



City of Palo Alto

City Council Staff Report

(ID # 11130)

Report Type: Consent Calendar

Meeting Date: 8/3/2020

Summary Title: 60kV Breaker Design/Build Project

Title: Approve and Authorize the City Manager or Designee to Execute Contract Number C20176772 With Burns & McDonnell in an Amount Not-to-Exceed of \$690,000 for the 60kV Breaker Replacement Design/Build Implementation, Capital Project EL-17002; and Authorization to Negotiate and Execute Related Change Orders in the Amount of \$103,500, for a Total Not-to-Exceed Amount of \$793,500

From: City Manager

Lead Department: Utilities

Staff Recommends that Council:

1. Approve and authorize the City Manager or designee to execute a contract with Burns & McDonnell ([Attachment A](#)) in an amount not-to-exceed of \$690,000, for design, purchase, and installation of four new 60kV circuit breakers, to replace existing equipment as part of the Substation 60kV Breaker Replacement (WBS EL-17002) Capital Improvement Project.
2. Authorize the City Manager or his designee to negotiate and execute one or more change orders to the contract with Burns & McDonnell for related additional, but unforeseen work which may develop during the project; the total will not exceed \$103,500 or 15% of total contract the total not-to-exceed (NTE) amount for the contract is \$793,000.

Background

City of Palo Alto Utilities (CPAU) owns and operates the electric system serving approximately 30,000 customers. The City receives power over PG&E transmission lines at 115,000 volts (115 kV) and transforms this to 60,000 volts (60 kV) to feed the city's sub-transmission system linking nine distribution substations. Thirty-eight 60 kV circuit breakers exist within these substations. These devices are critical for isolating short circuits/faults, protecting other equipment from damage during faults, and reconfiguring power flow during outages or maintenance.

Of the 38 circuit breakers, staff has identified 22 as high priority for replacement. Six circuit breakers are over 60 years old, three are over 50 years old, and seven will be 50 years old in

2022. Typically, this equipment has a reliable useful life between 40-50 years. Additionally, staff performed electric system analysis and identified six breakers that are electrically under-rated for the maximum amount of electrical current anticipated during faults on the system. Four of the under-rated breakers will be replaced under this contract.

Discussion

These replacements will improve the resiliency and reliability of the City's electrical sub-transmission system by replacing aged or under-rated electric equipment, to ensure proper operation and protection of the electric system.

Replacing these circuit breakers will provide better protection and improve the resiliency of the City's electric sub-transmission system as the new breakers have a higher likelihood of operating properly in the event of a fault and seamlessly restoring power as necessary. Currently, the standard insulation for these circuit breakers is Sulfur Hexafluoride (SF6) gas. CPAU complies with California Air Resources Board regulations for monitoring and reducing SF6 emissions from gas insulated equipment. Two of these four breakers have already been purchased as part of a procurement program in 2018 and are SF6 type. The remaining two will be procured by Burns & McDonnell and will be 'dry-air' type insulated breakers. Dry-air breakers use environmentally friendly air, which is becoming the new regulated standard, but at a higher cost of approximately 100% more.

In this contract, four circuit breakers at Colorado Avenue and Park Boulevard Substations are earmarked for replacement.

The design/build award for this project was approved by the Utilities Director and the City Manager. Work includes preparation of electrical schematic and wiring diagrams; design and construction of the foundation; procurement of the new circuit breaker equipment using CPAU specifications; and installation, testing, and commissioning of the equipment for a turn-key implementation. Staff recommends adding a 15% contingency amount to the contract because this is the first time we are contracting a design/build for this type of project, additional items typically surface during the detailed design phase which is something that our diligent, up-front, pre-design may not fully identify during scope development, and to ensure the dry-air technology is employed correctly and fully, in line with Council goals of greenhouse gas reduction.

Solicitation Process

On March 10, 2020, a notice soliciting bids for a Request for Proposals (RFP) for the Design/Build replacement of 60kV Circuit Breakers was posted at City Hall and on the Planet Bids portal.

The Design/Build process was selected because internal staffing and resources are not adequate to facilitate the entire process within the limited time constraint; and because having one firm responsible and accountable for design and build lessens the opportunity for errors when these critical assets are placed in service. The solicitation was open for six weeks and bids were received from two qualified bidders on April 22, 2020.

Summary of Solicitation Process

Proposal Title	60kV Breaker Design Build	
Proposal Number	176772	
Proposed Length of Project	12 months	
Number of Proposal packages downloaded	878	
Total Days to Respond to Proposal	43	
Number of Proposals Received	2	
Proposal Costs Range	\$616,000 to \$690,000	
Company Name	Location (City, State)	Amount
Burns & McDonnell	Brea, California	\$690,000

Cost of Services

The following criteria were used during the evaluation process to identify the successful proposer. Burns & McDonnell was selected over the lower cost proposal for scoring significantly higher on all criteria besides cost, and is a full-service engineering/procurement/construction firm whom CPAU has used prior for other projects. We are confident they have the full design/build capability that will perform better than a company whose main service is construction and does not have as much design and build experience as Burns & McDonnell.

Evaluation criteria included:

- Quality of the proposal
- Quality, performance, and effectiveness of the solution
- Proposer's experience
- Cost to the City
- Proposer's financial stability
- Proposer's compliance to technical specifications and commercial terms
- Proposer's ability to perform the contract within the time specified
- Proposer's prior record of performance with city or others
- Any other factor the city deems relevant as specified in the request for proposals

Resource Impact

There is \$600,000 available in the budget for capital project EL-17002 (Substation 60kV Breaker Replacement). There is funding remaining in Fiscal Year 2020 that will be requested for reappropriation through the year-end process. This amount will be reappropriated to sufficiently fund the total NTE contract amount of \$793,000 in Fiscal Year 2021. CPAU Engineering and Operations staff will support the design and installation of the four new 60kV circuit breakers with design review, inspections, and safety observations.

Staff reviewed the costs, going over each line-item with the Proposer to ensure the pricing was fair and competitive, based on experience and comparison with the other proposal.

Policy Implications

The approval of this Enterprise Fund professional services contract is consistent with existing City policies. This recommendation is consistent with the Council-approved Utilities 2018 Strategic Plan ([Staff Report 9022](#)), especially the strategic objective to: "Establish a proactive infrastructure replacement program, based on planned replacement before failure to support reliability and resiliency."

This contract is on the City's design/build 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. The contract may also be temporarily suspended by written notice of the City Manager.

Stakeholder Engagement

Given the nature of this work, primary stakeholders are contractors. Outreach and engagement was managed through the RFP solicitation process described above.

Environmental Review

Approval of the attached contract is categorically exempt from review under the California Environmental Quality Act (CEQA) pursuant to Section 15302 (replacement or reconstruction of existing facilities) of the CEQA Guidelines.