



City of Palo Alto

City Council Staff Report

(ID # 12055)

Report Type: Consent Calendar

Meeting Date: 6/7/2021

Summary Title: COBUG Repair and Maintenance Contract and Budget Amendment

Title: Recommendation to Authorize the City Manager or Designee to Execute a Five-year General Services Agreement With Western Machinery Electric Inc. for Repair and Maintenance of Electricity Generators at the Municipal Service Center in an Amount Not-to-Exceed \$592,248; to Negotiate and Execute one or More Task Orders for Additional Services, as Needed, in an Amount Not-to-Exceed \$300,000, for a Total Not-to-Exceed Agreement Amount of \$892,248; and Approve a Budget Amendment in the Electric Fund

From: City Manager

Lead Department: Utilities

Recommendation

Staff recommends that Council:

1. Authorize the City Manager or designee to execute a five-year general services agreement ([C21181136](#)) with Western Machinery Electric Inc. ([Linked Document](#)) for repair and maintenance of four natural gas-fueled, grid-connected backup electricity generators at the Municipal Service Center in an amount not to exceed \$592,968; and authorize the City's Project Manager to negotiate and execute one or more Task Orders (as detailed in the agreement) for Additional Services, as needed, in an amount not to exceed \$300,000, for a total not-to-exceed amount of the agreement of \$892,968;
2. Amend the FY 2021 Budget Appropriation for the Electric Fund by:
 - a. Increasing the Utilities Department Electric Operating appropriation for contract services by \$616,521; and
 - b. Decreasing the Electric Supply Fund Reserve by \$616,521. (2/3 approval required)

Background

In 2002, shortly after experiencing a series of rolling blackouts during the 2000-2001 California energy crisis, the City decided to invest in a set of locally-sited natural gas-fired back-up electricity generators to minimize the impact of such events in the future by enabling the City to run its generators to reduce or eliminate rotating outages for its customers during a rolling

blackout event. These four generators, together known as the Cooperatively Owned Back-Up Generator (COBUG), total 4.5 MW in electrical capacity.

In 2008, since California's generating capacity shortages had largely been relieved, these units were repurposed. Staff registered the units with the transmission grid operator, the California Independent System Operator (CAISO), as a resource available to meet City of Palo Alto Utility's (CPAU) electrical resource adequacy¹(RA) regulatory obligations, making it available to maintain electric transmission grid reliability in emergency situations. These units have successfully served CPAU's RA obligations, saving hundreds of thousands of dollars a year for over 15 years for Palo Alto's electric rate-payers. However, it means that these units are made available to the CAISO during a rolling blackout event rather than being reserved solely for Palo Alto.

Discussion

In the Spring of 2019, the COBUG units were unable to reliably start on demand. The cause of this malfunction was diagnosed to be the failure of the electronic control systems. The replacement of the electronic control system will cost \$333,284. Staff is also requesting a contingency amount of \$300,000 due to the age of the four emergency generators and ancillary materials. For example, potential future replacements may include radiator replacement which could cost \$80,000.

Economics of Repairing the COBUG Units

Under CAISO regulations CPAU is obligated to own (or purchase from a third party) RA capacity sufficient to meet CPAU's electrical load obligations. If the COBUG becomes non-operational for an extended period, CPAU would be obligated to purchase replacement RA capacity in the open market at a cost of roughly \$350,000 per year at current market prices. After accounting for the annual operating and maintenance cost of \$100,000 to 150,000² for five years for the COBUG unit, the net value of an operational COBUG to CPAU is roughly \$200,000 per year. Hence, staff finds that investing \$335,000 on repair will result in a simple pay-back period of 1.7 years.

While staff is confident that the replacement of the control panels will make the units fully operational, over the course of the next five years there may be additional unanticipated repairs that are needed. Due to the age of the equipment and high cost of repairs for these units, \$300,000 in contingency funding is included in the not-to-exceed amount of \$892,968. Table 1 illustrates the components of the contract.

¹ Electrical Resource Adequacy (RA) is a regulation by the CAISO to ensure that each electric utility (or electric load serving entity) has sufficient electric generation capacity to meet the peak electrical load plus 15% reserve needs to serve the peak loads of each utility. This ensures sufficient generation capacity is available statewide to reliably meet the electrical loads of the state.

² The \$150,000 annual operational maintenance cost estimates consist of \$50k to \$100k for third party vendor maintenance contract and \$50K for in-house fuel, operating it as a CAISO unit and other related costs.

Table 1: Outline of Projected Expenditure Over 5-Years + Contingency						
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Initial Repair	\$333,284					\$333,284
Preventative Maintenance	\$91,556		\$29,368		\$35,224	\$156,148
Monthly Start-up	\$19,488	\$20,112	\$20,736	\$21,264	\$21,936	\$103,536
	\$444,328	\$20,112	\$50,104	\$21,264	\$57,160	\$592,968
Contingency	\$200,000	\$100,000				\$300,000
Total Not-to-Exceed Amount						\$892,968

Since the COBUG units have not been operational since Spring of 2019, staff recommends full preventive maintenance in the first year. The preventive maintenance includes sealant spray of electrical connections, lube oil and filter, coolant and hose replacement, pressure test cooling system, spark plug replacement, and valve adjustments.

