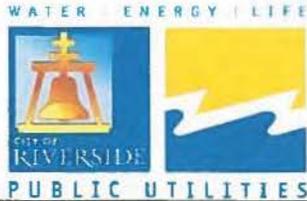


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RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: September 5, 2014

ITEM NO: 11

SUBJECT: ASSEMBLY BILL 2514 - ENERGY STORAGE PROCUREMENT TARGET ADOPTION

ISSUE:

The item for Board of Public Utilities consideration is adoption of Riverside Public Utilities' Energy Storage Procurement Target (ESPT) pursuant to Assembly Bill 2514.

RECOMMENDATION:

That the Board of Public Utilities recommend that the City Council adopt an Energy Storage Procurement Target per Assembly Bill 2514, of zero megawatt at this time as none of the viable applications of energy storage technologies/solutions that may benefit RPU are currently cost-effective.

BACKGROUND:

Assembly Bill (AB) 2514, signed into law on September 29, 2010, mandated that California electric utilities evaluate whether the procurement of various energy storage technologies would be: a) viable and b) cost effective, in its resource portfolio.

The genesis of AB 2514 is to evaluate the cost-effective use of energy storage systems to: a) assist with integration of intermittent renewable resources; b) avoid or defer construction of fossil fuel-powered peaking plants (and co-benefits from reduced greenhouse gas emissions); and c) avoid or defer distribution and transmission system upgrades and/or expansions, taking into account the time-varying nature of electric generation and consumption patterns.

Under AB 2514, the governing board of a Publicly Owned Utility (POU) is required to do the following:

1. To open a proceeding on or before March 1, 2012 to determine the appropriate viable and cost-effective ESPT (initiated at the February 17, 2012 Board meeting);
2. To adopt or decline to adopt specific ESPT by no later than October 1, 2014; and achieve adopted target, if any, by December 31, 2016 and December 31, 2021; and
3. To review the established ESPT at least every three years.

Since late 2011, staff has evaluated various types of energy storage technologies and their cost-effective deployment to meet Riverside Public Utilities (RPU) power system operational needs. In addition, RPU has been very proactive in incentivizing specific customer installed energy storage technology (e.g., \$1 million grant to UC Riverside for its Thermal Energy Storage (TES) project in 2013). Other pilot programs under consideration include; a) opportunities with local technology providers for energy storage solutions; and b) supplementing existing Power Purchase Agreements (PPA) with energy storage options for renewable integration (wind and solar projects).

Recently, staff participated in the Southern California Public Power Authority (SCPPA) Energy Storage Working Group (ESWG), to evaluate various energy storage technologies. SCPPA procured an analytical evaluation tool (offered by Navigant Consulting) to assist members in their analysis based on each utility's system criteria. The ESWG jointly issued a Request for Proposals for energy storage technologies. Ten vendors responded, offering multiple options.

RPU's Energy Storage Viability Assessment

1. RPU, as Transmission Owner under the California Independent System Operator (CAISO) paradigm, does not operate a high voltage transmission system and does not have moment-to-moment load and generation balancing obligations (e.g., frequency control, transmission loading relief, etc.). Therefore, many of the energy storage technologies associated with transmission applications are not viable for RPU.
2. Two potential energy storage applications that may be viable and benefit RPU's distribution system include the integration of intermittent renewable resources (e.g., Tequesquite Solar PV project) and deferral of distribution capital investments on heavily loaded electric circuits.
3. Two energy storage applications that may be viable and benefit some RPU customers include the integration of intermittent renewable resources on customer owned facilities (e.g., UC Riverside's solar PV project) and installation of TES facilities to shift thermal cooling loads from on- to off-peak periods.

RPU's Energy Storage Cost Benefit Analysis

1. The Navigant Consulting analytical evaluation tool was used to conduct a cost benefit analysis on each of the energy storage applications related to RPU's distribution system and customers;
2. The analysis concludes that the high initial capital and ongoing operating and maintenance costs are not cost-effective on a life cycle basis at this time; and
3. The most mature technology, with the greatest potential to become cost-effective, appears to be the TES applications, and would warrant further analysis and consideration.

Staff's detailed analysis and supporting documentation can be found in Attachment 1. Based on these findings, staff recommends adopting an ESPT of zero MW. However, staff will continue to proactively investigate energy storage technologies and consider participating in other energy storage pilot programs, with a near term focus on TES technology, which has shown the greatest potential in becoming cost-effective. RPU will recommend future revisions to the ESPT as appropriate, and provide updates to the Board every three years.

FISCAL IMPACT:

There is no fiscal impact associated with this report.

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Approved by:	Girish Balachandran, Public Utilities General Manager
Approved by:	Belinda J. Graham, Assistant City Manager
Approved as to form:	Cristina Talley, Interim City Attorney

Attachment:

1. Energy Storage Procurement Target Report