CITY OF PALO ALTO

City Council Staff Report

From: City Manager
Report Type: CONSENT CALENDAR
Lead Department: Utilities

Meeting Date: November 27, 2023
Report #:2311-2259

TITLE
Approval of Purchase Orders with WESCO (Representative of EATON/COOPER) and Anixter (Representative of S&C) to Purchase Dielectric Switches for Electric Grid Modernization in an Annual amount of $2,000,000 for Five Years for a Total-Not-to-Exceed Amount of $10,000,000

RECOMMENDATION
Staff recommends the City Council approve and authorize the City Manager or designee to execute blanket purchase orders for buying solid dielectric pad-mounted and submersible switches with and without "Supervisory Control and Data Acquisition" (SCADA) options from WESCO (representative of EATON/COOPER) and Anixter (representative of S&C) for a Total Not-to-Exceed Aggregate Amount of $2,000,000 annually for five years.

EXECUTIVE SUMMARY
City of Palo Alto Utilities plans to upgrade outdated electric switches (both underground and above ground types) in the electric distribution system. If authorized, this will allow staff to procuring "Solid Dielectric Switches" to replace outdated switches. By awarding the blanket order to two vendors, the city will have the flexibility to purchase the switches based on the lowest price quoted for each switch configuration. The new switches will have reduced impact on the environment as well improving system safety and reliability.

BACKGROUND
The City has been using oil insulated and Sulfur Hexafluoride (SF6) switches in the electric distribution system for 40 years or more. Some current switches were manufactured based on the technologies available during 1970-1980s. Many of these switches have reached or exceeded their normal life of operation which is typically 30 years by industry standards. These switches are therefore more likely to fail during inclement weather conditions and could cause extended outages if not replaced by latest technology switches available in the market.
Though oil is a good dielectric material and can withstand much greater voltages than air, over the years its limitations have become more apparent. Oil is toxic, and some types of oil are

flammable. In addition, oil can leak, which requires additional resources to monitor and to clean up, an environmental problem, and a risk of equipment failure. Like oil, Sulfur Hexafluoride (SF6) gas has some disadvantages. For one, the gas can leak, so equipment must be checked periodically. The primary drawback of Sulfur Hexafluoride (SF6) gas is its classification as a potent greenhouse gas which results in increasing restrictions.

The California Air Resources Board (CARB) has made regulatory amendments to phase out use of SF6 in gas insulated equipment (GIE) starting in 2025. The phase out schedule limits the gas insulated equipment owners' ability to acquire new SF6 gas insulated equipment without an approved SF6 phaseout exemption. Staff prepared material specifications for new solid dielectric pad-mounted and submersible switches to support new businesses and the City's upcoming "Electrification Project" as well as for replenishing the minimum inventories. In accordance with the specifications, vendors and manufacturers were asked to provide bids for various types of 15 kilovolt (kV) pad-mounted and submersible switches with different switching configurations.

ANALYSIS

Staff is seeking authorization for purchasing solid dielectric switches for five years to ensure continued progress on the electrification and grid modernization project in a timely fashion. This will allow the city to select the switch configuration that is required from either of the authorized vendors based upon the lowest quoted price, potentially saving a significant amount of money. Based on the City's consultant's assessment, the city would need around 10-15 solid dielectric switches per year for next 5 years for modernizing City's electric grid. The new solid dielectric pad-mounted and submersible switches have been widely accepted by majority of the utilities in the United States.

Procurement Process

The Request for Quotation was posted on February 1, 2023, on City of Palo Alto's website, which provides a direct link to City's e-procurement system (Planet Bids). The Planet Bids e-procurement system notified 369 number of vendors with bid opening date on March 8, 2023.

On March 8, 2023, a total of two (2) bids were received and the results were made public in the City's e-procurement system. The feedback received from non-participating vendors are that the effects of the pandemic and supply-chain issues are the cause for a shortage of skilled workforce and raw materials that have resulted in their inability to meet the market demand. The unit prices for different switch configurations are presented in the attached bid summary. The City will purchase the switches for its electrification projects as required.

Below is the bid summary table that provides pricing for each switch configuration from Eaton/Cooper and S&C. Solid Dielectric Switch cost ranges from $150,000 to $178,000 with "Supervisory Control And Data Acquisition" (SCADA) options. SCADA options are required for switches to communicate with Utility Control Center.

