⁹ See CalWEA's opening comments at p. 8 at footnote 17.

¹⁰ See CalWEA's opening comments at Attachment 2 and supporting spreadsheets available at https://www.calwea.org/public-filings. While CalWEA did not model the full impact of its 5,000-MW procurement recommendation, adding just 3,000 MW to the portfolio is shown to reduce the need for battery storage by 561 MW.

¹¹ See CalCCA at p. 11. ("SB 350 expressly authorizes NBCs in only one narrow context – NBCs for renewable integration resource procurement if a CCA program elects not to self-provide its share of the renewable integration resource need identified in the Commission's portfolio.")

¹² See note 9, *supra*.

solar was ramping off and load was ramping up.¹³ The risks associated with managing upward and downward ramps each day will only increase with increasing dependence on solar resources.

Thus, SCE's argument (at p. 12-13) that "[a]dding over 10,000 MW of additional renewables to the grid ... may ... result in operational and market issues that have not yet been fully examined" rings hollow as applied to the early procurement of wind energy. SCE points to energy imbalances resulting from California's "'duck curve'—the timing imbalance that exists between solar generation and daily peak load"—but wind energy, which is generally on the rise when the evening load is rising and solar generation is waning, ameliorates all of the phenomena illustrated by the duck curve.

Similarly, SCE's complaint (at p. 14) that "Increased solar and wind capacity will also diminish the reliability value of the existing fleet under the Commission's Effective Load Carrying Capability ('ELCC') methodology" simply does not apply to wind energy. The Resource Adequacy values of wind energy, both average and maximum summer values, have steeply risen under the new ELCC methodology, which properly accounts for the increasing penetration of solar on the system.¹⁴

In addition to these resource diversity, integration and reliability benefits, there are also cost savings associated with achieving greater resource diversity through early procurement. Unlike the diversity that would come from mandating the procurement of geothermal resources as "insurance" against possible future scenarios, as Imperial County advocates, ¹⁵ Energy Division staff's ("Staff") modeling results show that early wind procurement will save ratepayers in the expected 42 MMT reference case, as well as in sensitivity cases. Staff's Recommended Reference System Portfolio – whose realization requires early procurement – includes 1,100 MW of wind energy, which CalWEA has documented would bring \$35 million/year in savings.

¹³ See "CAISO Recounts Tense Hours Leading to May 3 Emergency," *RTO Insider* (May 16, 2017). (Available at: https://www.rtoinsider.com/caiso-stage-1-emergency-43153/.)

¹⁴ See, e.g., Energy Division Proposal for Proceeding 14-10-010 (March 25, 2016) at p. 13 and Table 4. ("In broad terms, as more solar capacity is added to the fleet, the net load peak shifts to later in the day when less solar generation is available resulting in a declining ELCC for solar PV. However, for wind, the shift in net load peak results in increasing ELCC since wind output is on average higher later in the day.")

¹⁵ See the opening comments of Imperial County at p. 3-4. ("[The modeling] results offer solid evidence that geothermal generation would provide <u>insurance against plausible uncertainty and risks</u> and should be part of the mix included in the final version of the Reference System Plan that the [Commission] will adopt at the end of this year." (Emphasis added.)

And CalWEA has shown that much greater savings are likely to accompany as much as 5,000 MW of wind energy.¹⁶

For these reasons, a Commission decision in support of the early procurement of 5,000 MW of wind resources – and not a procurement that is open to other resources, which would contradict the fundamental purpose of IRP – is not only justified, but required, under the IRP statute because it is necessary to obtain a diverse and balanced portfolio of resources that will help to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner.

II. The Commission Can Reasonably Rely on RESOLVE Modeling Results for the Purpose of Directing Early Wind Procurement

PG&E and other parties have taken issue with the RESOLVE model, and some have called on the Commission not to make <u>any</u> procurement decisions on the basis of the modeling results at this time.¹⁷ While CalWEA agrees that future IRP efforts would benefit from benchmarking RESOLVE with more detailed production-cost modeling, which would also explore operations-related reliability issues in greater detail, RESOLVE modeling provides a rational basis for a Commission decision in favor of the early procurement of wind energy.

The principles of the RESOLVE model and its assumptions and data are generally reasonable, particularly if the Commission takes into account specific problems that parties have identified and justified.¹⁸ For example, the CAISO stated (at p. 4) that "[t]here are several assumptions that tend to drive the modeling results to favor in-state solar rather than a more

¹⁶ See, respectively, Ruling Attachment A at PDF-page 114, and CalWEA's opening comments at p. 8.

¹⁷ PG&E at p. 8 (arguing that making decisions on the basis of the RESOLVE model requires evidentiary hearings); and CAISO at p. 1 ("The CAISO strongly supports the Commission conducting production cost modeling to validate the RESOLVE results.")

