

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1751

In the Matter of

PUBLIC UTILITY COMMISSION OF
OREGON,

Implementing Energy Storage Program
Guidelines Pursuant to House Bill 2193.

COMMENTS OF THE ENERGY FREEDOM
COALITION OF AMERICA

Introduction

The Energy Freedom Coalition of America (EFCA) is pleased to submit these comments regarding the Draft Guidelines issued on August 19, 2016 in Proceeding UM 1751. These comments specifically address the proposed storage project guidelines (Section A), the proposed proposal guidelines (Section B), as well as the proposed competitive bidding requirements (Section D).

With respect to the proposed storage project guidelines (Section A), EFCA suggests that:

- the guidance be amended to require the utilities to propose a minimum number of behind-the-meter, third-party-owned storage projects;
- there be an opportunity for the utilities as well as stakeholders to develop and bring forward proposals to establish a pilot tariff or program to support the deployment of storage solutions.

With respect to the proposed proposal guidelines (Section B), EFCA suggests that:

- the cost effectiveness analyses should seek to enumerate the totality of benefits that storage systems provide, including those benefits that accrue to host customers (in the case of behind-the-meter projects) as well as societal benefits storage projects may provide;
- the guidance clarify that the cost effectiveness analysis shall be conducted for all projects submitted to the utilities for consideration, not just those presented for those projects the utilities ultimately elect to pursue. Project proposals presented to the Commission should include information regarding how the selected project(s) compared to other projects submitted in terms of relative cost effectiveness;
- the guidance further clarify that projects the utilities ultimately elect to pursue do not need to meet a strict cost-effectiveness standard, however relative cost effectiveness is one of several criteria that should be considered when evaluating competing projects.

Lastly, with respect to the proposed competitive bidding requirements (Section D), EFCA suggests that:

- the opportunity to pursue a sole source contract should be more explicitly made an off-ramp that can only be exercised should the response to a solicitation be found insufficient.

Overview of the Energy Freedom Coalition of America

EFCA represents a broad range of businesses that are fully integrated providers of distributed energy resources (“DER”) products and services, including rooftop solar, distributed generation, battery energy storage, micro grid products, demand response and load management services, and smart energy home services. EFCA’s current members include 1 Sun Solar Electric, LLC, Ecological Energy Systems, LLC, Go Solar, LLC, Silevo, LLC, SolarCity Corporation and Zep Solar, LLC. Members also provide solar generation, including products for residential, commercial, government, community solar, and utility-scale applications. EFCA member companies serve thousands of customers in Oregon with on-site solar electricity.

EFCA Recommendations Regarding Proposed Project Guidelines (Section A of the Draft Guidelines)

1.) The Utilities Should Be Required to Pursue a Minimum Number of Behind-the-Meter, Third-Party Owned Projects.

Recognizing that the scale of the procurement pursuant to HB 2193 is relatively modest, EFCA submits that this effort is best viewed through the lens of a pilot program through which the utilities and solution providers gain valuable experience with different storage applications, system topologies, and ownership structures. To make the best use of this opportunity, EFCA believes the guidance should be somewhat more prescriptive and require the utilities to pursue some minimum number of third-party owned, behind-the-meter (BTM) projects in addition to any in-front-of-the-meter (IFOM) projects the utilities choose to pursue. Doing so will ensure that the state gains experience with a diversity of projects and project types, which will pave the way for future efforts to more systematically consider storage assets as a resource to meet energy system needs. Absent such requirements, we are concerned that the utilities will focus exclusively on larger scale, utility-owned, in-front of the meter projects. Such projects should be part of the procurement effort pursuant to HB 2193, but not to the complete exclusion of other approaches.

EFCA recognizes that from an operational and contracting standpoint, BTM, third-party-owned solutions pose a different set of challenges than IFOM approaches, which can be more easily slotted into existing approaches to utility procurement. Given this, the utilities may be reluctant to pursue BTM solutions despite the potential of these solutions to offer a broader set of benefits to customers and to the grid than IFOM projects. Because this form of institutional resistance or inertia can be reasonably anticipated within the utilities, EFCA believes it would be appropriate for the Commission to require that each utility that is subject to the procurement requirement bring forward at least two behind-the-meter

project proposals (each of which may include multiple assets distributed throughout the utility territory) in addition to any IFOM proposals.

