



Agenda Report

September 18, 2017

TO: Honorable Mayor and City Council

THROUGH: Municipal Services Committee (September 12, 2017)

FROM: Water and Power Department

SUBJECT: AB2514 ENERGY STORAGE SYSTEM PROCUREMENT TARGETS AND POLICIES

RECOMMENDATION:

It is recommended that the City Council:

1. Find that the proposed action is not a project subject to the California Environmental Quality Act ("CEQA") as defined in Section 21065 of CEQA and Section 15378 of the State CEQA Guidelines and, as such, no environmental document pursuant to CEQA is required for the project; and
2. Find that it is not appropriate at this time to establish procurement targets for energy storage systems to be procured by Pasadena Water and Power ("PWP") due to a lack of cost-effective, fully vetted, viable and feasible options.

MUNICIPAL SERVICES COMMITTEE RECOMMENDATION:

The Municipal Services Committee recommended that the City Council approve these recommendations at its September 12, 2017 meeting.

EXECUTIVE SUMMARY:

Assembly Bill 2514 (2010, Skinner) ("AB 2514") requires that publicly-owned utilities commence a process to determine appropriate targets, if any, for the procurement of viable and cost-effective energy storage by October 1, 2017, for energy storage systems to be procured by December 31, 2021. The City Council must reevaluate the policies and procurement targets, if any, at least once every three years. The City Council last approved AB 2514 Energy Storage System Procurement Targets and Policies established on October 6, 2014 (herein after referred to as the "2014 Report").

To date, PWP has not identified energy storage technologies that are cost-effective, fully vetted and tested. In addition, the environmental implications of some energy storage technologies (namely batteries) are unknown; therefore, it is recommended that the City Council not establish specific procurement targets for energy storage at this time. In other words, the recommendation is to set a 0 MW procurement target for

energy storage, by December 31, 2021. However, due to the progress in energy storage technologies, PWP will reanalyze the potential for energy storage as part of the 2018 integrated resource plan (“IRP”).

PWP will report energy storage system procurement targets and policies adopted by the City Council and PWP’s compliance with such targets to the California Energy Commission (“CEC”) as required by AB 2514. Any reports made by PWP to the CEC pursuant to AB 2514 will be made available to the public by the CEC and/or PWP on their respective websites.

BACKGROUND:

The term “energy storage system” is defined by AB 2514 as “commercially available technology that is capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy.”

Evaluation Process

Since initiating the investigation into energy storage systems, PWP has reviewed research and documentation prepared by third parties, utilities and others and has been involved with the Southern California Public Power Authority (“SCPPA”) in several efforts, including the SCPPA Energy Storage Working Group.

AB 2514 does not define “cost-effective”. For purposes of this analysis, PWP used the following minimum criteria:

1. The product or service must fill an existing or anticipated unmet need;
2. Must have a benefit-to-cost ratio appropriately ≥ 1 ; and
3. The benefits must accrue proportionately to the parties that pay the costs.¹

Lastly, PWP staff reviewed other relevant criteria, to accurately address the impact and practicality of energy storage referenced below:

1. Must be a proven, tested technology, and
2. Must be more cost effective than alternative resources.

Attachment 1, “PWP AB 2514 Energy Storage Systems Evaluation Report (2017),” provides a detailed analysis on the evaluation of energy storage systems.

Need for Energy Storage

PWP has no need for energy storage systems at this time. Benefits similar to energy storage (such as, ancillary services, regulation services, congestion relief, etc.) are available from existing generation (e.g., the Glenarm/Broadway power plants), as well

¹ For example, if it is determined that an energy storage system installed in Pasadena could provide hundreds of millions of dollars of net benefits to the CAISO system (of which PWP load is only about 1%), but there is no way for PWP customers to recover the remaining cost of the energy storage system from the other 99% of CAISO customers if PWP were to install it, then by this definition, it would not be cost effective for PWP, even if the benefit-to-cost ratio were >1 for the CAISO

as the California Independent System Operator (“CAISO”) market, at a significantly lower cost. Some services provided by energy storage can also be achieved through conservation, demand-side management and rate design.

Cost Effectiveness

Similar to the experience in 2014, the SCPPA Energy Storage Working Group chose to license the Navigant SCPPA Energy Storage Tool (“ES Tool”). This is the same tool used for the 2014 Report, but with updated default values based on more recent data.

PWP considered the various technologies and functions that energy storage can provide, and narrowed the list to those options believed to have the highest potential viability and best fit for PWP by 2021. A detailed list of the modeled technologies is available in Attachment 1.

Results of ES Tool

As a result of the updated ES Tool, none of the energy storage technologies evaluated are considered cost effective at this time. Similar to the 2014 Report, the storage facility would need to be located within the city’s limits in order to provide the highest value of services necessary to be cost effective. However, there may be future cost-effective opportunities to secure such resources outside of the city to help integrate PWP’s portfolio of renewable resources. A more detailed analysis on opportunities inside and outside the City will be studied as part of the 2018 IRP.

Additionally, some of these energy storage technologies have not been fully tested and proven. For reference, please see Attachment 2: List of Comparable Energy Storage Projects in California. Attachment 2 provides additional details on the types of energy storage programs analyzed by PWP and its applicability in California. Attachment 2 relies on the DOE Global Energy Storage Database for analysis. Until there are additional applications and analysis on energy storage in California, the case for procurement of energy storage, based on economics alone, will not be strong.

COUNCIL POLICY CONSIDERATION:

The proposed action will help PWP achieve regulatory compliance and is consistent with the City Council’s goal to maintain fiscal responsibility and stability by seeking cost-effective means to meet the City’s conservation and sustainability goals and to provide a high level of public service.

ENVIRONMENTAL ANALYSIS:

The recommendation to set 0 MW of energy storage system procurement target is an administrative action that would not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. The proposed action is for the City to comply with AB 2514. No physical construction is contemplated or would be authorized by the actions proposed in this staff report.

Therefore, the proposed action is not a "project" subject to CEQA, as defined in Section 21065 of CEQA and Section 15378 of the State CEQA Guidelines. Since the action is not a project subject to CEQA, no environmental document is required.

FISCAL IMPACT:

There is no fiscal impact as a result of this action, and it will not have any indirect or support cost requirements. The anticipated impact to other operational programs or capital projects as a result of this action will be none.

Respectfully submitted,



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Attachments (2):

- Attachment 1- PWP AB 2514 Energy Storage Systems Evaluation Report (2017)
- Attachment 2- List of Comparable Energy Storage Projects in California