¹⁸ Staff has provided ample opportunity for parties to identify such problems. Moreover, RESOLVE is transparent, not a black box, and Staff has provided parties with considerable guidance in understanding its results. Therefore, to the extent that parties take issue with the model or its results, they can make specific complaints and associated recommendations, as the CAISO and PG&E have done. In addition, the model is accessible; parties can easily run the model (directly or via numerous consultants at relatively modest cost) using their own data and assumptions to quantitatively support their assertions, rather than simply hand-waive, with regard to any suspected problems.

diverse portfolio of renewable generation." CalWEA conducted alternate modeling runs to correct for one of the problematic assumptions that CAISO identified.¹⁹

While the degree of accuracy of the RESOLVE results can be increased with further production cost modeling, CalWEA agrees with SDG&E's suggestion (at p. 7) that the Reference System Plan ("RSP") can serve as a guidance tool. This is particularly true with regard to issues requiring immediate attention where modeling results – both Staff's and those provided by the parties – clearly demonstrate that immediate action is warranted. The Commission need not act on every conclusion suggested in this initial IRP effort. For example, there is no reason to make final determinations now on the RSP's initial conclusion that 2,000 MW of battery storage will be needed by 2030 or that pumped storage will not be needed.²⁰

With regard to wind energy and the benefit of capturing federal tax credits, however, as discussed in Section I, above, and as indicated by the comments of the CAISO,²¹ the Commission can reasonably conclude that early wind procurement will provide cost benefits and greater system reliability. As explained in opening comments, CalWEA's recommendation for early procurement of wind resources is not to arbitrarily pick a number of megawatts of wind capacity; rather, it is to procure only those wind resources that prove to be cost effective based on an economic test using RESOLVE. Ideally, the assumptions that CAISO, CalWEA and other parties have indicated to be unreasonable, such as the unreasonably high export limit currently in RESOLVE, should be corrected in this assessment of cost-effectiveness.

1/

¹⁹ E.g., CAISO explained (at p. 7) why the assumed export limit is unreasonably high. ("[Even a 2,000-MW export level] would be a significant departure from historical norms, as the CAISO has traditionally always been a net importer. ...The CAISO believes that unless a significant change occurs (such as the establishment of a regional ISO), the 2,000 MW net export is the most appropriate assumption.") CalWEA demonstrated, in opening comments at p. 10, that the savings from wind procurement would be greater if the export limit is lower than Staff assumed.

²⁰ In this case, for example, further modeling efforts that address the operational demands of the grid may be warranted. See e.g., opening comments of Eagle Crest, at p. 2-3, National Grid at p. 3-4.

²¹ Opening comments of the CAISO. (At p. 4: "There are several assumptions that tend to drive the modeling results to favor in-state solar rather than a more diverse portfolio of renewable generation." At p. 6: "[I]t is not clear how 9,000 MW of new solar capacity (including replacement of existing solar and additional behind the meter PV growth) impacts curtailment." At p. 19: "Production cost modeling will better identify whether there [are] operability risks throughout the year, especially in hours ending (HE) 18 and 19, when solar generation decreases rapidly while loads remain relatively high.")

III. The Commission Can Easily Address Market Power and Other Concerns Regarding Early Procurement

The Commission can easily address a number of concerns that parties have raised regarding early procurement, addressed specifically below, by conditioning actual procurement on the confirmation of expected benefits.

In particular, CalWEA supports the suggestion made by Staff at the November 2, 2017, All-Party Meeting that the Commission direct the investor-owned utilities ("IOUs") to conduct a 2018 procurement without any specific capacity target, so that the Commission can consider the bidding results before deciding how much capacity, if any, should be procured. Staff can help inform the Commission's decision by re-running the RESOLVE model with actual wind energy prices to estimate ratepayer savings.

In view of bidding results, the Commission can also indicate specific pro-rata procurement targets to non-IOU LSEs that may wish to self-procure resources with federal tax support in lieu of some or all of the IOUs' procurement that otherwise will be conducted on their behalf. (See related comment in subsection b, below.)

