

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Continue
Implementation and Administration of California
Renewables Portfolio Standard Program.

Rulemaking 11-05-005
(Filed May 5, 2011)

**REPLY COMMENTS OF THE
CALIFORNIA WIND ENERGY ASSOCIATION
ON SECOND ASSIGNED COMMISSIONER'S RULING
ISSUING PROCUREMENT REFORM PROPOSALS**

December 12, 2012

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

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Continue
Implementation and Administration of California
Renewables Portfolio Standard Program.

Rulemaking 11-05-005
(Filed May 5, 2011)

**REPLY COMMENTS OF THE
CALIFORNIA WIND ENERGY ASSOCIATION
ON SECOND ASSIGNED COMMISSIONER’S RULING
ISSUING PROCUREMENT REFORM PROPOSALS**

I. INTRODUCTION

Pursuant to the *Second Assigned Commissioner’s Ruling Issuing Procurement Reform Proposals and Establishing a Schedule for Comments on Proposals* (“ACR”) issued in this proceeding on October 5, 2012, and Administrative Law Judge (“ALJ”) Simon’s email directive on November 5, 2012, extending the reply comment due date, the California Wind Energy Association (“CalWEA”) respectfully submits these reply comments on the Renewables Portfolio Standard (“RPS”) procurement reform proposals presented in the ACR.

CalWEA has reviewed the opening comments on the ACR filed in this proceeding by other parties and recommends that the Commission should:

A. Establish a standard of review (“SOR”) for power purchase agreement (“PPA”) amendments that discourages speculative bidding while recognizing the challenges of project development;

B. Establish a least-cost, best-fit (“LCBF”) evaluation process that identifies and quantifies, to the greatest extent possible, the products and benefits, and their associated cost, for various types of projects;

C. Avoid using the RPS procurement process to engage in environmental review of proposed projects; and

D. Acknowledge that the 33% RPS requirement is a floor, not a cap on renewable energy procurement by the investor-owned utilities (“IOU”).

Each of these recommendations is discussed further below.

II. ARGUMENT

A. The Commission Should Establish A Standard of Review For Power Purchase Agreement Amendments That Discourages Speculative Bidding While Recognizing the Challenges of Project Development

As CalWEA noted in its opening comments, an overly permissive approach to evaluation of PPA amendments encourages speculative bidding by allowing the PPA itself to become a commodity that can be bought or sold without concern for having to actually develop the underlying project. This approach results in developers that offered viable projects that could have been selected in the original solicitation turning their attention to markets elsewhere, or being left without a market for their viable projects.

In contrast, a process that requires developers to develop the projects they bid, while allowing for limited PPA amendments necessary to reflect changes in the project required to overcome the challenges of project development, encourages a functioning market. Developers will likely submit bids for higher-quality projects for which the developer has a higher degree of confidence in its ability to deliver. This will restore confidence in California’s renewable energy market and benefit ratepayers by promoting competition within the RPS market.

Accordingly, the Commission should establish a SOR for PPA amendments that discourages speculative bidding while recognizing the challenges of project development.

1. The Commission should reject the IOU arguments that evaluation of all PPA amendments should be limited to whether there has been a material decrease in value or increase in costs relative to the original PPA because this approach encourages speculative bidding

In its opening comments, San Diego Gas & Electric Company (“SDG&E”) argued that the mandatory Tier 3 Advice Letter filing requirement should apply only to “material” contract amendments, where “a ‘material’ contract amendment should be defined as a modification that would result in a material decrease in value to utility ratepayers or an increase in cost.”¹ Similarly, Pacific Gas and Electric Company (“PG&E”) argued that the mandatory Tier 3 Advice Letter filing requirement should apply only to amendments that are “materially decreasing the value of a PPA or increasing ratepayer costs.”² Southern California Edison Company (“SCE”) also argued that “the Commission must consider any amendments in comparison to the existing power purchase agreement.”³

All of these arguments miss the mark – if the PPA is amended in a way that results in a substantially different project than originally bid, then this is indicative that the original project was not viable. To discourage speculative bidding, the amended PPA should be treated as new procurement and compared to current cohorts for pricing, net value, and viability, even if there is no material decrease in value or increase in costs. Otherwise, the original bidder can simply substitute a different project for the one that it originally bid, subject only to a requirement that it demonstrate equivalence to the original deal (or an improvement in net value). This approach would result in the original PPA becoming little more than a placeholder to be optimized at a later date, which encourages speculative bidding and forecloses further development of viable projects that may have been eligible for a position on the shortlist but for the speculative bids.

¹ SDG&E Opening Comments at 16.

² PG&E Opening Comments at 16.

³ SCE Opening Comments at 26.

Accordingly, the Commission should reject the IOU arguments that the SOR should be reduced to a simple evaluation of whether there has been a material decrease in value or increase in costs relative to the original PPA as a result of the amendment.