March 10, 2023

Solid Dielectric Submersible & Pad Mounted Switches:

			EATON/COOPER		S&C	
Item #	Pad-Mounted-Switches-(Above-Ground):	Estimated-Quantities	Without-SCADA-Options	With-SCADA-Options-SEL-751-&-Accessories	Without-SCADA-Options	With-SCADA-Options-SEL-751-&-Accessories
			Unit-Cost-in-US-$	Unit-Cost-in-US-$	Unit-Cost-in-US-$	Unit-Cost-in-US-$
1	4-Way-Switch-with-2-600-Amps-switches-&-2-400-Amps-VFI	4	123,597.00	178,056.00	121,619.96	151,257.07
2	4-Way-Switch-with-2-600-Amps-switches-&-2-200-Amps-VFI	4	123,597.00	178,056.00	122,028.50	151,660.69
3	4-Way-Switch-with-3-600-Amps-switches-&-1-400-Amps-VFI	3	114,396.00	163,011.00	119,488.01	148,699.00
4	4-Way-Switch-with-3-600-Amps-switches-&-1-200-Amps-VFI	3	114,396.00	163,011.00	119,896.55	149,102.61
5	4-Way-Switch-with-4-600-Amps-switches-&-no-VFI	2	105,890.00	147,084.00	111,324.02	142,388.98
6	3-Way-Switch-with-2-600-Amps-switches-&-1-200-VFI	2	94,701.00	140,275.00	94,295.96	123,810.47
7	3-Way-Switch-with-3-600-Amps-switches-&-No-VFI	2	85,500.00	137,444.00	85,815.68	116,498.63
8	2-Way-Switch-with-1-600-Amps-switch-&-1-200-Amps-VFI	2	60,859.00	100,691.00	52,305.73	77,657.47
	Submersible-Switches-(In-the-Vault):					
9	4-Way-Switch-with-2-600-Amps-switches-&-2-400-Amps-VFI	4	94,506.00	166,837.00	112,695.57	136,114.90
10	3-Way-Switch-with-2-600-Amps-switches-&-1-200-Amps-VFI	4	63,152.00	122,910.00	84,461.88	109,745.47
11	4-Way-Switch-with-3-600-Amps-switches-&-1-400-Amps-VFI	3	84,762.00	161,303.00	110,563.62	133,556.83
12	3-Way-Switch-with-3-600-Amps-switches-no-VFI	3	54,128.00	115,960.00	77,922.66	102,556.12
13	4-Way-Switch-with-4-600-Amps-switches-&-no-VFI	2	74,682.00	150,647.00	102,399.63	126,738.19
14	3-Way-Switch-with-2-600-Amps-switches-&-1-200-VFI	2	63,152.00	122,910.00	86,461.88	109,745.47
15	3-Way-Switch-with-3-600-Amps-switches-&-No-VFI	2	54,128.00	115,961.00	77,922.66	102,556.12
16	2-Way-Switch-with-1-600-Amps-switch-&-1-200-Amps-VFI	2	37,481.00	85,444.00	40,408.29	65,903.37

Quantities indicated in the table are estimated and only for quoting purpose. The City will use its discretion to buy required number of switches based on the projects. It should not be construed that the City will purchase all the indicated quantities in the table.

Based on conformance to the technical specification, current industry standards, cost, delivery, and supplier/manufacturer qualifications, staff carefully evaluated the quotations submitted by Wesco (manufacturer's representative for Eaton/Coper), and Anixter (manufacturer's representative for S&C). Both bidders submitted proposals for each type of required switch configuration. Eaton/Cooper prices are lower for switches without SCADA options and S&C switches prices are lower for with SCADA options. City staff will purchase switches from the vendors based on the lowest quoted prices for the City's needs at the time of purchase.

Attached are the blanket orders for venders, Anixter PO 4624000098 and WESCO PO 4624000099, both shall be valid for 12 months from the date of award, with a possibility of renewing it for next four consecutive years with mutually agreed price escalation. However, if the existing market conditions improve and the City can get better prices then the City will rebid after the initial 12-month term. At present, costs are driven by the market conditions. No vendor is willing to make any commitments for escalation for multiple years. Considering the current cost of each switch unit, the total amount that the City would require is around $2.0 million per year and would be subject to the annual appropriation of funds.

FISCAL/RESOURCE IMPACT

Funding for the first-year purchase of switches is available in the FY 2024 Electric Capital Improvement Program (CIP) budget under EL-98003 (Electric System Improvements) and other Electric CIP projects. Funding for contract years two through five are contingent upon Council appropriation and approval of funds through the annual budget process. The breakdown for funding requirements from first year to the next five years is provided in the Attachment B. The total value of this procurement over five (5) years will not exceed $10.0 Million without further Council approval.

STAKEHOLDER ENGAGEMENT

Procurement of switches for electric distribution projects does not involve or impact any stake holders. Solid Dielectric Switches are basically maintenance free, and it will not impose any additional costs on the ratepayers.

ENVIRONMENTAL REVIEW

This project is categorically exempt from the California Environmental Quality Act (CEQA) under Section 15301 (repair or maintenance of existing facilities), and 15302 (replacement or reconstruction of existing structures and facilities) of the California Code of Regulations.

ATTACHEMENTS

Attachment A: PO 4624000098 Anixter
Attachment B: PO 4624000099 WESCO

APPROVED BY:

Dean Batchelor, Director of Utilities
Staff: Jim Pachikara, Principal Electric Engineer; and
Gopal Jagannath, Electric Management Specialist