



## Burbank Water and Power

### STAFF REPORT

**DATE:** October 2, 2014

**TO:** Burbank Water and Power Board

**FROM:** Ron Davis, General Manager, Burbank Water and Power

**SUBJECT: ENERGY STORAGE PROCUREMENT TARGET SETTING,  
PURSUANT TO ASSEMBLY BILL 2514**

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#### **RECOMMENDATION**

Recommend the Board's approval authorizing Burbank Water and Power (BWP) to present its request that the City Council adopt a motion in compliance with Assembly Bill 2514 (AB 2514) which states that a target for BWP to procure energy storage is not appropriate at this time due to lack of fully developed, cost-effective energy storage opportunities.

#### **BACKGROUND**

AB 2514, signed into law in September 2010, requires, among other things, that the governing board of each publicly-owned California electric utility (such as BWP) undertake a process to evaluate energy storage opportunities and, by October 1, 2014, adopt targets, if any, for the procurement of "viable and cost-effective" energy storage systems by December 31, 2016 and December 31, 2020. In this review, utilities may consider a variety of possible policies to encourage the cost-effective deployment of energy storage systems. AB 2514 also requires that each utility report these targets and policies, if any, to the California Energy Commission (CEC) following such adoption.

Utilities are further required to re-evaluate these targets and policies not more than every three years, with a report to the CEC.

#### **DISCUSSION**

The basic function of an energy storage system is to absorb energy when it is not needed, store it for a period of time with minimal loss, and then release it when needed. When deployed in the utility electric system, energy storage can serve a number of important roles in balancing generation and load, especially as increasing amounts of

intermittent renewable energy resources are brought onto the system. These applications can occur on a large, regional scale (e.g., within the bulk electric system) and at a more local scale (e.g., on the local distribution system or “behind the meter” on a customer’s site), and can comprise a wide variety of technologies in various stages of development, including various battery technologies, flywheels, and compressed air energy storage.

Energy storage is a potential enabling tool to continue to achieve BWP’s commitment to provide reliable, sustainable, and affordable electric service to Burbank. For example, energy storage has the potential to effectively integrate intermittent renewable energy resources (such as solar and wind energy) by better matching the output of those resources to Burbank’s needs. Energy storage also has the potential to allow BWP to better control its system (i.e., those resources and loads) relative to neighboring systems such as the Los Angeles Department of Water and Power, which may allow meaningful cost control opportunities for BWP. Finally, energy storage may allow both BWP to better manage its distribution system and BWP’s customers to manage their energy use for increased reliability and cost-effectiveness.

Because of these potential benefits, BWP has been an early and active leader in investigating energy storage systems and applications for the benefit of its customers.

For example, BWP has been an important catalyst for the investigation of compressed air energy storage (CAES) at the Intermountain Power Project (IPP) site in Delta, Utah. The geology of this site, featuring a major underground salt deposit capped by solid rock, is particularly well-suited to CAES. A CAES project at the site has the potential to access low-cost, high-quality wind resources in Wyoming, store that energy and make it dispatchable through CAES, and transmit it down the existing direct current transmission line that currently brings IPP’s output to Southern California. Such a project also has the potential to relieve solar-driven over-generation issues in California, by absorbing that over-generation and then retransmitting it back to California when needed. Among other BWP efforts in support of this concept over the last few years, the Western Electricity Coordinating Council (WECC), which oversees the Western U.S. electrical grid, recently approved a BWP proposal to study CAES at IPP. A number of other market participants joined BWP in this proposal, including Wyoming wind project developer Pathfinder Wind, transmission developer Duke American Transmission Company (DATC), salt cavern developer Magnum Resources, and technology provider ABB. BWP and its partners are currently working to support this study with planning models and the assumptions necessary for the study. The study is the first of its kind for WECC and should be complete by the end of 2014.

More generally, BWP is preparing its system for distribution-level and customer-owned energy storage in a number of ways, including study of customer-focused demand-side management opportunities with Schneider Electric; continued roll-out of BWP’s innovative Integrated Automated Dispatch System, which has the potential to optimize energy storage and other resources as loads fluctuate; and the development of a state-of-the-art, energy storage-ready interconnection agreement. At the same time, BWP is working closely with the Southern California Public Power Authority (SCPPA) and its fellow SCPPA member utilities in investigating potential energy storage technologies

and projects, through leadership in SCPPA's Energy Storage Working Group as well as participation in SCPPA's Renewable Energy and Energy Storage Request for Proposals and SCPPA's Post-2020 Generation and Energy Storage Request for Information.

Finally, BWP is considering energy storage as an integral part of its Integrated Resource Plan (IRP), currently underway. A CAES facility at the IPP site may be a potential replacement for, or component of a replacement for, the IPP generating facility.

BWP continues to vigorously pursue these initiatives in furtherance of its commitment to provide reliable, sustainable, and affordable electric service for Burbank. However, these initiatives have not yet resulted in viable and cost-effective energy storage opportunities for BWP. Therefore, staff recommends that no targets be established at this time for the procurement of energy storage systems by December 31, 2016 and December 31, 2020.

### **FISCAL IMPACT**

No direct fiscal impact to BWP.

### **CONCLUSION**

Approval for BWP to present its request that the City Council adopt a motion in compliance with AB 2514 determining that a target for Burbank Water and Power (BWP) to procure energy storage is not appropriate at this time due to lack of fully developed, cost-effective energy storage opportunities.

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