SCE further argued that “[i]f an IOU with a binding, Commission-approved power purchase agreement is offered an amendment that would decrease the price of such contract, that amendment would benefit customers, even if the amended contract price does not compare favorably to shortlisted bids from the most recent RPS solicitation or other executed contracts.”⁴ In its opening comments, CalWEA agreed that the carefully-chosen example of a decrease in price alone should not trigger a mandatory Tier 3 advice letter (“AL”) filing and comparison to current market conditions because this single isolated change would result in the exact same project, albeit at a lower price.⁵ However, CalWEA expects that amendments seeking only a reduction in the PPA price will be rare. Instead, the decrease in price is much more likely to be accompanied by other revisions to PPA terms that are required by the developer to overcome threats to project viability. Where those other changes to the PPA become so significant that they result in a project that is materially different than the project in the original bid, they become indicative of a speculative bid. In this case, comparison to the original PPA is not appropriate because there is no indication that the developer is reasonably likely to be capable of performing under the original PPA without the amendment. When the developer is not expected to be capable of performing under the original PPA, the baseline against which the amendment should be evaluated becomes the procurement opportunities available to replace the expected renewable energy deliveries under the original PPA – *i.e.*, the current market conditions in the ACR’s proposed SOR.

⁴ *Id.*

⁵ CalWEA Opening Comments at 11.

However, in its opening comments, CalWEA did recognize the need for an exception to the general SOR for a specific sub-set of PPA amendments triggering the requirement for a mandatory Tier 3 AL filing.⁶ Specifically, CalWEA proposed that the Commission should compare the amended PPA to the original PPA if the developer is reasonably likely to perform under the original PPA, as demonstrated by meeting the following minimum development milestones: (i) full site control, (ii) Conditional Use Permit, BLM Record of Decision, CEC AFC, or equivalent has been obtained, (iii) interconnection agreement has been executed, and (iv) transmission system upgrades required for the project require a Permit to Construct or an approved Notice of Construction and the application or AL, as applicable, has been filed, or requires a CPCN and the CPCN has been granted. In these circumstances, comparison to the original PPA, as proposed by the IOUs, is appropriate because when the developer is expected to be capable of performing under the original PPA in the absence of the amendment, the original PPA becomes the baseline against which the amendment should be evaluated. Accordingly, the Commission should adopt CalWEA's proposed exception to the general SOR for amendments that trigger the mandatory Tier 3 AL filing requirement.

2. The Commission should adopt SDG&E's suggestion that the Commission clarify that submission of a PPA amendment does not result in *de novo* review of the original PPA because it promotes the regulatory certainty required for project development

SDG&E's opening comments noted that "the Commission should clarify that a request for approval of a contract amendment does not open up the contract for *de novo* review by the Commission."⁷ CalWEA supports SDG&E's request and recommends that the Commission clarify that submission of a PPA amendment does not result in *de novo* review of the original

⁶ Note that CalWEA also proposed in its opening comments that any PPA amendment that did not trigger a mandatory Tier 3 AL filing requirement should be compared to the original PPA. *See* CalWEA Opening Comments at 10-14.

⁷ SDG&E Opening Comments at 17.

PPA because this clarification promotes the regulatory certainty required for developers to incur significant project development costs in reliance on executed, Commission-approved PPAs.

An executed, Commission-approved PPA provides a set of binding terms and conditions for the seller to develop, commission, and operate the project and for the buyer to purchase the output. Developers rely on the binding nature of those commitments to justify incurring development costs and to obtain financing. While various circumstances may result in the need for amendments to that PPA, the Commission's review should be limited to the changes proposed by the amendment, and the resulting effect on the overall net value of the contract, because *de novo* review of the original PPA would introduce a risk that previously binding commitments could be undone. To the extent that the Commission finds that an amendment is not reasonable, the Commission should deny cost recovery for the amendment, but the original Commission-approved PPA should remain intact. Otherwise, a developer would be required to put the original PPA, and thus the developer's project, at risk as a condition to seeking a PPA amendment. This is an extreme risk that would stifle project development without any corresponding benefit given that the Commission could simply reject cost recovery for the amendment itself. Accordingly, the Commission should clarify that submission of a PPA amendment does not result in *de novo* review of the original PPA.

