

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking  
Pursuant to Assembly Bill 2514 to  
Consider the Adoption of  
Procurement Targets for  
Viable and Cost-Effective Energy  
Storage Systems.

Rulemaking 10-12-007  
(Filed December 16, 2010)

**CLEAN COALITION REPLY COMMENTS ON ASSIGNED COMMISSIONER  
RULING**

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## **CLEAN COALITION REPLY COMMENTS ON ASSIGNED COMMISSIONER RULING**

In accordance with the Assigned Commissioner Ruling from June 11, 2013, the Clean Coalition provides the following reply comments on the suggested energy storage procurement targets and related matters.

The Clean Coalition is a California-based nonprofit organization whose mission is to accelerate the transition to local energy systems through innovative policies and programs that deliver cost-effective renewable energy, strengthen local economies, foster environmental sustainability, and enhance energy security. To achieve this mission, the Clean Coalition promotes proven best practices, including the vigorous expansion of Wholesale Distributed Generation (WDG) connected to the distribution grid and serving local load. The Clean Coalition drives policy innovation to remove major barriers to the procurement, interconnection, and financing of WDG projects and supports complementary Intelligent Grid (IG) market solutions such as demand response, energy storage, forecasting, and communications. The Clean Coalition is active in numerous proceedings before the California Public Utilities Commission and other state and federal agencies throughout the United States in addition to work in the design and implementation of WDG and IG programs for local utilities and governments.

### **Replies to specific comments**

#### **a. Southern California Edison (SCE)**

##### **i. General comments**

SCE states (SCE opening comments at 2): “SCE urges the Commission to ensure that the procurement targets will result in energy storage that provides maximum benefit to the system at the lowest possible cost.” The Clean Coalition shares SCE’s concern about costs to ratepayers. However, what SCE urges in this passage is not the correct principle or approach with respect to energy storage. AB 2514 does not require that storage be procured “at the lowest possible cost.” Rather, it requires that energy storage be cost-effective. Exactly what cost-effective means in this context has yet to be determined, but it should not be interpreted to mean, as SCE apparently suggests, procurement at the lowest possible cost. SCE’s mistake is compounded with their statement on the same page of their opening comments that “such aggressive procurement will come at a high cost to California ratepayers.” As we have stated in previous comments in this proceeding, energy storage must by law be procured in a cost-effective manner, which means, by definition that such procurement will not “come at a high cost to California ratepayers.”

SCE also calls for the Commission to (id.) “allow load-serving entities (“LSEs”) more flexibility to achieve the targets than proposed in the ACR, including flexibility in ownership models and procurement methods and among the storage “buckets.” Again, we support some flexibility in terms of procuring energy storage, but we urge the Commission to not provide the range of flexibility that SCE requests because all too often such flexibility has led to inaction and has hampered market development. The Commission must strike an appropriate balance between ensuring that cost-effective energy procurement targets are met, transforming the market, and allowing utilities’ sufficient flexibility to achieve cost-effective deployment.

## **ii. Costs of procurement**

SCE continues with its theme of high costs for energy storage procurement on page 5 of its opening comments, stating: “Recent evaluations of the ACR’s proposed storage

procurement program have estimated that it could cost up to \$3 billion dollars with uncertain net benefits for customers.” Not only is this figure not cited or further discussed, it directly contradicts the two reports on cost-effectiveness completed for this proceeding by EPRI and DNV KEMA, both of which have found in preliminary analyses that energy storage in the large majority of circumstances that benefits will outweigh costs. SCE’s statement here is, accordingly, extremely puzzling. It is even more puzzling when we consider it alongside statements from SCE and other utilities in workshops on the EPRI and DNV KEMA analyses, in which SCE stated its general agreement with the preliminary findings of these reports.

### **iii. Revisiting procurement targets**

SCE urges the Commission to “regularly revisit” the procurement targets suggested in the ACR (opening comments at 5). The Clean Coalition urges the Commission to reject this recommendation. California’s renewable energy programs are fraught with missteps and re-designs, which have a net impact of undermining the efficacy of such programs. As a recent example, SCE’s own 500 MW SPVP program has been dramatically twice re-designed in the last year, with large sums of this program being shifted to the RAM program, subverting the intent of the SPVP to incentivize 1-2 MW rooftop solar because such projects cannot compete in the RAM program (because it includes projects up to 20 MW). The Commission should in this proceeding make clear that it will only revise its procurement targets with clear findings that the targets are not producing cost-effective procurement. In this manner, ratepayers are protected against storage that is not cost-effective and developers are provided with the necessary certainty for entering California’s competitive and all-too-often uncertain energy markets. We have proposed in opening comments a mechanism for ensuring that both cost-effectiveness and market certainty are optimized and we reiterate our procurement mechanism recommendation here.

SCE correctly points out that the Commission must, under AB 2514, re-visit its procurement targets every three years. We urge the Commission to not undergo any such process any more frequently than statutorily required, and we urge the Commission to provide a framework early in this proceeding by which it will undergo such re-evaluations – again, to bolster market certainty. We recognize, however, that the Commission may need to revisit the procurement mechanisms and standard value pricing numbers more often, possibly annually.

