BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development of, California Renewables Portfolio Standard Program.	Rulemaking 15-02-020 (Filed February 26, 2015)

COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION ON STAFF PAPER ON DRAFT 2016 RPS PORTFOLIOS FOR GENERATION AND TRANSMISSION PLANNING

Dariush Shirmohammadi
Technical Director
California Wind Energy Association
2560 Ninth Street, Suite 213A
Berkeley, CA 94710
Telephone: (310) 858-1174
E-mail: Dariush@shirconsultants.com

Nancy Rader
Executive Director
California Wind Energy Association
2560 Ninth Street, Suite 213A
Berkeley, CA 94710
Telephone: 510-845-5077 x1
E-mail: nrader@calwea.org

On behalf of the California Wind Energy Association

March 29, 2016

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development of, California Renewables Portfolio Standard Program.	Rulemaking 15-02-020 (Filed February 26, 2015)

COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION ON STAFF PAPER ON DRAFT 2016 RPS PORTFOLIOS FOR GENERATION AND TRANSMISSION PLANNING

I. INTRODUCTION AND SUMMARY

Pursuant to the March 14, 2016, ruling of Administrative Law Judge Anne E. Simon ("Ruling"), the California Wind Energy Association ("CalWEA") respectfully submits these comments on *Energy Division Staff Paper on Draft RPS Portfolios for Generation and Transmission Planning* ("Staff Paper"). In these comments, we state and respond to the questions posed in the Ruling.

In summary, CalWEA recommends several important changes to the assumptions that will more accurately represent actual market circumstances and thus produce more realistic portfolios. We also recommend a change to the modeling approach such that an optimal portfolio for the target year is produced, rather than producing a suboptimal portfolio that results from modeling incremental year-by-year additions.

More specifically, regarding land-use assumptions, CalWEA recommends that the DRECP be applied as a screen, that Category 2 exclusions not be applied, and that wind resources in Solano and San Diego Counties be excluded. For the 2016 RPS portfolios to be acceptable, we recommend the following changes:

- The default and most other scenarios should include the most cost-effective mix of full capacity deliverability service ("FCDS") and energy-only resources;
- The RPS Calculator should be adjusted to reflect the potential loss of in-state existing wind resources, and the potential to increase energy production through repowering;
- Out-of-state wind resources delivering to California through dynamic transfer agreements with the CAISO should be the focus of a special study and,

meanwhile, be included in the 2016 supply curve in place of the separate portfolio of 3,000 MW of out-of-state ("OOS") wind resources;

- The portfolio should be optimized for the target year; and
- A comprehensive approach is needed to evaluate the extent to which net exports can occur, warranting a 2016 special study.

II. RESPONSES TO QUESTIONS IN THE RULING

1. Which land use assumption identified in the Staff Portfolios Paper is most appropriate to use to generate the 2016 RPS portfolios? Please discuss these assumptions: Base, Environmental Baseline, or "Desert Renewable [Energy] Conservation Plan (DRECP)/San Joaquin Valley Solar Project (SJVP)." Give precise and detailed reasons in support of your recommendation.

A combination of parts of the listed screens should be used for all scenarios in order to develop a screen that is most reflective of actual circumstances, as follows.

a. The DRECP should be used as a screen, as BLM has given no indication that this plan will change and it is expected to become law in its present form. While the SJVP is not directly relevant to wind energy, to the extent that the plan has not been adopted by the counties involved, it would be inappropriate to use it as a screen.

b. Category 2 exclusions (which were included in the DRECP screen for areas outside of the DRECP) should not be applied unless renewable energy is categorically prohibited in these areas.[1] For example, wind energy is not presently categorically precluded in BLM Areas of Critical Environmental Concern (ACECs) outside of the DRECP. In these areas, development must be consistent with the management prescriptions for each individual ACEC, and any site-specific resource conflicts and impacts must be mitigated. Most ACECs contain a total disturbance cap limiting the total surface disturbance from all types of development. Even very low disturbance caps, such as 1% of a total ACEC, enable hundreds of thousands of acres of disturbance – more than enough to