3. The Commission should reject DRA's argument that all PPA amendments should be subject to an initial screen comparing total volume of procurement under the amended PPA to current RPS net short and instead adopt PG&E's argument that only the incremental volume procured pursuant to the amendment should be evaluated relative to the current RPS net short

In its opening comments, the Division of Ratepayer Advocates ("DRA") argued that the first step for evaluating any PPA amendment should be to "evaluate whether the amended

contract meets need based on the latest renewable net short.”⁸ To the extent that DRA is arguing that the Commission should reject any amendment if the total volume procured pursuant to the amended contract results in the IOU’s total procurement exceeding the IOU’s renewable net short, DRA’s argument should be rejected because the parties to the PPA have already entered into a binding commitment for the volume in the original PPA.⁹ As described above, the Commission’s review of an amendment to a Commission-approved PPA should be limited to review of the amendment. Thus, only the incremental procurement pursuant to the amendment, if any, should be compared to the IOU’s renewable net short and the original volume procured pursuant to the original PPA should automatically be deemed consistent with the renewable net short, as proposed by PG&E in its opening comments.¹⁰ Accordingly, the Commission should reject DRA’s argument that the Commission should reject any amendment if the total volume procured pursuant to the amended contract results in the IOU’s total procurement exceeding the IOU’s renewable net short.

4. The Commission should clarify that the price, net value, and viability cohorts are used as general indications of reasonableness, not to establish a bright-line cutoff for approval

In its opening comments, PG&E stated that “the Commission should have flexibility to compare PPAs against either of these data sets (the solicitation data and PPAs executed in the prior twelve months) rather than require comparison to both.”¹¹ Based on this statement, CalWEA is concerned that the intent of the ACR’s reference to the price, net value, and viability cohorts may not be sufficiently clear. CalWEA recommends that the ACR proposal be modified to clarify that the Commission will consider both data sets, as well as any trends that are

⁸ DRA Opening Comments at 7.

⁹ Moreover, as described in Section II.A. above, the renewable net short should not be used as a cap on RPS procurement.

¹⁰ PG&E Opening Comments at 12-13.

¹¹ PG&E Opening Comments at 15.

exhibited by the data sets or in the marketplace generally, to establish a range of prices, net values, and viability that will be used as general indications of reasonableness and not to establish a bright-line value that will be used as a cutoff for approval/rejection of a proposed PPA or PPA amendment.

B. The Commission Should Establish A LCBF Evaluation Process That Identifies And Quantifies The Products And Benefits, And Their Associated Cost, Provided By Various Types Of Projects

As a general matter, the quantitative portion of the LCBF evaluation should be as inclusive as possible by considering all of the products and benefits provided by various types of projects, the value of those products and benefits, and the costs to provide those products and benefits. This approach avoids the need to establish vague “preferences” for attributes with undefined value, and instead enables the Commission to compare projects with different capabilities and cost structures on a uniform net value basis. As CalWEA noted in its opening comments, objective, accurate quantification of these factors (and limiting subjective valuations) will serve several goals: (a) reduce the total net cost of achieving RPS goals by ensuring that contract costs are justified by their total value, such that overall system needs are met at least cost and best fit; and (b) ensuring transparency and reducing subjectivity in the bidding process, which in turn enables bidders to tailor their bids to maximize value, while increasing bidders’ confidence in the fairness of the competition.

Several parties proposed that the Commission staff hold workshops to further explore potential revisions to the LCBF methodology. Consistent with the general principle that all products and benefits, and their associated costs, should be quantified as accurately as possible, CalWEA supports the request for at least one workshop.

1. The Commission should consider Clean Coalition’s proposal to evaluate “locational benefits” but should reject Clean Coalition’s proposal to use the CAISO Transmission Access Charge as a value adder in the quantitative portion of the LCBF

In its opening comments, Clean Coalition proposed that the LCBF should be expanded to capture locational benefits (“LBs”), which Clean Coalition described as “the ratepayer benefits enjoyed from RPS projects that interconnect to the distribution or sub-transmission grid and thus avoid transmission costs, reduce line losses, and provide other benefits.”¹² Clean Coalition further proposed that projects providing LBs should receive an adder in the LCBF equal to the California Independent System Operator Corporation (“CAISO”) Transmission Access Charge (“TAC”) to account for the value of deferred transmission investment resulting from the location of the project.¹³ Consistent with the general principle that the products and benefits provided by different types of projects should be identified and quantified, CalWEA supports the concept of evaluating LBs. However, Clean Coalition’s assertions of value appear to be premised on a series of assumptions regarding the need for future transmission investment in a given area and the ability of a project with LBs to defer the need for that investment. Further, any needed upgrades to the distribution system arising from the distributed generation must also be taken into account. Moreover, the proposal to apply an adder in the LCBF equal to the CAISO TAC appears to be entirely arbitrary. The TAC is a mechanism for recovering the annual revenue requirements for all transmission turned over to the CAISO’s operational control from CAISO loads and exports. Clean Coalition fails to explain any relationship between the TAC rate and the benefits it claims accrue from distributed generation. Accordingly, the Commission should consider quantifying LBs, but it should reject the proposal to establish a LCBF adder based on the TAC rate.