The general timing (all in 2018) could be as follows, in any case concluding by the end of 2018:

- Early Q1: Commission issues IRP decision on early procurement
- Late Q1: IOUs issue RFOs
- Mid-Q2: IOUs transmit summary of bids to Commission
- Late-Q2: Commission sets overall early-procurement target and pro-rata LSE targets; non-IOU LSEs declare any intent to meet their pro-rata target
- Late Q3: IOUs finalize contracts for their pro-rata shares and any non-IOU LSE shares not being self-procured, and submit advice letters; non-IOUs report on fulfillment of pro-rata targets
- Early Q4: Commission directs any additional IOU procurement necessary to make up for any non-IOU LSE non-fulfillment of targets
- End Q4: Commission acts on all advice letters.

a. Market power concerns

SCE argues (at p. 12) that "mandating accelerated renewable procurement over a short period of time will result in a shift of market power towards renewable developers, allowing

them to capture higher than normal profits from customers. ... LSEs will have little recourse and California customers will bear the burden of increased costs." Such charges ignore the fierce competition that has characterized renewable energy markets in California in recent years, an available supply of wind energy developments that far exceeds CalWEA's recommended 5,000-MW wind procurement,²² and the Commission's ability to condition its early-procurement directive on results that deliver – or, more likely exceed, as CalWEA's analysis indicates – the savings that RESOLVE modeling has shown. We agree with Staff that, by leaving the target open and by requiring "best and final" offers with no opportunity to negotiate, along with other measures, market power concerns raised by the utilities can be readily addressed.

b. PCIA resolution

SCE argued (at p. 15) that the "Commission should not order any additional renewable procurement before the PCIA reform being considered in R.17-06-026 is completed." For several reasons, the Commission need not delay action on early procurement in order to address PCIA issues.

First, the Commission is obligated to ensure fair and equitable allocation of benefits and costs resulting from any utility procurements made on behalf of CCA customers – in this case to ensure that IRP objectives are met as discussed in section I above and IV below.²³ Therefore, the Commission can presume that its PCIA decision will establish an appropriate framework for addressing cost allocation issues related to early procurement. Second, as noted above and discussed further below, the Commission can allow non-IOU LSEs to procure their own pro-rata shares of the Commission's established early-procurement target. The PCIA issue will be obviated to the extent that non-IOU LSEs are able to and choose to self-procure. Finally, a decision in the PCIA case is scheduled to occur by July 2018²⁴ – before any procurement will be

²² As noted in CalWEA's opening comments at p. 12, some 12,000 MW of wind project capacity can be expected to participate in a wind-only solicitation.

²³ As discussed in section IV below, CalWEA agrees with SCE (p. 43-44) that "[i]mposing accelerated renewable procurement mandates on just the IOUs would be contrary to SB 350's intent that the Commission establish an IRP process for all Commission-jurisdictional LSEs, and inconsistent with SB 350's requirements that the Commission ensure that the costs of any procurement authorized in the IRP process are allocated in a fair and equitable manner and that no cost shifting occurs among LSE customers."

²⁴ R.17-06-026, Scoping Memo and Ruling, at p.24 (Sept. 25, 2017).

approved by the Commission – correcting any "unfair and unlawful cost burden for bundled service customers" that may exist under the current PCIA, and enabling the new rules to apply to early procurements.

c. Possible impacts of solar tariff and PTC disruption

SCE also argued (at p. 13-15) that "an import tariff on solar components that coincides with an early procurement mandate in California would be detrimental to customers and contrary to Commission goals, as LSEs would be forced to procure energy from solar installations that could be much more expensive than anticipated to construct." The U.S. International Trade Commission is expected to send its tariff recommendation to the president by November 13, who will have 60 days (until mid-January) to accept or reject the Commission's recommendation. This concern obviously does not apply to wind procurement. However, should the Commission move forward with early-solar procurement next year without benefit of knowing what the tariff decision will be and without modeling the impact, the Commission can reserve final judgment on whether and how much solar energy to procure until after the bidding results are in, which presumably will reflect bidders' assessment of the impact of the tariff.

Similarly, with regard to the U.S. House Republicans' proposed tax bill, which would truncate the current PTC phase-down schedule and value, news reports indicate that this provision is unlikely to survive in the U.S. Senate. ²⁶ The likelihood of the tax bill affecting current PTC rules – and the likelihood of the passage of any tax bill at all – should become clearer in the coming weeks. Meanwhile, the Commission should not allow speculation around an anti-clean-energy tax bill to affect its decision to promote clean energy in California. Though seemingly unlikely, should the bill include anti-wind provisions and pass, it is likely to occur before wind bids would be submitted in mid-2018, and the Commission can reserve final judgment on whether and how much wind energy to procure upon review of the bidding results.

²⁵ "To Protect U.S. Solar Manufacturing, Trade Body Recommends Limits on Imports," *The New York Times* (Oct. 31, 2017).

²⁶ See, e.g., "House Tax Bill Trims Wind Tax Credit, Extends Nuclear Provision," *Bloomberg* (Nov. 2, 2017).