[1] However, a separate scenario designed to reflect potential future restrictions could be used. CalWEA recommended the use of an analysis by The Nature Conservancy in its September 28, 2015, comments on the RPS scenarios.

accommodate significant wind development, given the very limited ground-disturbance impact of wind energy projects.

c. **Solano County and San Diego County wind resources should be excluded**, consistent with those assumptions in Land Use Sensitivity #1. While short of legal prohibitions, the restrictions on wind energy development in these counties represent a de facto prohibition for practical purposes. In Solano County, conflicts with operations at Travis Air Force Base are unlikely to abate unless and until more advanced radar technologies are developed. San Diego County's 2013 Wind Energy Ordinance set an unattainable standard for sound, which resulted in all wind developments on county land being dropped except one project that was grandfathered.[2]

2. ***Are the draft 2016 RPS portfolios acceptable for use in the LTPP proceeding in 2016? If yes, please explain the reasons for your response. If not, please identify: the specific problem(s) that make the 2016 RPS portfolios unacceptable; in which of the draft RPS portfolios the identified problems are present; why the problem(s) makes the portfolio(s) unacceptable; and what could be done to resolve the problems you have identified, within the timeframe for using the portfolios in the 2016 LTPP.***

CalWEA proposes a few important changes to make all of the 2016 RPS portfolios more realistic (except in sensitivity cases), which we believe would be easily achievable for the 2016 LTPP, as follows.

a. **The default and most other scenarios should include the most cost-effective mix of FCDS and energy-only resources.**

As we explained in our comments in response to the LTPP Assumptions & Scenarios document,[3] the default Scenario should include RPS resources based on an optimum mix of energy-only and FCDS resources, rather than assuming that all resources must be FCDS. A major improvement in the RPS Calculator – one that has been broadly supported by the parties – is the ability to compare the cost and value of attaining deliverability status for future RPS

[2] Our understanding is that this project, Tule Wind, is included in the "commercial" category of resources and thus would not be affected by excluding San Diego County wind resources.

[3] R.13-12-010, CalWEA Comments on February 8, 2016, Ruling of Administrative Law Judge Fitch (February 22, 2016) at pp. 5-6.

resources, and to select the optimum combination of resources with FCDS and energy-only status. No explanation has been given as to why this capability – which reflects the options actually available to developers today, and which will save ratepayers substantial sums – would not be utilized. Instead, all scenarios, with the possible exception of one sensitivity case assuming all-FCDS resources, should reflect the optimal mix of FCDS and energy-only resources.

If, due to practical considerations, the RPS Calculator cannot select an optimum mix, the base scenario should be based on energy-only status for RPS resources given the lower cost of that scenario as well as the fact that available deliverability capacity will confer full capacity deliverability status on selected energy-only resources by default.

b. The RPS Calculator should be adjusted to reflect the potential loss of in-state existing wind resources, and the potential to increase energy production through repowering.

By CalWEA's estimate, at least 700 MW of existing wind projects in Kern, Riverside, Alameda and Contra Costa Counties are at risk of closure. These projects, most around 30 years old, are relatively small, with a nameplate capacity of 50 MW or less; of that, about 325 MW are comprised of projects with a nameplate capacity of 20 MW or less.[4] These projects do not have economies of scale over which to spread their fixed costs (e.g., permitting, interconnection and transactions costs). Aggregating these small projects is often exceptionally difficult because of differences in interconnection points, land lease agreements, contract expiration dates and other factors. Thus, the cost of repowering these existing small wind projects could be higher than the cost of a typical greenfield wind project (with the same wind resource quality) that is considered by the RPS Calculator. On the other hand, repowering could substantially increase the energy deliveries from these projects.