¹² Clean Coalition Opening Comments at 6-7.

¹³ *Id.* at 11.

2. The Commission should reject CEERT’s proposal to establish a “preference” for resources with attributes designed to match utility energy needs

The Center for Energy Efficiency and Renewable Technologies’ (“CEERT”) opening comments proposed that “preferences for renewable resources with attributes designed to match a utility’s general energy needs and load profile should be part of the ‘best-fit’ criteria” within the LCBF.¹⁴ The Commission should reject this proposal to provide a “preference” for projects that provide the specified attributes. The Commission’s Adjusted Net Market Value (“ANMV”) calculation already reflects the market value of energy at the times in which it is expected to be produced. Thus, there is already an incentive to provide energy when it is most valuable. If CEERT believes that these attributes are not captured through the existing quantitative metrics, it should propose revisions to ensure that the attributes are properly valued. Identifying and valuing desired attributes provides the market with appropriate incentives to offer the most competitively-priced products. In contrast, establishing general “preferences” fails to ensure that procurement is pursued efficiently and fairly such that confidence in the RPS market is protected. Accordingly, the Commission should reject CEERT’s proposed “preference.”

3. The Commission should reject PG&E’s argument that the LCBF should be supplemented by PG&E’s Portfolio-Adjusted Value calculations

In its opening comments, PG&E asserted that the LCBF, as modified by PG&E’s Portfolio-Adjusted Value (“PAV”) methodology, adequately captures the cost impact of additional resources, except for the lack of an integration cost adder and the need to implement the SB 2 (1x) directive to use the effective load carrying capability (“ELCC”) of wind and solar

¹⁴ CEERT Opening Comments at 12.

resources to establish capacity value.¹⁵ CalWEA disagrees that the LCBF, which currently relies on the Commission's ANMV calculation, requires PG&E's PAV adjustments. As CalWEA has previously noted, PG&E's PAV attempts to quantify additional factors that are, in some cases, arbitrary and/or duplicative of those included in the ANMV calculation.

For example, the PAV calculation includes a +\$10/MWh value adder for contracts with a 10-year term and a -\$10/MWh cost adder for contracts with 25-year terms.¹⁶ To the extent that the energy from a 10-year term is worth more than the energy from a 25-year term, this should already be captured in the ANMV calculation, which evaluates the market value of energy, capacity, and ancillary services. Otherwise, the \$20/MWh spread is purely arbitrary, and would result in PG&E paying \$20/MWh more for energy purely for the right to fulfill its qualitative preference for shorter-term contracts. Allowing PG&E to implement its PAV places a quantitative value on qualitative preferences, which results only in eliminating the objective value of the ANMV calculation.

Similarly, PG&E uses the PAV to arbitrarily make adjustments that reduce the net market value of a bid by 0% to 20% to reflect uncertainty in the production of energy from the resource.¹⁷ PG&E does not explain how it determines the exact level of the adjustment to be applied to any given bid. Instead, PG&E explains that the adjustment "reflects PG&E's assessment of the reduction in offer value that results from measuring and managing a position with uncertainty in energy production" and that "[f]or the same particular offer, other wholesale market participants might assess lower or higher reductions in offer value, resulting from each

¹⁵ PG&E Opening Comments at 25-26. CalWEA agrees that the Commission should expeditiously pursue the studies required to determine the ELCC for wind and solar resources. However, CalWEA acknowledges that the ELCC studies have been identified as part of the scope in the Commission Resource Adequacy proceeding, Rulemaking 11-10-023.

¹⁶ See PG&E Opening Comments on Proposed Decision of ALJ DeAngelis Conditionally Accepting 2012 Renewables Portfolio Standard Procurement Plans and Integrated Resource Plan Off-year Supplement, R. 11-05-005 (October 29, 2012), at Attachment 1.

¹⁷ *Id.*

wholesale market participant's different portfolio positions and different capabilities, opportunities, and constraints for wholesale market activities.”¹⁸ In other words, PG&E adjusts the value based on its preference for particular types of energy. Again, allowing PG&E to implement its PAV places a quantitative value on qualitative preferences, which results only in eliminating the objective value of the ANMV calculation. In the context of PG&E's proposed “energy firmness” adjustment, the error is further compounded by the failure to disclose how the level of the adjustment will be set for a particular resource. If bidders do not know how the bid will be valued, they cannot tailor projects to provide the greatest value to the utility, and its ratepayers, at the lowest cost. Accordingly, the Commission should reject PG&E's argument that it needs to supplement the ANMV calculation with the PAV methodology.

4. The Commission should use actual, current data from the CAISO's markets to develop an integration cost adder

The ACR asked parties to present detailed proposals, including quantitative examples, for implementation of the portion of Section 399.13(a)(4) that requires the LCBF bid evaluation process to consider integration costs.¹⁹ This would replace, using real integration costs, the placeholder of zero such costs which the Commission has long had in the LCBF methodology.