2.) The Proposal Guidelines Should Allow For and Encourage Stakeholders to Submit Tariff or Programmatic-Based Proposals to Support Storage Deployment.

Solicitation based approaches to procuring energy storage assets represent only one out of a menu of potential sourcing options. Other approaches include tariff-based approaches, where a properly designed rate structure itself provides incentives for deploying and utilizing storage assets in a manner that provides benefits to customers and to the grid, as well as incentive programs that offer rebates or other direct financial incentives to offset the cost of deploying storage systems.

With respect to tariffs, rates can be designed to vary with underlying costs, providing incentives for customers to modify their usage accordingly, enabled by technologies like energy storage. For example, time-of-use rates can provide strong incentives to customers to reduce their energy use during high cost periods. Technologies like energy storage, as well as other load management tools, can facilitate customers' ability to respond to such pricing signals.

Incentive programs represent another sourcing approach that merits consideration. Such programs can be structured to provide incentives subject to specific performance requirements, or contingent on customers subscribing under a certain type of rate tariff to ensure that systems supported with incentives are appropriately motivated to operate in a manner that yields meaningful value to the grid. Incentives can be designed to compensate for revenue shortfalls that may exist due to a market failure or the limited ability to monetize a given value stream, and can thus be phased out over time as the market evolves, for example, to allow BTM storage devices to provide distribution and other grid services to the utility.

In crafting its approach to HB 2193 implementation, EFCA encourages the Commission to consider, in addition to the specific project proposals brought forward via solicitations, opportunities to pilot opt-in tariffs that provide pricing signals that will encourage the deployment and utilization of storage systems and/or incentive programs. To that end, the Commission should include within the process laid out in the guidance document an opportunity for stakeholders to come forward with proposals for opt-in tariffs and/or programs that will support customer adoption and effective utilization of storage solutions. The Commission may want to consider establishing a working group that includes representatives from the utilities, the storage development community and other stakeholders to initiate discussions and develop recommendations for opt-in, pilot tariffs and/or incentive programs that would drive the deployment of storage solutions.

EFCA Recommendations Regarding Proposed Storage Proposal Guidelines (Section B of the Draft Guidelines)

1.) The Cost-Effectiveness Analyses Should Include the Full Set of Benefits that Storage Solutions Provide.

A number of studies recognize the diverse set of benefits that storage can provide.¹ Some of these benefits accrue directly to the utility, by allowing the utility to avoid costs they would otherwise incur. However, there are a number of additional benefits that either accrue to other stakeholders and/or to society more broadly. EFCA believes these benefits should also be accounted for in the cost benefit analyses to be conducted by the utilities. This appears consistent with the intent of HB 2193, which envisions both direct energy benefits as well as societal benefits being considered as part of procurement effort. Specifically Section 3.(1)(a) of the legislation includes the reductions in greenhouse gas emissions as well as “Any other value reasonably related to the application of energy storage system technology” among the values the Commission should consider in developing the guidelines. To ensure that the cost-effectiveness analyses are sufficiently comprehensive, EFCA suggests that the utilities be directed to conduct the cost-effectiveness analyses from at least the following two perspectives: the ratepayer perspective (i.e. consider the costs and benefits that are born by and/or accrue to the utilities’ customers), and the societal perspective (i.e. considers the costs and benefits that are born by and/or accrue to society at large). Additionally, for BTM solutions, the utilities should also be required to evaluate cost effectiveness from the “participant” perspective, which reflects the costs and benefits that are born by and/or accrue to customers that are hosting storage systems. This perspective is essential for BTM solutions as one of the key advantages of BTM storage is that it can potentially provide benefits in the form of retail services to the host customer (e.g. rate arbitrage for bill reduction, backup power for increased reliability, etc.) as well as wholesale or grid services. The ability to monetize these additional value streams may translate into being able to offer grid services at lower cost since the entire cost of the storage system is not dependent exclusively on revenues derived from the provision of grid services.