Currently, our understanding is that existing wind projects are assumed by the RPS Calculator to continue to operate at current levels. Instead, these projects should be assumed to retire gradually by 2024, and be included in the wind "supply curve" as potential repowers for all RPS scenarios.

[4] Data compiled by CalWEA from the investor-owned utilities' 2014 CPUC RPS compliance filings and data provided by the American Wind Energy Association.

c. Out-of-state wind resources delivering to California through Dynamic Transfer agreements with the CAISO should be included in the supply curve, and the portfolio of 3,000 MW of OOS wind should be eliminated.

Currently, the RPS Calculator assumes that out-of-state (OOS) resources must be delivered through new transmission facilities that directly interconnect to the CAISO. However, the RPS statute provides for RPS "product content category 1" status for projects delivering through a dynamic transfer agreement with the CAISO and the project's host transmission provider. Such arrangements put the project under direct CAISO control as if it were physically located within the CAISO's balancing area. Within the last year, four contracts totaling over 700 MW of OOS wind energy have been signed with two California utilities that will utilize dynamic scheduling and out-of-state transmission service using existing transmission lines.[5]

The Calculator should include this resource potential, which depends only upon the availability of firm transmission service. Such service will become increasingly available as coal plants retire across the West. Presently, at least 6,157 MW of U.S. coal plant retirements within the WECC are scheduled to occur by 2024.[6] Until a detailed study can be conducted of where firm transmission service may be available to access high-quality wind resources across the WECC, CalWEA recommends assuming that at least 1,500 MW of such resources will be plausible in the 2026 timeframe. Development of these resources will be less costly than in-state resources of inferior wind quality (e.g., under 7 m/s).

This resource potential should be included in the supply curve for all scenarios, and the arbitrary portfolio of 3,000 MW of OOS wind should be eliminated.

CalWEA urges Energy Division to investigate the resource potential using dynamic scheduling and out-of-state transmission service as a special study during 2016 for application in the 2017 RPS scenarios. This study would determine whether the transmission capacity freed up by retiring coal plants could facilitate delivery of OOS wind to California without additional upgrades and using dynamic scheduling. Such a study would also roughly approximate a scenario under which the CAISO footprint is expanded and more efficient transmission capacity

[5] See October 27, 2015, SCE Advice Letter 3299-E (Broadview Energy Contracts for 324 MW), and February 9, 2016, SCE Advice Letter 3360-E (El Cabo Contract for 298 MW). In addition, SMUD has signed a contract for 200 MW from the Broadview project.

[6] See e.g., WECC, "EPA Clean Power Plan: Phase I – Preliminary Technical Report," (September 19, 2014).

utilization protocols would allow the import of wind generation resources without the need for transmission upgrades.

d. The portfolio should be optimized for the target year

CalWEA appreciates that the Staff Paper recognizes that the RPS Calculator is not designed to produce an optimal portfolio in any given future year, as CalWEA has noted in the past.[7] Rather, the RPS Calculator mimics the annual least-cost, best-fit procurement process. (Staff Paper at p. 10/26.) As the Staff Paper states, "it is possible for the RPS Calculator to pick a resource that has the greatest net market value in the year that the selection is made, but does not result in the lowest possible revenue requirement or average rate in a future year." (Staff Paper at p. 10/27.)

Staff has demonstrated, through sensitivity analyses, that total portfolio costs can be significantly lowered by optimizing for a target year (2030) vs. mimicking annual LCBF procurement. The model shows a reduction in revenue requirement of $227 million/year in its in-state wind sensitivity analysis (1,294 MW of additional wind), and a potential $61 million/year reduction in its geothermal sensitivity analysis, assuming lower geothermal costs.[8] (Staff Paper at Tables 5 and 6.) These demonstrations were made by forcing wind or geothermal into the portfolio in 2018 and 2016, respectively, without regard for need, and comparing 2030 costs to the default results.[9]

