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City of Banning Electric Utility

AB 2514 Energy Storage Procurement Target
Final Summary Report



December 14, 2020

1. City of Banning Electric Utility

The City of Banning (“City”), which comprises approximately 22.1 square miles, is located on Interstate 10 in the northwestern quadrant of Riverside County. The City is 85 miles east of Los Angeles, 27 miles east of the City of Riverside, and 20 miles west of Palm Springs.

The City of Banning’s Electric Utility (“Electric Utility”) was established in 1922, and is managed by the Electric Utility Director, under the direction and control of the City Manager and City Council. The Electric Utility is one of the smaller publicly owned electric utilities in the state of California, serving approximately 12,000 metered customers with a maximum peak demand of 51 MW.

2. Summary

Assembly Bill No. 2514 (“AB 2514”) requires each local publicly owned electric utility to initiate a process to determine appropriate targets, if any, for the utility to procure viable and cost-effective energy storage systems to be achieved by December 31, 2016, and December 31, 2021. AB 2514 indicates that publicly owned electric utilities need only adopt energy storage procurement targets if the targets are deemed to be appropriate, technologically viable, and cost effective. AB 2514 states that the governing board of each publicly owned electric utility shall adopt procurement targets, if determined to be appropriate, by October 1, 2014, and reevaluate this determination not less than once every three years. A final summary report is to be provided by December 2020.

To comply with AB 2514, in March of 2012 the Electric Utility officially opened proceedings to determine if it was appropriate for the Electric Utility to set energy storage procurement targets. In conjunction with the Southern California Public Power Authority (“SCPPA”), the Electric Utility hired a third-party consultant, Navigant Consulting, Inc. (“Navigant”) to perform a study on the costs and benefits of current energy storage technologies. Navigant created a framework and decision making tool for identifying, quantifying, and monetizing the benefits of energy storage systems. The Electric Utility utilized this tool in assessing the cost effectiveness and viability of procuring energy storage systems by the established target dates. Additionally, the SCPPA Energy Storage Working Group provided SCPPA members with their energy storage research paper entitled “Summary Review of the Technological Capabilities and Economics of Energy Storage System Development.”

Based upon the modeling performed with the Navigant decision making tool, together with the SCPPA Energy Storage Working Group research, the Electric Utility determined that procuring energy storage systems was not cost effective at that time. Accordingly, on September 23, 2014, the City Council adopted Resolution No. 2014-65, indicating that the Electric Utility will not be adopting energy storage procurement targets at that time, due to the lack of cost-effective options.

AB 2514 requires that the City Council shall reevaluate the energy storage determinations every three years. Accordingly, in conjunction with SCPPA, the Electric Utility hired Navigant in early 2017 to perform a study on the current costs and benefits of energy storage technologies. Navigant updated its decision making tool with the latest inputs regarding energy storage costs and other relevant inputs. The Electric Utility utilized this tool in reevaluating the cost effectiveness and viability of procuring energy storage systems at this time. Additionally, in 2017 the SCPPA Energy Storage Working Group hired DNV-GL to produce an energy storage cost-effectiveness methodologies report.

Based upon the modeling performed with the Navigant decision making tool, together with the SCPPA Energy Storage Working Group research, the Electric Utility determined that procuring energy storage systems was still not cost effective at this time. Accordingly, on September 26, 2017, the City Council adopted Resolution No. 2017-84, indicating that the Electric Utility will not be adopting energy storage procurement targets at that time, due to the lack of cost-effective options.

Of additional relevancy, the Electric Utility has a very limited operating budget and has chosen to utilize its finite resources on the purchase of renewable energy. As of January 2019, the Electric Utility's energy portfolio is greater than 55% renewable and nearly 100% emissions free. The Electric Utility has taken substantial proactive measures to reduce greenhouse gases and to protect the environment.

The Electric Utility will continue to monitor the energy storage industry as it matures, and will reevaluate the cost effectiveness of energy storage systems as the cost structures decline and / or as the benefits increase. The Electric Utility will be monitoring the cost trends of solar energy projects that are combined with battery storage. Additionally, several developers have expressed an interest in building stand-alone battery storage projects within the city of Banning. Although the Electric Utility does not have the capital to take an ownership interest in these projects, the Electric Utility is exploring options where it can be a customer and off-taker of these projects.

3. Navigant Decision Making Tool

In order to assist its members to comply with AB 2514, SCPA hired Navigant to perform a study on the costs and benefits of energy storage. In 2014, Navigant created a framework and decision making tool for identifying, quantifying, and monetizing benefits of energy storage projects. In the framework, potential benefits are realized differently depending on the system characteristics (e.g., location on the grid, regulatory structure, & owner). For this current 2017 evaluation, Navigant updated the tool taking advantage of Navigant's market price database, and expertise in energy markets, for the latest in energy and storage costs.

The decision making tool is based in Microsoft Excel and takes a variety of inputs. The user first enters the project location, owner, regulatory environment and technology type. Next, the user enters cost and performance information such as installed cost, operation and maintenance costs, round trip efficiency and cycle life. Then the user selects which applications to analyze. Based upon the applications selected, the user is prompted to enter inputs to help calculate benefits, such as amount of energy storage dispatched by application, market prices and rates structures. Finally, the user has the option of selecting to run various scenarios. After inputting all the necessary information, the tool presents the net present costs and benefits of the applicable energy storage project.

The applications that the Electric Utility can use for energy storage is limited for several reasons. First, the Electric Utility is not its own balancing authority. Energy storage systems tend to be more valuable when a utility is in charge of its own balancing authority. Second, although the Electric Utility is part of the CAISO, we are not directly connected to the high voltage grid. We are connected through Edison's distribution system via an import-only WDAT agreement. This arrangement makes it difficult to utilize energy storage to generate revenues via selling ancillary services.

Accordingly, the model run was performed using the most effective use of energy storage for the Electric Utility, which is peak shaving or shifting.

4. Final Summary

The City's Electric Utility is very small with extremely limited financial resources. At this time, an investment in a battery storage system is beyond the Electric Utility's financial means. However, the Electric Utility will continue to monitor the prices of battery storage systems in the future. We will also investigate the possibilities of partnering with a private company as a way of funding such a project. However, the fact that the Electric Utility

does not have export interconnection rights to the CAISO grid, amongst other factors, puts constraints on the economic viability of a battery storage project.