CalWEA was the only party to present in opening comments a quantitative (or even conceptual) proposal for an integration cost adder using actual, current data from the CAISO's markets. The CalWEA proposal is based on recent data on the load following costs which renewable generation causes the CAISO to incur. CalWEA recognizes that its proposal uses a limited, three-month set of data from January-March 2012 on the costs of the CAISO's Flexible Ramping Constraint (“FRC”), that data from additional months is needed, and that the CAISO is continuing to refine its methodology for allocating FRC costs between load and various types of

¹⁸ *Id.*

¹⁹ October 5 Ruling, Questions 24-28.

supply sources. Many parties' opening comments recommended that the Commission conduct a workshop to develop further the details for an integration cost adder.²⁰ CalWEA supports these recommendations, and would be happy to present the details of its integration cost adder proposal at such a workshop, hopefully using additional FRC data from additional months in 2012. CalWEA asks the Commission to encourage the CAISO to make such data available to stakeholders as soon as possible.

PG&E's opening comments appear to suggest that the Commission should just "pick a number" for an integration cost adder, stating that "the precise number is less important than providing a reasonable price signal to the market and recognizing the costs of integration for California's energy consumers."²¹ In the prior phase of this case on the 2012 RPS plans, PG&E proposed an integration cost adder of \$8.50 per MWh (in 2012 dollars), which PG&E asserted was a modeling assumption developed for the 2010 long-term procurement planning ("LTPP") case. In fact, this assumption dates from the Commission's 2006 greenhouse gas proceeding, was carried over to the 2010 LTPP case, and, in the words of the Commission's consultant, was used "in the absence of more rigorous analysis of California-specific integration costs."²² PG&E's number was not only dated; it also appears to be based on costs and studies performed in other control areas with significantly different resource mixes than the CAISO grid.²³ Based on CalWEA's initial review of the CAISO's FRC costs, presented in CalWEA's opening

²⁰ SCE Opening Comments at 31; Brightsource Energy Opening Comments at 20; Sierra Club Opening Comments at 8.

²¹ PG&E Opening Comments at 25.

²² See "Assigned Commissioner and Administrative Law Judge's Joint Scoping Memo And Ruling" in the 2010 LTPP case, R. 10-05-006, mailed December 3, 2010, Attachment 2, "Standardized Planning Assumptions (Part 2 – Renewables) for System Resource Plans," at 18. "E3 has assumed that the costs of integration will be captured in any REC contract and uses a flat adder of \$7.50 per MWh for intermittent resources. ... [footnote] This value was developed during E3's Greenhouse Gas modeling for the Commission in Rulemaking (R).06-04-009. It is used here in the absence of more rigorous analysis of California-specific integration costs."

²³ PG&E's number appears based largely on a Bonneville Power Administration (BPA) wind integration tariff. The IOU July 1, 2011 Track 1 testimony in R. 10-05-006, at Attachment A, pages A-22 to A-24, cites the BPA Wind Balancing Service tariff of about \$7.50 per MWh as the integration costs associated with out-of-state RPS power.

comments, PG&E's proposed adder is more than an order of magnitude higher (i.e., more than ten times higher) than the actual integration-related costs which the CAISO is incurring today. This illustrates the problems that can arise from PG&E's "pick a number" approach to an integration cost adder, and underlines the wisdom of the Commission's reluctance to adopt such an adder unless it is based on real CAISO data and has been thoroughly vetted through a public process.²⁴

CalWEA also wishes to respond to the opening comments of Brightsource Energy ("BSE") that renewable integration costs are "highly dependent on the nature of the overall portfolio and the extent to which its elements have been selected so as to provide an optimal whole."²⁵ BSE believes that

[m]ultiple studies have shown that as renewables penetration increases, significant challenges to maintaining reliability will emerge, and the utility of currently commercially deployed technologies (such as photovoltaics with standard inverters and without storage, or wind designed to generate energy primarily in peak wind conditions) will lessen, particularly with respect to the new "shifted" peak and capacity value.²⁶

BSE contends that the current LCBF methodology undervalues solar thermal projects that include thermal storage, and that such projects will increase in value relative to other renewable technologies as the penetration of renewables grows.²⁷ BSE believes the LCBF process should be reformed to place greater emphasis on technologies such as solar thermal with storage that can reduce integration costs and achieve higher values for capacity than standard PV or wind resources.

In particular, BSE cites a recent study from the Lawrence Berkeley National Lab ("LBNL") that studied how the value of different renewable technologies changes as the

²⁴ See, most recently, D. 12-11-016, at 27-29.

²⁵ BSE Opening Comments at 20.

²⁶ *Id.* at 5.