CalWEA appreciates that Energy Division staff intends to further investigate these and other approaches for improving portfolio comparisons. (Staff Paper at p. 20/26.) CalWEA notes also that the sensitivity and default cases both assume FCDS transmission and exclude out-of-state wind. As discussed above, an optimal portfolio should include the most cost-effective balance of FCDS and energy-only transmission and should consider dynamically scheduled OOS wind using existing transmission lines. CalWEA wishes to underscore the importance of

---

[7] See, e.g., CalWEA's September 28, 2015, comments in this proceeding on Staff Paper on Incorporating Land Use and Environmental Information into the RPS Calculator and Developing Portfolios (response to question 23).

[8] Without the lower-cost assumption, the addition of 1,664 MW of geothermal was found to raise costs by $102 million/year.

[9] The Staff Paper notes that the wind sensitivity analysis does not perfectly compare the sensitivity case to the default case, owing to a net present value issue, and that the assumed lower geothermal costs require validation.

optimizing the portfolio for a future target year in both planning and procurement in order to reduce the cost of achieving the state's RPS and greenhouse-gas-reduction goals.[10] While it will no doubt be possible to add many capabilities to the RPS Calculator to enable optimization functions for the longer term, for the 2016 LTPP, Energy Division should simply use the Calculator to solve for the RPS net short target year (2026 or, ideally, 2030). Even if the result is not as precise as would be produced by a model that fully optimizes the result, the result will be closer to optimal than the current approach that mimics year-by-year LCBF procurement. At a minimum, solving for the target year should be run as a sensitivity case.

e. A comprehensive approach is needed to evaluate the extent to which net exports can occur

The Staff Paper considers a sensitivity looking at exports, which assumed that up to 5,000 MW of power could be exported from CAISO compared with the default portfolio which assumes that no power can be exported. Rather than using portfolios with arbitrary levels of exports (both in the default scenario and others), a comprehensive approach is needed to evaluate the extent to which net exports can occur, especially in the March to May time period when California, and/or an expanded CAISO, may have generation that exceeds demand.

As stated in our recent comments in the LTPP proceeding, CalWEA recommends that, for the default scenario for the 2016 LTPP, the Commission obtain the level of exports that was determined to reasonably occur as an output of a recent WECC-wide operational study, without assuming significant institutional changes, which the study portrays as "significant."[11] Since export levels will influence the renewable energy mix, they should be an input to the RPS Calculator to influence the mix that it generates for use in LTPP/TPP studies.

To inform the RPS scenarios used for the 2017-18 TPP, the maximum levels of seasonal net exports should be calculated using existing WECC-wide studies[12] or by performing an streamlined WECC-wide operational study. The seasonal net export limits generated by such a special study could then be used as inputs to the LTPP models and the RPS Calculator.

---

[10] See CalWEA's March 21, 2016, comments in R.16-02-007 on the Commission's OIR to Develop an Electricity IRP Framework.

[11] NREL/E3 "Western Interconnection Flexibility Assessment Final Report" (December 2015), at p. xxvi. LTPP staff will need to contact NREL/E3 and request that they calculate the export level, as it is not indicated in the report. Available at: https://www.ethree.com/documents/WECC_Flexibility_Assessment_Report_2016-01-11.pdf.

[12] E.g., the NREL/E3 study (see *ibid*).

III. CONCLUSION

For the foregoing reasons, the adjustments to the assumptions and inputs in the RPS Calculator discussed herein should be adopted, and special studies conducted.

Respectfully submitted,

/s/ *Nancy Rader*

Nancy Rader
Executive Director
California Wind Energy Association
2560 Ninth Street, Suite 213A
Berkeley, California 94710
Telephone: (510) 845-5077
Email: nrader@calwea.org

March 29, 2016

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 the Staff Paper on Draft 2016 RPS Portfolios for Generation 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 29, 2016, at Berkeley, California.

/s/ *Nancy Rader*

_____

Nancy Rader
Executive Director, California Wind Energy Association