For each perspective, a slightly different set of costs and benefits are relevant. For example, in the case of the societal perspective, greenhouse gas emission reductions and public health benefits should be included, but would be appropriately excluded from both the ratepayer perspective as well as the participant perspective. Similarly, to the degree a given storage solution can offer back-up power to individual customers in the event of a grid outage, this is a benefit that would likely be relevant for evaluating cost effectiveness from the participant perspective and potentially to some degree from the societal perspective (e.g. back-up power for critical facilities, like hospitals or other emergency services provide a value to the public more broadly). However, the benefits of back-up power would not be relevant for purposes of assessing the cost effectiveness from the ratepayer perspective (since the benefits of back-up power in the event of a grid outage do not inure to the broad body of ratepayers). By including the societal perspective and participant perspective (where the participant perspective is relevant), the Commission will ensure that the utilities are accounting for the full suite of storage attributes and values when considering storage proposals.

¹ See, for example, “The Economic of Battery Storage”, Rocky Mountain Institute, October 2015. Available for download at http://www.rmi.org/ELECTRICITY_BATTERY_VALUE; as well as “State of Charge”, Massachusetts Department of Energy Resources, September 2016; Available for download at <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/energy-storage-initiative/>

There is a fairly rich body of literature regarding how to conduct cost-effectiveness evaluations the utilities and Commission could draw upon for purposes of conducting such analyses, including consideration of multiple perspectives. For example, the California Public Utilities Commission has published a “Standard Practice Manual” that provides a detailed overview of how to conduct economic analysis of demand-side programs, including consideration from various perspectives.² In the case of energy storage specifically, the Rocky Mountain Institute’s paper “The Economics of Battery Energy Storage” provides an excellent framework to begin with, insofar as it provides a fairly comprehensive overview of the direct benefits that storage provides as well as models the stacked value of these diverse benefit streams.³ We note, however, that this report does not capture some of the indirect, societal benefits, including reduced GHG emissions and/or public health benefits, that might also result from the deployment of storage assets to the degree they reduce reliance on fossil fuels and thus reduce the emissions intensity of the electricity sector, both in terms of greenhouse gas emissions as well as criteria pollutants.

2.) The Utilities Should Conduct Cost Effectiveness Analyses For All Projects Submitted to the Utilities for Consideration Pursuant to HB 2193.

The Draft Guidelines appear to suggest that the cost-effectiveness analysis would be presented as part of the proposal for a given project. In the interest of transparency and to ensure that the utilities are more fairly evaluating different storage solutions, the utilities should be directed to conduct a cost-effectiveness analysis for all projects submitted in response to the HB 2193 procurement opportunity. The utilities should be further directed to include information regarding how the projects they wish to pursue compare to other projects that were brought forward in terms of their relative cost effectiveness in addition to other metrics that support the pursuit of any given project or projects.

3.) A Strict Finding of Cost-Effectiveness Should Not Be Required to Move Forward with Pilot Projects.

To the degree the projects pursued pursuant to HB 2193 are most appropriately viewed as pilot projects, EFCA suggests that a strict finding of cost effectiveness sets an unnecessarily stringent standard. The purpose of a pilot is to assess the technical capacity of a given technology, in this case, energy storage as well as the institutional capacity of the utilities to utilize energy storage to provide grid services. Should storage be pursued on a more systematic basis, or incorporated into standard utility planning activities, ensuring these resources are cost effective relative to alternatives would be appropriate. However, recognizing both that this effort will involve first-of-its-kind resource deployments and the limited scale of this effort, EFCA believes the utilities should be given some latitude to pursue projects that do not meet a strict cost-effectiveness criterion.