²⁷ *Id.* at 21-22.

penetration of each technology increases.²⁸ BSE contends that this study shows that solar thermal projects with storage offer “dramatically increased comparative economic value at higher solar penetrations,” stating that the study shows that “concentrated solar power with 6 hours of storage offers a \$19/MWh benefit over solar PV at 5% penetration of solar energy, and a \$35/MWh benefit by 10% penetration — roughly the penetration levels currently being planned towards in California under the 33% RPS.”²⁹

When one reads the LBNL Study carefully, it is clear that BSE substantially misinterprets the findings of the LBNL Study. The specific numbers in the LBNL Study do not provide a direct basis for changes to the LCBF process or to the RPS contract approval process. There are several ways in which BSE has misused the LBNL Study’s findings:

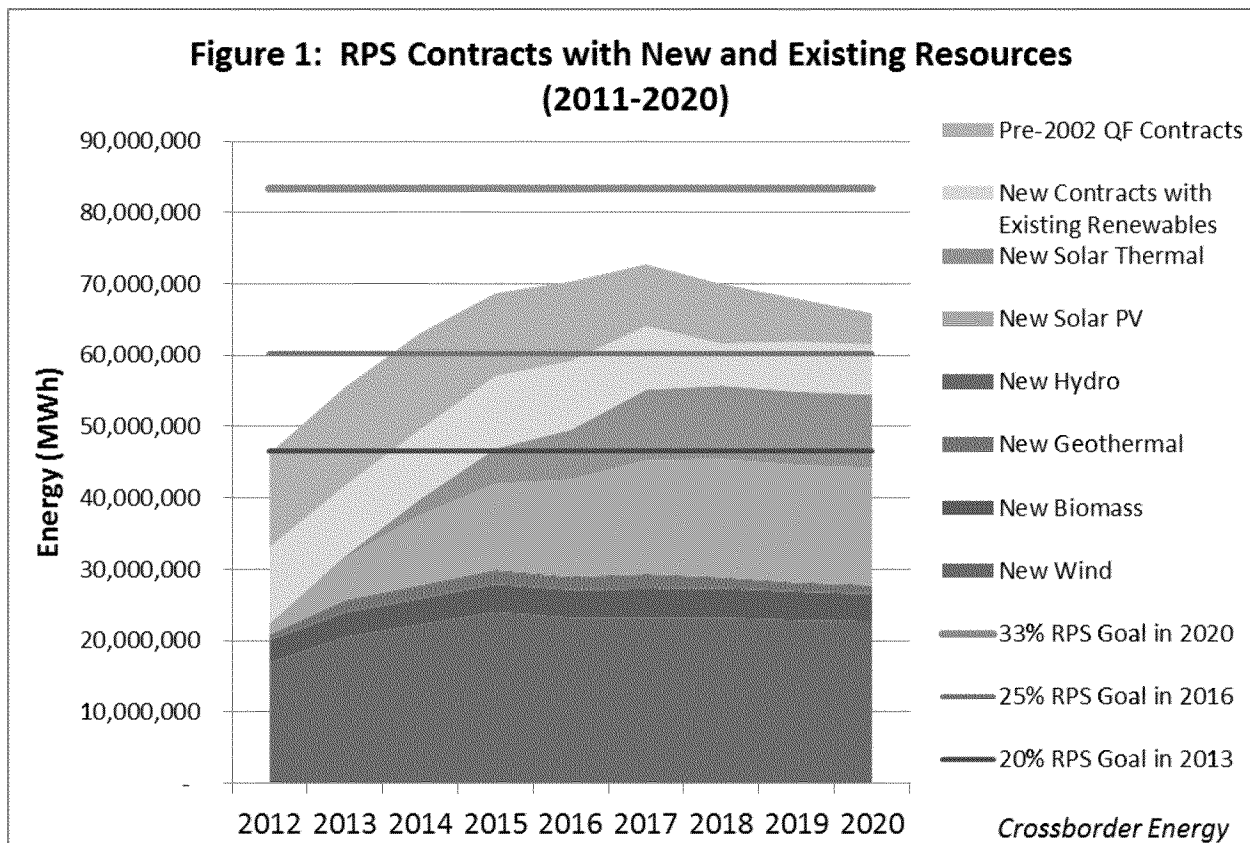
- The LBNL researchers calculated the value of various renewable technologies at increasing penetration levels assuming that the technology being valued is the only renewable technology that is added to the system. Although this assumption is useful to isolate the value of individual technologies, it is not a realistic assumption for the future of California’s renewables portfolio, which certainly will be a diverse mix of technologies (see **Figure 1**³⁰ below). The LBNL researchers fully acknowledge this limitation, noting at the outset of their study that they are “leaving examinations of adding combinations of VG [variable renewable generation] technologies to a future report.”³¹

²⁸ Mills, A., and R. Wiser, “Changes in the Economic Value of Variable Generation at High Penetration Levels: Pilot Case Study of California,” Lawrence Berkeley National Laboratory, LBNL-5445E (June 2012), available at <http://eetd.lbl.gov/ea/emp/reports/lbnl-5445e.pdf>, hereafter “the LBNL Study.”

