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CITY OF BURBANK

Burbank Water and Power

STAFF REPORT

DATE: September 26, 2017

TO: Ron Davis, City Manager

FROM: Jorge Somoano, General Manager, Burbank Water and Power

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

RECOMMENDATION

Staff recommends that City Council to adopt a Motion, in compliance with Assembly Bill 2514 (AB 2514), that selects an energy storage target of zero megawatts for Burbank Water and Power (BWP) to procure by December 31, 2021 due to lack of fully developed, cost-effective energy storage opportunities.

BACKGROUND

AB 2514, signed into law in September 2010, requires the governing board of each publicly-owned California electric utility undertake a process to evaluate energy storage (storage) opportunities and adopt targets for the procurement of "viable and cost-effective" storage systems. Utilities are further required to re-evaluate these targets not more than every three years.

Council adopted a motion on November 25, 2014 that stated a target of zero procurement by December 31, 2016. Under the law's 3-year cycles, Burbank must reevaluate its target by October 1, 2017 for procurement by December 31, 2021.

DISCUSSION

Storage is not new to the electric utility industry which has traditionally employed pumped hydro and lead-acid batteries to help increase resource flexibility and bolster grid reliability. Today, the storage industry is blossoming with new battery technologies, flywheels, thermal, and other means to store energy, driven primarily by the rapid adoption of intermittent renewable generation like wind and solar. Storage has the potential to help integrate these intermittent renewables. Storage also has the potential to augment local distribution systems, including deferral (or even elimination) of costly distribution system upgrades.

BWP believes storage can be an effective option in Burbank's energy resource portfolio as needs develop and costs decrease enough to where storage systems become economic alternatives to integrate renewables, provide ancillary services, and increase local system reliability.

BWP has recently begun seeing offers for renewable projects that offer an optional storage component that could be located adjacent, or "on-site" of the renewable facility. This co-location of storage and renewables may be the first use of storage technology for BWP. However, Burbank would gain nothing from setting a storage target in the context of co-location with a renewables facility as a decision to include storage along with a new renewable resource would be made on the economics of the offering, by examining the capabilities of the underlying generation technology (wind and solar are distinctly different in how and when they produce energy), the storage technology, and Burbank's forecasted incremental needs at the time of evaluation.

Storage system costs are the primary reason wide spread adoption has not been occurring. All utility companies struggle with justifying storage projects on the basis of economics alone and the industry continues to look at how to evaluate the value of a storage system based on its capabilities and location specific requirements. Staff notes that industry is beginning to incorporate storage, in small amounts, for ancillary services however the performance requirements that cause investigations into storage for ancillary services generally do not apply to BWP. Of those that do, namely reserve and regulation, staff has not seen storage system offerings that are cost competitive. BWP is a vertically integrated utility that has various means of satisfying its needs and storage systems currently do not provide an economic value.

Experts within the industry forecast that storage system costs will decrease significantly from current levels. Most of the attention is directed towards battery storage systems, with lithium technologies leading the charge on the basis of sheer numbers. While suppliers refine their technology and manufacturing process the industry has yet to develop ways to address lifecycle environmental issues. On a related note, the true lifecycle cost of lithium based technologies is still unclear. A battery's life is dependent on how it is used and the industry does not have enough experience and exposure with battery systems to know how much degradation could be realistically expected throughout a storage systems' life cycle, impacting expectations around both battery operations and ongoing capital expenditure.

Incorporating storage into the BWP system is a complex task and with the help of experts, BWP will explore and evaluate storage in detail in its upcoming Integrated Resource Plan, expected in late 2018. BWP continues to consider and evaluate storage in furtherance of its commitment to provide reliable, sustainable, and affordable electric service for Burbank. However, the presents costs and value streams resulting from storage have not yet resulted in viable and cost-effective energy storage opportunities for BWP.

FISCAL IMPACT

No direct fiscal impact to BWP.

CONCLUSION

Staff recommends that City Council to adopt a Motion, in compliance with Assembly Bill 2514 (AB 2514), that selects an energy storage target of zero megawatts for Burbank Water and Power (BWP) to procure by December 31, 2021 due to lack of fully developed, cost-effective energy storage opportunities.