That said, subject to the minimum procurement requirements that EFCA proposes above (at least two BTM, third-party-owned projects), EFCA supports the utilities considering the relative cost effectiveness of different solutions that are submitted and factoring this comparison into deciding which projects they

² <http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=7741>

³ “The Economic of Battery Storage”, Rocky Mountain Institute, October 2015. Available for download at http://www.rmi.org/ELECTRICITY_BATTERY_VALUE.

ultimately pursue. However, even in this instance, the utilities should be provided some latitude to recognize that other factors, such as project viability, must also be considered when evaluating competing proposals.

EFCA Recommendations Regarding Proposed Competitive Bidding Guidelines (Section D of the Draft Guidelines)

1.) The Utilities Should Only Be Allowed to Pursue Sole-Source Contracting If There is An Insufficient Response to a Request for Offer.

The Draft Guidelines indicate: “An electric company may award a contract for a project without competition if it determines and presents justification that only a single vendor or contractor is capable of meeting the requirements of the project.”⁴ EFCA believes that any sole source procurement should be strictly structured as an off-ramp in the event that there is an insufficient response to an RFO. While providing this off-ramp appears to be the intent of this proposed guideline, it unclear why the utility should be allowed to make such a determination without having first issued an RFO to assess the level of interest. As written, the utility has the discretion to determine, *a priori*, if it believes that only a single vendor is capable of providing the service or solution. Given the strong participation that we have seen from storage solution providers in response to storage solicitations across the country⁵, we believe it would make more sense, and be in the ratepayer interest, to require the utilities to hold a solicitation for any identified grid need and make a determination regarding whether the response was insufficient before moving forward with any sole source contracting effort.

We also believe that one of the significant benefits of this effort overall is for the utilities and stakeholders to gain experience with the RFO process as it applies to storage. Storage is a unique asset

⁴ Draft Guidelines, D.1, p. 5.

⁵ In response to its 2014 PG&E RFP for 74 MW of storage projects, PG&E received over 5,000 MW of storage proposals from many vendors (<http://www.greentechmedia.com/articles/read/california-dreaming-5000mw-of-applications-for-74mw-of-energy-storage-at-pg>); SCE’s 2014 Local Capacity Resource solicitation for 50 MW of storage capacity resulted in 250 MW of capacity awarded, five times the amount solicited. (<http://www.greentechmedia.com/articles/read/breaking-sce-announces-winners-of-energy-storage-contracts>); In March 2014, the Kauai Island Utility Cooperative in Hawaii put out an RFP for energy storage capacity and received nearly 100 responses (<http://www.greentechmedia.com/articles/read/Grid-Scale-Energy-Storage-RFQs-Lessons-From-the-Imperial-Irrigation-Distri>); In 2014 the Imperial Irrigation District in California solicited 20 to 40 MW of storage capacity and shortlisted nine vendors from many more respondents (<http://www.greentechmedia.com/articles/read/Grid-Scale-Energy-Storage-RFQs-Lessons-From-the-Imperial-Irrigation-Distri>); Since California’s Self Generation Incentive Program made energy storage projects eligible for incentives in 2009, the California SGIP program has supported over 1,600 active projects and applications from 153 different equipment manufacturers and installers (SGIP weekly statewide report spreadsheet, <https://energycenter.org/self-generation-incentive-program/program-statistics>); New Jersey’s Renewable Electric Storage program received 10 applications (6 still active) as of August 22, 2016 (<http://www.njcleanenergy.com/renewable-energy/programs/energy-storage>) to provide over 5.5 MWh of renewable connected storage; PSEG received 21 responses from 16 developers to its South Fork Load Relief RFP in 2015, including a number of storage proposals (see Utility 2.0 Long Range Plan 2015 Annual Update, December 31, 2015).

and some of the services that may be solicited, particularly on the distribution grid, may be services that have not, to date, been pursued outside of more conventional investments in utility infrastructure. Requiring solicitations will provide valuable experience in crafting solicitation materials, including defining the need to be addressed, structuring bids submission forms, and coming to mutually agreeable contractual terms. Sole source contracting would limit the opportunity to gain this experience significantly.

Conclusion

EFCA appreciates the opportunity to provide this feedback on the draft guidelines.

DATED this 30th day of September, 2016

Respectfully Submitted,

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