²⁹ BSE opening comments at 25.

³⁰ The sources for the data in Figure 1 are RPS compliance reports that the IOUs file at the CPUC and that the POUs submit to the CEC.

³¹ LBNL Study at 3.



- The LBNL Study shows that the renewable technology whose value drops off the most rapidly with increasing penetration is not wind or solar PV, but solar thermal without storage.³² The fact that solar thermal with storage retains much of its value at higher penetrations is not a function of the solar thermal technology, but of storage. There are many ways to provide storage or to enhance the flexibility of generation or load on an electric system, and many of those paths may be less expensive than adding storage to a solar thermal facility. The LBNL Study did not examine the costs of solar thermal storage compared to these other types of flexibility. Again, the LBNL researchers plan further study of “how changes in the power system, like price-responsive demand, more flexible thermal generation, or lower cost bulk storage, might impact the value of variable generation.” They conclude that “each of these ‘mitigation strategies’ might help to slow the decline in the marginal economic value of variable generation found in this report.”³³
- The LBNL Study is very clear that it does not consider the relative capital and operating costs of the various renewable technologies, or of different forms of storage or of resources to integrate variable renewables.³⁴ Thus, even if solar thermal with storage has a higher value than wind, solar PV, or solar thermal

³² *Id.* at Table ES-1 and Figure 10.

³³ *Id.* at 8.

³⁴ *Id.* at 3 and 20-21; “the present analysis does not consider the investment cost in VG resources.”

without storage, its higher costs may not justify its selection over other generation technologies or other forms of storage.

- Without considering storage, the LBNL research actually shows that wind retains more of its value at higher penetrations than do solar technologies, and wind's value exceeds solar PV or solar thermal for penetrations higher than 10%. This is one of the primary conclusions of the LBNL Study.³⁵
- The LBNL model uses assumptions for loads, variable generation profiles, and existing generation capacities that “loosely correspond to California in 2030,” but “are not meant to exactly model California.”³⁶ The researchers included only resources located within California or dynamically scheduled into the state, and did not model transmission, transmission constraints, or resources located in other parts of the WECC. Due to these limitations, the numbers used in the LBNL Study should be used as the basis for further inquiry, and should not, as BSE attempts to do,³⁷ be used to reach conclusions about the overall relative value of the various technologies.

The primary conclusion of the LBNL Study is that the relative economic value of various renewable technologies will change over time, as penetration increases; thus “as renewable energy penetration increases new analysis will be needed.”³⁸ CalWEA agrees, and encourages the Commission to embark on further analysis.

C. Commission Should Not Use The RPS Procurement Process To Engage In Environmental Review Of Projects Because These Projects Are Already Subject To Environmental Review By Other Agencies

The Natural Resources Defense Council, Sierra Club, The Nature Conservancy, and Defenders of Wildlife (collectively, the “Environmental Groups”) propose in their joint opening comments that the Commission should (1) develop an environmental screening tool and deny cost recovery to any PPA for a project that fails to pass this screen,³⁹ and (2) establish new

³⁵ *Id.* at 72, also Table ES-1 and Figure 10.

³⁶ *Id.* at 32.

³⁷ BSE opening comments, at 24. “A number of national lab studies and surveys have confirmed that concentrated solar power with thermal storage retains capacity value and energy value as system conditions change with increasing solar penetration. These are not insignificant value differences, and in fact in themselves can possibly close the gap between current concentrated solar power and PV bids.”

³⁸ LBNL Study, at 71.

³⁹ Environmental Groups Opening Comments at 3-4.

standard terms and conditions (“STC”) addressing on-going compliance with project permits.⁴⁰ In both cases, the Environmental Groups are requesting that the Commission use the RPS procurement process to engage in environmental review of proposed projects. Environmental review of a project has routinely been found to be outside the scope of the Commission’s review of PPAs. To wit: “As previously noted by this Commission, the Commission’s review of PPAs is confined to approval of costs pursuant to a PPA.”⁴¹ Thus, the Commission should reject both of these proposals because every project is already subject to environmental review by other agencies pursuant to existing law.

