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)

OPENING COMMENTS OF THE CONSUMER FEDERATION OF CALIFORNIA ON THE ASSIGNED COMMISSIONER'S RULING PROPOSING STORAGE PROCUREMENT TARGETS AND MECHANISMS AND NOTICING ALL-PARTY MEETING.

The Consumer Federation of California ("CFC") submits the following opening comments in response to the "Assigned Commissioner's Ruling Proposing Storage Procurement Targets and Mechanisms and Noticing All-Party Meeting," issued on June 10, 2013 (hereafter, Ruling). CFC appreciates the Commission's commitment to move forward in identifying and helping to resolve issues related to Energy Storage. The Staff Proposal generally represents the Commission's effort to balance the needs of stakeholders while recognizing the importance of fully analyzing barriers and impediments before adopting widespread use of Energy Storage.

I.INTRODUCTION

CFC takes a broad view of consumer issues, considering the impact of public policy on the quality and cost of goods and services as well as its effects on working Californians, their families and their communities. In the near future, electric energy storage will be an important element of the electricity infrastructure and have a large impact on the cost of energy to ratepayers. Storage opportunities are many, each multifaceted, involving numerous stakeholders and interests. There are various "potentially complementary and significant benefits associated with" proven storage

technologies in use today and with future storage technologies which are expected to have improved performance and lower cost. In fact, recent improvements in energy storage, coupled with changes in the electricity marketplace, indicate an emergence of and expanding opportunity for electricity storage as a cost effective electric energy complement.[1] To make the most of this opportunity for the benefit of ratepayers, it is essential the State promote energy efficiency and develop energy storage policy in a thoughtful manner keeping in mind the following principal areas: reduction of ratepayer price, optimization of demand and generation, reduction of greenhouse gases emissions, and improvement of grid utilization.

II.DISCUSSION

In deciding how to proceed with an auction plan, it would benefit the Commission to review the successes and failures of similar, already functioning policies. Much of the literature on renewable reverse auctions to date has focused on the United Kingdom's Non-Fossil Fuel Obligation (UK-NFFO)[2], Germany's feed-in tariffs[3], and the Chinese Wind Concession Program and Brazil's technology specific auctions. Overall, the results of these auctions are promising: prices of the technologies and associated energy have fallen, achieving low enough levels that they pave the way for direct competition between technology sources, and arrangements for financing have attracted major component manufacturers to the participating countries.[4] Each analysis has accredited such auctions for the dawning of understanding

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[1] Jim Eyer and Garth Corey. SANDIA REPORT. SAND2010-0815. February 2010. *Energy Storage for the Electricity Grid: Benefits and Market Potential Assessment Guide. A Study for the DOE Energy Storage Systems Program*. p. xv

[2] Mitchell, Catherine. 1995. *The Renewables NFFO: A Review*. Energy Policy 23 (12):1077–1091; Mitchell 2000. *The England and Wales Non-Fossil Fuel Obligation: History and Lessons*. Annual Review of Energy and the Environment 25: 285–312. Mitchell, Catherine, and Peter Connor. 2004. *Renewable Energy Policy in the UK 1990–2003*. Energy Policy 32 (November): 1935–1947. doi:10.1016/j.enpol.2004.03.016; Komor, Paul, and Diebold Institute for Public Policy Studies. 2004. *Renewable Energy Policy*. New York: IUniverse.

[3] Mitchell 2000; Butler, L, and K Neuhoff. 2008. *Comparison of Feed-in Tariff, Quota and Auction Mechanisms to Support Wind Power Development*. Renewable Energy (February 20). doi:10.1016/j.renene.2007.10.008. http://linkinghub.elsevier.com/retrieve/pii/S0960148107003242.

[4] GWEC. 2011. *Global Wind Report - Annual Market Update 2010*. Global Wind Energy council; Porrua, Fernando, Bernardo Bezerra, Luiz Augusto Barroso, Priscila Lino, Francisco Ralston, and Mario Pereira. 2010. *Wind Power Insertion Through Energy Auctions in Brazil*. IEEE.

about the issues renewable energy policy as a whole needs to address.[5] All around, the approach has been praised for a "decent job of deployment and price reduction."[6] This optimism notwithstanding, such policies are also criticized for leading to the consolidation of the applicable industry within the hands of large developers, not leading to domestic market creation , and not leading to widespread development and use.[7] To prevent such imbalance, and meet the Commission's goals, a well thought out plan and reinforcement measures will be critical to ensuring the storage program's success.[8]

i. Exclusions and Additions.