Last, SCE’s suggestion that procurement could be slowed down in order to reduce costs, while on its face seems sensible, would in fact subvert the primary intent of this program: to spur market transformation. California should be at the forefront of the energy storage revolution, not a passive observer. AB 2514 supports our position, with the preamble of the bill stating (Sec. 1(f)):

There are significant barriers to obtaining the benefits of energy storage systems, including inadequate evaluation of the use of energy storage to integrate renewable energy resources into the transmission and distribution grid through long-term electricity resource planning, lack of recognition of technological and marketplace advancements, and inadequate statutory and regulatory support.

The ACR itself follows up on the bill language (p. 3): “This ACR suggests procurement targets for energy storage with the goal of market transformation.” The ACR also includes “progress toward market transformation” in its recommended measures for evaluating the effectiveness of the new program (p. 20).

#### **iv. Technology types**

SCE urges the Commission to include pumped hydro storage in its procurement targets (p. 6). The Clean Coalition disagrees with this recommendation because pumped hydro storage is a more mature technology than the other storage technologies, and these

projects take longer to develop. Moreover, including pumped hydro storage could very well eliminate all other technologies from competing because pumped hydro projects tend to be very large and one or two of these projects could literally exhaust the entire storage procurement program.

Alternatively, if the Commission is willing to consider higher levels of procurement for its targets, we are not opposed to including pumped hydro storage or other large-scale storage technologies. For example, CESA has called for increasing the storage targets by 3,000 MW and allowing inclusion of pumped hydro storage. We support this alternative, as discussed below.

#### **v. Ownership models**

SCE calls for allowing UOS (utility-owned storage) and “UOS proposals should supplement, not replace, solicitations for third-party projects.” (SCE opening comments at 8). The Clean Coalition agrees with this recommendation because there are some circumstances where UOS will make more sense than independently-owned projects due to IOUs’ operation of various grid assets such as substations or utility-owned generation. In terms of the appropriate percentage of UOS, we previously commented: “The Clean Coalition supports the ACR in its recommendation that a portion of the procurement targets be made available for utility-owned storage projects. We recommend, however, that the Commission provide a rationale for the 50% figure since none is provided.” We reiterate this recommendation here.



**vii. Off ramps**

SCE suggests that IOUs should be relieved of their procurement obligations for storage if the costs of solicited bids appears “to be too high.” (SCE opening comments at 16). SCE also suggests that “reasonable” offers or projects should be the standard. Again, SCE’s suggestions subvert the objective of market certainty. SCE’s suggestions provide zero guidance to market participants as to what SCE might consider to be “too high” or “reasonable.” We urge the Commission to reject SCE’s suggestions accordingly.<sup>2</sup> We have in opening comments suggested a methodology whereby each service provided by energy storage projects would be assigned a standard value and it will be up to developers to bid projects based on the standard value they expect to receive for their projects. This allows the Commission to establish what is deemed cost-effective (under standard values) and to provide appropriate market certainty. SCE’s suggestion provides neither and should be rejected.

**b. PG&E**

**i. Procurement targets and timeframe**

PG&E recommends that the procurement targets be re-weighted to the backend of the target period (PG&E opening comments at 5). We note first that PG&E relies on California’s experience with the RPS and contracts signed from 2007 to 2010, arguing that “California utilities were forced to contract for high priced renewables before ... price drops had been realized.” We note that PG&E provides no evidence for this claim and it is our understanding that almost all RPS contracts signed within the window

<sup>2</sup> SCE adds (p. 23) that “reasonableness of cost should be ensured through ‘offramp’ mechanisms and flexibility provisions.” We note that this reasoning is entirely circular because SCE also argues that off ramps should be designed such that the IOU’s determination of cost reasonableness would dictate the applicable off-ramps. It shouldn’t require stating that circular reasoning is faulty reasoning.



PG&E points to were required to be cost-effective, with some leeway provided under the Supplemental Energy Payments system, as is the case with storage under AB 2514. It is only with the signing of SB 1(x) that the cost-effectiveness requirement was relaxed for RPS projects. Regardless, before the Commission accepts as gospel that backending storage procurement targets will save ratepayers money, actual evidence should be required. Additionally, we note that a key objective of this proceeding is to effect market transformation. Waiting for costs to come down due to activity in other markets is not market transformation – it is passive bystanding.

#### **ii. Use of EPRI and DNV KEMA models**

PG&E urges the Commission to eliminate the ACR's suggestion that IOUs use the EPRI and DNV KEMA models in addition to their own models for evaluating cost-effectiveness. (PG&E opening comments at 8). We note first that if the Commission grants PG&E's request, significant stakeholder and Commission feedback on each IOU cost-effectiveness model would be required. Parties have not yet had a chance to comment on the IOU models. Second, our standard value pricing proposal in our opening comments would moot this issue because it would require the Commission to develop, with IOUs and other stakeholders, a standard value for each service that storage can provide. This would be a *de facto* cost-effectiveness metric and developers would utilize the standard values to construct their bids. We again urge the Commission to seriously consider our recommendations in this regard.