1. The Commission should reject the Environmental Groups’ proposal to develop an environmental screening tool to be used to deny cost recovery

The Commission should reject the Environmental Groups’ proposal to develop an environmental screening tool and deny cost recovery to any PPA for a project that fails to pass this screen. The IOUs’ *pro forma* PPAs already require developers to obtain all required permits by the project’s commercial operation date, and developers are subject to default and payment of damages in the event they fail.⁴² In order to obtain those permits, developers will be required to undergo all environmental reviews required by law. Given the exhaustive permitting requirements that are already imposed on renewable energy projects, and the significant contractual incentives to comply with these requirements, there is no need for the Commission to engage in any environmental review. Indeed, as noted above, environmental review of a project is outside the scope of the Commission’s review of PPAs. “Further, Commission approval of the PPA does not exempt the project from compliance with all applicable environmental laws nor does it limit the review of project alternatives should future environmental reviews of the

⁴⁰ *Id.* at 4.

⁴¹ Resolution E-4439 at 18.

⁴² See *e.g.*, PG&E 2012 pro forma RPS PPA §§ 3.9(a)(iii), 3.9(c)(iii)(A)(II), 5.1(b)(iii)-(iv), 5.2, and 5.3.

development projects require such analysis.”⁴³ Thus, the Commission should reject the Environmental Groups’ proposal to develop an environmental screening tool because there is no need for the Commission to engage in environmental review.

2. The Commission should reject the Environmental Groups’ proposal to establish new environmental standard terms and conditions

Similarly, the Commission should reject the Environmental Groups’ proposal to establish new environmental-related STCs to address conservation concerns directly in PPAs.⁴⁴ The IOUs’ *pro forma* PPAs already require the seller to comply with the project’s permits.⁴⁵ In addition, as noted above, neither the PPA itself nor the Commission’s approval of the PPA exempts the seller from its obligations to comply with its permits pursuant to applicable environmental laws. Thus, the Commission should reject the Environmental Groups’ proposal to develop environmental STCs because there is no need for the Commission to engage in monitoring compliance with permits.

D. The Commission Should Acknowledge That The 33% RPS Requirement Is A Floor, Not A Cap, On Renewable Energy Procurement

In its opening comments, CEERT noted that IOU procurement is required to comply with the State’s loading order, which establishes a preference for renewable energy procurement even after the 33% RPS is met.⁴⁶ CEERT also expressed concerns about the lack of integration between the LTPP and RPS procurement processes and noted the “widespread concern . . . that, without the Commission taking steps to ensure that preferred resources are fairly and appropriately considered in IOU request for offers (RFOs) or in planning scenarios, the result

⁴³ Resolution E-4439 at 18.

⁴⁴ Environmental Groups Opening Comments at 3-4.

⁴⁵ See *e.g.*, PG&E 2012 *pro forma* RPS PPA §§ 1.144 and 3.5(a).

⁴⁶ CEERT Opening Comments at 4-5.

will be an ‘all gas’ forecast and future or will require the IOUs to embark on a procurement that would exclude preferred resources.”⁴⁷

CalWEA agrees with CEERT that “reaching a 33% RPS is not the end point for, nor does it set a limit on, procuring renewables, especially as a preferred resource in the Commission’s Loading Order.”⁴⁸ As CalWEA noted in its opening comments, the 33% of retail sales used to calculate the RPS net short is a floor, not a cap.⁴⁹ However, the ACR’s proposed SORs for review of PPAs and PPA amendments make repeated reference to the need for procurement to be consistent with the RPS net short. Given the State’s emphasis on procurement of renewable energy, even after achievement of the 33% RPS requirement, the Commission should not use consistency with the RPS net short as a rigid basis for rejecting a PPA or PPA amendment that increases purchases. Instead, the Commission should clarify that the 33% RPS requirement is a floor, not a cap, on RPS procurement.

In addition, CalWEA agrees that the Commission should pursue better integration of the LTPP and the RPS processes to ensure that the LTPP does not default to an “all-gas” scenario that eliminates the ability of renewable energy to compete to meet general procurement needs. CalWEA encourages the Commission to expand on the “least-cost, best-fit” quantitative analysis being developed in this proceeding for application to resource procurement more broadly, such that resources with different capabilities and cost structures may be compared on a uniform net value basis.

⁴⁷ *Id.* at 5.

⁴⁸ *Id.*

⁴⁹ Cal. Pub. Res. Code § 25740 (“It is the intent of the Legislature in establishing this program, to increase the amount of electricity generated from eligible renewable energy resources per year, so that it equals *at least* 33 percent of total retail sales of electricity in California per year by December 31, 2020.” (emphasis added)).

III. CONCLUSION

For the foregoing reasons, the Commission should adopt the recommendations set forth in these comments.

Respectfully submitted,



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

December 12, 2012

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 Second Assigned Commissioner's Ruling Issuing Procurement Reform Proposals* are true of my own knowledge, except as to the matters which are therein stated on information and belief, and as to those matters I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 12, 2012 at Berkeley, California.



Nancy Rader

Executive Director, California Wind Energy Association