The exclusions outlined in the Ruling are appropriate. Any utility-owned energy storage assets that have been funded by local, state, or federal public programs should be excluded. To allow the inclusion of these publicly funded programs and projects would be tantamount to double recovery from the ratepayers. Since cost reduction and cost avoidance are not only goals of this proceeding but selling points for the adoption of energy storage, allowing double recovery would be contrary to the Commission's objectives.[9] Only the expenditures not publicly funded may be proposed for rate recovery.

ii. Operational Deployment of PIER and EPIC Funded Projects.

As the Commission has stressed, the primary purpose of both programs is technology development or demonstration, not commercial deployment. Any PIER or EPIC funded projects should only count toward the procurement targets "if a load-serving entity subject to AB 2514 is a financial partner in the

[5] Mitchell 1995

[6] Paolo Cozzi. *Assessing Reverse Auctions as a Policy Tool for Renewable Energy Deployment*. The Center For International Environment & Resource Policy. Energy, Climate, and Innovation Program The Fletcher School Tufts University May 2012 Number 007. p5

[7] Mitchell 2000; Mitchell and Connor 2004.

[8] Azuela, Gabriela Elizondo, and Luiz Augusto Barroso. 2011. *Design and Performance of Policy Instruments to Promote the Development of Renewable Energy: Emerging Experience in Selected Developing Countries*. The World Bank.

[9] University of California for the California Energy Commission. *Public Interest Energy Research (PIER) Program Final Project Report: 2020 Strategic Analysis of Energy Storage in California*. November 2011. P.82.

project, and the project reaches actual operations and can be shown to meet one of the three purposes set out" in the Ruling.[10] The reasoning behind this is parallel to the reasoning for exclusion of publicly funded projects. Any expenditure in the auction, presumably, would be approved for some form of rate recovery. To charge the ratepayer for a project paid for through other government or public funds would run counter to the price reduction goal of this proceeding.

iii. "Carry Over" Exceeding Procurement target

Since the ultimate goal of the reverse-auction policy is to encourage the development and widespread use of energy storage technology, it would not be prudent to allow the utilities to "bank" overages for following year targets. Such a policy would hinder the widespread development by creating artificial barriers to market entry, delay technology deployment, and limit usage and prices to the preceding four year term in which they were purchased. As a result, new assets would be delayed in implementation; market access would be consolidated in the hands of the few marketable technologies available in 2014 and large developers who can afford to compete. This would, ultimately, eliminate any "internalized benefit" the program would provide to ratepayers.[11] An "internalizable benefit," according to the DOE, is "one that can be 'captured', 'realized', or received by a given stakeholder or stakeholders."[12] Allowing the application of earlier purchases to apply to future years' auctions will stifle the widespread development and use of new technology, negate the internalized benefits of the program, and end in a result contrary to the goals of the Commission and this proceeding.[13]

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[10] *Assigned Commissioner's Ruling Proposing Storage Procurement Targets and Mechanisms and Noticing All-Party Meeting*. p.11

[11] Jim Eyer and Garth Corey. SANDIA REPORT. SAND2010-0815. February 2010. *Energy Storage for the Electricity Grid: Benefits and Market Potential Assessment Guide. A Study for the DOE Energy Storage Systems Program*. p. 2

[12] Ibid.

[13] Mitchell 2000; Mitchell and Connor 2004

iv. UTILITY FLEXIBILITY WITHIN "BUCKETS"

Assuming the needs associated with transmission, distribution, and customer-sited technology, are each different, each technology should be isolated with its own to allow for easier comparison of reasonableness of price. For example, the UK-NFFO legislation required all public electricity suppliers, and later all Renewable Energy Companies (RECs), to purchase all non-fossil generation offered to them through the auctions.[14] Auctions occurred on a specific date within specific technology bands, meaning that wind projects would compete against other wind projects but not against solar or landfill gas.[15] Once bids were solicited, they were compared with others within their technology band and the lowest-priced bids won. Keeping the different "Buckets" amongst their own field allows for more accurate comparison of pricing and bidding on technologies. Dividing storage technologies, at least for the first auction, would provide a baseline for cost comparison among the types of technologies and the specific needs they satisfy. As the Commission states in its Ruling, this proceeding is "groundbreaking" so parties should proceed with a careful, deliberate process to provide as much clarity and data as possible.

As for target levels within the bucket categories, they are appropriate. At this time, however, considering the youth of the market and early stages of technologies, it would be better, for this first auction at least, to allow the utilities to apply their target to the best available technologies marketable in 2014, no matter what their bucket category. A minimum in each bucket should be added in later auctions, perhaps 2016, once the market grows and more energy storage technology options become available.