Since the COBUG unit generally operates in back-up mode, except for a few hours per month for regulatory required testing purposes, the equipment is anticipated to last at least another 5 to 10 years.

Alternate Options Examined

Staff also considered replacing the COBUG equipment with equivalent battery energy storage systems (BESS), but found the costs were in the \$12 million to \$15 million range. Replacing the COBUG with another new reciprocating engine electrical generator system was estimated to cost \$6 million to \$7 million. Based on these high capital costs, staff found repairing the current units to be the most economical option. Staff also evaluated the option of scrapping the equipment and repurposing space at the Municipal Services Center and found having the COBUGs on site for the next five years would be the best use of the space. Based on the above assessment and alternatives considered, staff recommends that the City proceed with the repair of the unit and contract with Western Machinery Electric Inc. to repair and maintain these units over the next five years.

Summary of Bid Process

On December 29, 2020, a Request for Proposal (RFP) for Repair and Maintenance Service of Natural-gas Fueled Generator Sets was posted on the City’s eProcurement system and notices were sent to prospective vendors. One proposal was received from Western Machinery on February 16, 2021. The following table summarizes the results of the RFP solicitation.

Summary of Solicitation Process:

PROPOSAL DESCRIPTION	REPAIR AND MAINTENANCE SERVICE OF NATURAL-GAS FUELED GENERATOR SETS
Proposed Length of Project	5-year contract
Number of Vendors Notified	380

Number of Prospective Proposers	4
Number of Proposal Packages Downloaded	16
Total Days to Respond to Proposal	49
Pre-Proposal Meeting?	Yes
Pre-Proposal Meeting Date	January 12, 2021
Number of Proposals Received:	1
Proposal Estimated Price Range	N/A

Staff evaluated the proposal to ensure that Western Machinery met the criteria identified in the RFP. Staff rated Western Machinery, as the recommended proposer based on:

- Quality of the proposal;
- Quality, performance and effectiveness of the solution, goods and/or services to be provided by the contractor;
- Contractor’s experience, including the experience of staff to be assigned to the project, with engagements of similar scope and complexity;
- Cost to the City;
- Contractor’s financial stability;
- Contractor’s ability to perform the contract within the time specified;
- Contractor’s prior record of performance with city or others;
- Contractor’s ability to provide future maintenance, repairs, parts and/or services; and
- Contractor’s compliance with applicable laws, regulations, policies (including city council policies), guidelines and orders governing prior or existing contracts performed by the contractor.

Western Machinery’s retrofit team also has 24 years of experience working on Deutz retrofits with the same ComAp/CoMap and Heinzmann ignition controllers, custom switch gear, and tems panels as equipped by the COBUG, and has performed these retrofits for other agencies. This experience is critical to the successful replacement of the electronic control system.

Nonsubmission

Western Machinery was one of four contractors to attend the mandatory pre-bid meeting, and the only contractor to submit a bid. Two contractors cited a lack of expertise or ability to subcontract the replacement of the electronic control systems, and one contractor cited a family medical emergency and a COVID-19 exposure to one of their employees as the reason they were unable to submit bids.

Resource Impact

Since the failure of the electronic control system is unexpected, funds are not available in the FY 2021 budget. Staff recommends an appropriation of \$616,521 in the FY 2021 Electric Fund operating budget and offset by a reduction in the Electric Supply Fund reserves. Upon approval of the amendment to the FY 2021 Budget for the electric fund, funding for the first

year of this contract, \$616,521, will become available in the Electric Supply Utilities Fund. Funding for subsequent years of the contract is subject to Council approval of the annual appropriation of funds through the budget process.

By repairing and maintaining the generation unit, the electric supply fund will be able to avoid purchasing generation services (to provide resource adequacy services) in the open market for \$350,000 per year. Avoidance of the annual RA payment makes this project economical, with a payback period of less than two years.

Public Works Department, Fleet Division, will continue to be responsible for the oversight of this maintenance/repair agreement, and will charge the cost of the repair and maintenance to the Electric Fund as repair costs are incurred.

This contract is on the City's general services contract template, which permits the City to terminate without cause/for convenience by providing written notice to the contractor. In the event the City finds itself facing a challenging budget situation, and it is determined that City resources need to be refocused elsewhere, the City can terminate for convenience. Other options include termination due to non-appropriation of funds or amending the contract to reduce the cost, for example, by reducing the scope of work.

Policy Implications

Authorization of this agreement meets the CPAU mission to provide safe, reliable, environmentally sustainable, and cost-effective services.

Environmental Review

This contract is exempt from the California Environmental Quality Act (CEQA) under Section 15301 in that the contract relates to ongoing operations. The contractor is required to comply with all federal, state, and local environmental laws and regulations applicable to the transportation and delivery of automotive fuels.