#### **iii. Third party ownership of distribution-interconnected storage**

PG&E also suggests that all distribution-interconnected storage should be UOS (p. 13), arguing that P.U.C. Section 399.2(a)(2) requires that a utility be responsible for owning

and operating the distribution grid. We agree with PG&E that more discussion is required on this point, but we do not agree at this point that there is no room for third party ownership of this type of storage.

**c. TURN**

TURN also argues that IOUs should be allowed flexibility in changing bucket procurement targets – but without providing any rationale as to why. With AB 2514’s requirement that all energy storage procured be cost-effective it is not clear why the bucket targets should be subject to discretion exercised by the IOU. TURN fails to take into account a key objective of the Commission and parties like the Clean Coalition: market transformation and the market certainty that such transformation requires. These are not absolutes, and some degree of flexibility is of course desirable. But that flexibility should be exercised by the Commission in a public process, not by each IOU in an opaque process.

**d. DRA**

DRA states (DRA opening comments at 1) that “storage should compete on an equal footing with options to ensure that storage is procured in areas where it is the least-cost option and will provide needed benefits to the grid.” As with our response to SCE above, it is important to note that AB 2514 requires cost-effectiveness, not “least-cost” as DRA suggests. DRA also recommends that “any target program should have 100 percent flexibility.” We strongly disagree with this recommendation because 100 percent flexibility obviates the targets entirely. 100% flexibility amounts to a mild exhortation from the Commission about the benefits of storage rather than an effective market transforming policy. The ACR makes clear that market transformation is a key

objective and DRA's comments ignore this objective.

**e. CESA**

**i. Procurement targets**

CESA suggests that pumped hydro, and all other storage technologies, should be eligible under this procurement program, and that an additional 3,000 MW of transmission level storage should be added to the procurement targets for the 2020 cycle (CESA opening comments at 3, 7-8). The Clean Coalition, as discussed briefly above, agrees with this alternative – but we stress that all procurement targets are necessarily subject to the cost-effectiveness criterion of AB 2514.

**ii. Installation targets**

The Clean Coalition agrees also that installation targets should be added to the procurement targets, as CESA argues (*id.*).

**iii. Procurement mechanisms**

CESA recommends that the Commission require RFOs, bilateral offers or standard offers for procurement, rather than RAM, as proposed in the ACR (p. 9). CESA adds “CESA advocates that the Commission should standardize the benefits side of the cost-effectiveness allocation.” (P. 10). CESA provides some detail as to how the standard offer process could be fleshed out (pp. 10-11). CESA's recommendation is similar in this regard to the Clean Coalition's recommendation of a standard value pricing methodology, and we support CESA's recommendations insofar as they agree with our

proposed methodology. We are not opposed to also allowing RFOs or bilateral offers, as CESA recommends, for certain kinds of storage. However, we recommend that the Commission draft a straw proposal on procurement mechanisms and solicit party feedback. This is a complex issue and it will require significantly more discussion before all parties are satisfied that the appropriate procurement mechanisms have been selected.

**f. IREC**

The Clean Coalition agrees with IREC that the targets should be more evenly weighted toward distribution-interconnected projects. (IREC Opening Comments, p. 4). We do not agree, however, that transmission-interconnected storage procurement targets should be deferred at this time, as IREC also suggests (p. 5). Market transformation is important for all sectors of the storage market.

We also disagree with IREC’s statement that “in most cases, the co-location of storage and individually owned renewable generation (such as residential or small commercial PV installations) is unlikely to be a cost-effective solution.” (IREC opening comments at 7). IREC doesn’t provide evidence or citations for this assertion and the recent preliminary DNV KEMA study completed for this proceeding analyzed a customer-owned use case and found that customer-owned storage was cost-effective in every scenario analyzed, including the “high storage cost” scenarios (p. 61)<sup>3</sup>:

The primary findings from the customer use case analysis are as follows:

1. Customer owned and operated storage is cost-effective for facilities with high peak demand to base load ratio, under tiered TOU tariffs with high demand

<sup>3</sup> PG&E notes (p. 18 opening comments) that DNV KEMA applied the incorrect cost-effectiveness test to the customer use case. If this is the case, we urge the Commission to further develop information on this issue before making any change to the current procurement targets.

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2. Current SGIP incentives are critical to storage cost-effectiveness.

The DNV KEMA report does not discuss scenarios that don't include current SGIP incentives so it is not clear from the analysis provided how far from cost-effectiveness such projects would be without the SGIP incentives.

For these reasons, we disagree with IREC's recommendation that the "Customer" use category in the proposed procurement targets "be reduced or eliminated." It may be the case with further evidence that such a change would be reasonable, but the evidence to date does not warrant such a change at this time.

Last, IREC recommends that (p. 9) "the Commission should direct the utilities to deploy storage in locations that would facilitate DG growth." The Clean Coalition fully agrees with this recommendation as we have been calling for integrating renewable energy and storage ("DG+IG") into distribution planning for some time now.

Respectfully submitted,

\_\_\_\_\_/s/\_\_\_\_\_

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