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[14] Mitchell 1995

[15] Paolo Cozzi. *Assessing Reverse Auctions as a Policy Tool for Renewable Energy Deployment*. The Center For International Environment & Resource Policy. Energy, Climate, and Innovation Program The Fletcher School Tufts University May 2012 Number 007. p8-9.

v. COMMENT ON THE APPROPRIATE "OFF RAMPS" FOR RELIEF FROM PROCURING UP TO EACH TARGET AND WHAT METRICS SHOULD BE USED TO EVALUATE THE APPROPRIATENESS OF THE OFF RAMPS

Off-Ramps can be beneficial. In Maryland, for example, utilities may request that the Maryland Public Service Commission delay the incremental increases in renewable targets if the actual or anticipated cost of compliance is greater than or equal to1% of the electric supplier's total annual solar electricity sales revenues or for non-solar resources, the greater of 10% of electricity supplier's total annual retail sales or the Tier1 percentage requirement for that year.[16] However, off-ramp mechanisms can be a) indicative of an inherent lack of trust in the viability of the program (perhaps because of an unrealistic time frame), b) indicative of a lack of knowledge by parties in the intricacies of the operation of the technologies and associated systems, and c) an illustration of unrealistic expectation that parties can compile necessary data fast enough and to react appropriately, in a timely fashion to actually help with the inevitable problems that will arise.[17]

The goal of this proceeding is to encourage the development of energy storage and set procurement goals for the same. Allowing a waiver not only upsets the purpose of the proceeding but protections of rate payers negotiated as part of the proceeding would then ultimately rest with the Commission's decisions to approve or not. Assuming this proceeding results in a successful system which encourages viable, cost effective energy storage, off-ramps should not be needed.

vi. COMMENT ON HOW THE PRELIMINARY RESULTS OF THE COST-EFFECTIVENESS MODELS SHOULD BE APPLIED TO THE QUESTION OF SETTING PROCUREMENT TARGETS

The costs of energy storage are uncertain and it will definitely not come free. Most important is for all parties must work to mitigate cost increases shouldered by ratepayers, they should not hide cost

[16] Md. Pub.Util.Co. Sections 7-701 et seq., 2011

[17] Gabriella Stockmayer, Vanessa Finch, Paul Komor, Rich Mignogna. *Limiting the costs of renewable portfolio standards: A review and a critique of current methods*. Energy policy 42 (2012) 155-163

increases through sunk costs, complex administrative proceedings, convoluted opaque rate cap methodologies, or misnomers. Given how intricately different electricity markets and rates are structured, we do not presume to prescribe a preferred cost-effectiveness model that will work in all cases. Rather, we suggest that the most important factors in implementing any credible cost-effective mechanism to curtail costs are: clarity of the rule, consistency in application, and, above all, transparency for ratepayers.

vii. 2014 Auction Cost Gap

Cap setting by either the Commission or the Utilities early in the process could lead to problems reaching the goals of the program. This is illustrated in the UK-NFFO where projects were unsuccessfully brought online as a result of firms making "best-case scenario" bids which did not allow for potential obstacles or delays such as permitting problems.[18] For example, unanticipated problems faced by the UK-NFFO included: finding appropriate sites for these facilities, obtaining necessary permits from various agencies and levels of government, overcoming regulatory hurdles associated with environmental review, and meeting high capital costs for construction. The failures to anticipate these issues lead to underbidding which, in turn, lead to slow starts and unrealized projects. As stated above, we are breaking ground and cannot be too careful. Setting a cap could lead to underfunded, underbid projects which are delayed or never go online. Coupled with any potential "banking" (as discussed above), the policy could stagnate and become ineffective. Were this a utility funded pilot program, these errors would be understandable, even expected. However, the proceeding is now at the stage of planning widespread implementation at the cost of the ratepayers; all parties are obligated to avoid as much waste and cost to the ratepayers as possible.

[18] Paolo Cozzi. *Assessing Reverse Auctions as a Policy Tool for Renewable Energy Deployment*. The Center For International Environment & Resource Policy. Energy, Climate, and Innovation Program. The Fletcher School Tufts University May 2012 Number 007. p12-13.

III. CONCLUSION

We thank the Commission for consideration of these Opening Comments. We look forward to collaborating further in this Proceeding to help facilitate a timely and meaningful framework for the successful implementation of a long-term energy storage opportunity which best benefits the ratepayers.

Dated July 3, 2013 Respectfully Submitted,

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