IV. CCAs Should Be Provided an Opportunity to Self-Procure Wind Resources

Whereas LSEs will fully bear the <u>direct-cost</u> consequences of their procurements, all users of the CAISO's system will bear the reliability and indirect-cost consequences of a lack of resource diversity. Therefore, all LSEs should share in the cost of an optimal level of resource diversity. As California Unions for Reliable Energy ("CURE") stated (at p. 6), "Unless the Commission establishes a clear protocol ensuring LSEs conform to its Preferred System Portfolio, this IRP process will fall short of its goals and its statutory requirements." CalWEA agrees that, as the Commission directs the early procurement of wind resources, it should ensure that all LSEs share equally in the costs and benefits of that procurement. However, CalWEA encourages the Commission to provide CCAs and other LSEs with the opportunity to self-provide their share of the obligation. This will enable CCAs to conform their procurement to their other objectives, such as locational preferences and a potential preference for repowered projects.

We agree with TURN (at p. 6-7), however, that, to the extent that other LSEs are permitted to self-provide their share of the advance procurement obligation (rather than being assigned a portion of the costs and benefits of IOU procurement), "the Commission should establish a 'prove up' requirement prior to the final selection of resources by the IOUs" by a date-certain. This demonstration is necessary so that the IOUs can procure on behalf of LSEs that fail to self-provide their share of the accelerated procurement obligation, per the proposed schedule that CalWEA outlined in section III, above.

V. Repowers Should Fully Count Towards an Early Procurement Obligation

In its footnote 7, TURN suggests that only the incremental generation from repowered wind projects should count towards an early procurement requirement. This suggestion is illogical for several reasons. First, as CalWEA documented in opening comments, some 1,000 MW of wind projects are 25-30 years old and are likely to cease operating if they are not timely repowered. Second, the entire repowered generation is eligible for the PTC under the IRS's "80/20" rule.²⁷ Third, CalWEA has demonstrated that substantial ratepayer (as well as various

11

²⁷ A repowered facility may be a qualified facility if the fair market value of the used property is not more than 20 percent of the facility's total value. See https://www.irs.gov/pub/irs-drop/n-16-31.pdf.

other economic benefits) will accrue from repowering.²⁸ Finally, repowering brings environmental benefits, as noted by Defenders of Wildlife (at p. 9-10), which recommended that repowers be prioritized.

VI. The Commission Should Take Steps to Ensure "Additionality" and Should Enable Flexible Delivery Dates

CalWEA agrees with TURN's recommendations (at p. 7) that are aimed at ensuring that investments made pursuant to an early-procurement directive, which TURN supports, are in addition to the investments that otherwise would have occurred. Specifically, we agree that procurement should be limited to new – or (per above) repowered – resources that achieve commercial operations after January 1, 2019, and were initially contracted after September 19, 2017 (the date of the Ruling), and that any new or repowered resource should be developed under an agreement with an LSE serving California customers. In addition, unbundled Renewable Energy Credits should not qualify for the early procurement requirement.

CalWEA also agrees with TURN (at p. 8) that early procurement solicitations should enable developers to specify initial delivery dates a few years after projects achieve initial commercial operations as an option. (Lenders may attribute little value to variable short-term market revenue in the years between the online-date and the start of the contract term; this gap could carry significant additional financing costs.) Later delivery dates will help to address the concern stated by Commissioner Peterman at the All-Party Meeting that, while early procurement will save ratepayers overall, ratepayers will pay more in the near-term.²⁹

VII. The Commission Should Take Additional Steps with Regard to Greenhouse Gas **Accounting to Ensure Meaningful Outcomes**

TURN (at p. 12-17) discussed the insufficiency of relying on GHG Planning Prices in ensuring meaningful environmental outcomes, and urged the Commission to adopt procurement directives to ensure that LSEs procure resources that result in new resources rather than "resource shuffling" alternatives that do not result in GHG reductions. CalWEA concurs that the

system.

addressed by reforming net energy metering rates to reflect the full cost and value of rooftop solar to the

²⁸ CalWEA opening comments at p.1, 14 and Attachment 2.

²⁹ As CalWEA suggested in opening comments (at p. 5), near-term ratepayer impacts can also be

Commission must guard against such practices, particularly contracting for "zero GHG" sources such as the output of existing large hydro and nuclear resources around the West that have not historically been in California's resource mix. In so doing, however, the Commission should recognize that existing renewable energy facilities – particularly those built to serve California in the 1980s, many of which have gone off-line³⁰ – require ongoing support to maintain operations and should count towards GHG targets.

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

November 9, 2017

⁻

³⁰ See opening comments of CalWEA at p. 4; and opening comments of California Biomass Energy Alliance at p. 3.

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 "Reply Comments of the California Wind Energy Association on Proposed Reference System Plan and Related Commission Policy Actions" 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 November 9, 2017, at Berkeley, California.

/s/ Nancy Rader

Nancy Rader Executive Director California Wind Energy Association