

CITY OF SANTA ROSA
CITY COUNCIL

TO: MAYOR AND CITY COUNCIL
FROM: GRANT BAILEY, ASSOCIATE CIVIL ENGINEER
TRANSPORTATION AND PUBLIC WORKS
SUBJECT: STANDARDIZATION OF BATTERY BACKUP SYSTEMS FOR
CITY OF SANTA ROSA TRAFFIC SIGNAL SYSTEMS

AGENDA ACTION: RESOLUTION

RECOMMENDATION

It is recommended by the Transportation and Public Works Department that Council, by resolution, 1) approve a standardization for battery backup systems manufactured by Alpha Technologies Limited, of Burnaby, British Columbia, Canada, Clary Corporation, of Monrovia, California, or ZincFive Inc., of Tualatin, Oregon, for all new traffic signal system installations as well as the retrofitting of 175 of the city's 214 current traffic signals; 2) authorize the City Manager or his designee to negotiate for and purchase such standardized battery backup systems in an amount not to exceed \$1,418,850 through a period ending December 2021; and 3) authorize the Purchasing Agent to issue purchase orders for the purchase of battery backup systems in conformance with this resolution.

EXECUTIVE SUMMARY

The Transportation and Public Works Department is requesting a product standardization for battery backup systems installed as part of any project that will install a new, or retrofit an existing, traffic signal system. This action is necessary to allow Transportation and Public Works contracts to specifically name battery backup system manufacturers for current and future capital improvement projects.

BACKGROUND

A battery backup system (BBS) provides uninterrupted backup power to a traffic signal in the event of power loss and maintains regular function of the signal for a period of four to twelve hours. BBS units can be installed as part of a new signal installation or retrofitted to an existing traffic signal system. In 2011, City Traffic and Electrical divisions began deploying battery backup systems (BBS) at select intersections in anticipation of the SMART train. Current BBS units in use in the City were manufactured by Tesco and Clary.

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During the 2017 Tubbs Fire and 2019 Kincade Fire, large portions of the City lost power and were evacuated. During these events, many City traffic signals were without power, resulting in significant delays in evacuation. Beginning in 2019, Pacific Gas and Electric (PG&E) also began implementing a Public Safety Power Shutdown (PSPS) program to mitigate risk of wildfire caused by their infrastructure. During PSPS events, an immediate response by a large number of staff is required to ensure major intersections are prepared to facilitate safe traffic movements through the duration of the outage. If BBS systems were installed at intersections along major traffic corridors throughout the City, congestion during evacuation events would ease and the current need for an immediate, large scale response to PSPS events by City staff would be lessened.

In an effort to facilitate the evacuation process and mitigate disruptions to traffic signal function during power outages, the City applied to receive funding from the FEMA Hazard Mitigation Grant Program (HMGP). In 2019, FEMA awarded the City \$1,418,850.00 in HMGP funds to install battery backup systems at 175 signalized intersections within Santa Rosa. Over the past year, City staff has tested several BBS units from multiple manufactures. After extensive testing and field use of BBS units, City staff recommends the preferred manufacturers based on unit functionality, compatibility with City infrastructure, maintenance requirements, and runtime.

PRIOR CITY COUNCIL REVIEW

On August 14, 2018, the City Council, by Motion, approved the submittal of six (6) 404 Hazard Mitigation Grant Program project applications requesting \$5,404,847 in Federal Funds and appropriated General Funds totaling \$1,464,116 as the local match.

ANALYSIS

Staff from the Traffic, Electrical and Engineering divisions of Transportation and Public Works participated in the evaluation of several battery backup systems. During the evaluation process, major manufacturers including Tesco, Clary, ZincFive and Alpha were invited to provide a demonstration of their battery backup system. City staff also performed independent shop testing of each unit.

Each manufacturer provided the City with an overview of their product, a demonstration on integrating the unit into an existing traffic signal controller, and maintenance requirements regarding battery replacement and lifecycle costs. Staff has experienced a wide range of functionality and run times based on the different BSS manufacturers and found that models manufactured by Clary, Alpha and ZincFive meet the needs of existing infrastructure and grant funding requirements for the FEMA HMGP grant. Additionally, other signal upgrade and retrofit projects within the City are currently installing BBS, independent of the HMGP project. Manufacturer standardization of this system will maintain system compatibility and maintenance continuity.

FISCAL IMPACT

Approval of this action does not have a fiscal impact on the General Fund. Funds for this project were appropriated in the FY 20/21 Capital Improvement Program budget.

ENVIRONMENTAL IMPACT

This action is exempt from the California Environmental Quality Act (CEQA) because it is not a project which has a potential for resulting in either a direct physical change in the environment, or a reasonable foreseeable indirect change in the environment, pursuant to CEQA Guideline Section 15378.

BOARD/COMMISSION/COMMITTEE REVIEW AND RECOMMENDATIONS

Not Applicable

NOTIFICATION

Not Applicable

ATTACHMENTS

- Resolution

CONTACT

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