

RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: SEPTEMBER 23, 2019

ITEM NO: 12

SUBJECT: BID NO. SUB-836 FOR FURNISHING TWENTY-FOUR SUBSTATION CIRCUIT BREAKERS FROM V&S SCHULER ENGINEERING, INC. IN THE AMOUNT OF \$2,170,143 AND WORK ORDER NO. 1906356 FOR AN INITIAL CAPITAL EXPENDITURE OF \$3,500,000

ISSUES:

Award Bid No. SUB-836 for furnishing 24 substation power circuit breakers to V&S Schuler Engineering Inc., of Canton, Ohio, in the amount of \$2,170,143; and approve Work Order No. 1906356 for an initial capital expenditure amount of \$3,500,000.

RECOMMENDATIONS:

That the Board of Public Utilities:

1. Award Bid No. SUB-836 for furnishing 24 substation power circuit breakers to V&S Schuler Engineering, Inc., of Canton, Ohio, in the amount of \$2,170,143; and
2. Approve Work Order No. 1906356 for an initial capital expenditure of \$3,500,000 for the Multi-Substation 69kV Circuit Breaker Replacement Project.

BACKGROUND:

Electrical substations are facilities where high voltage from transmission lines are harnessed for general distribution to customers. Substations house a variety of structures and equipment to accomplish their purpose. One type of equipment is 69kV power circuit breakers (breakers).

Breakers are one of the most fundamental and critical components in substations. This type of equipment protects the power grid from electrical faults and provides means of isolating other sections within the station for maintenance, switching, or construction. The average service life of breakers is between 30-40 years. The age of the breaker is a significant factor to interrupt high levels of current during electrical faults. Improper performance of this equipment ultimately compromises the reliability, safety, and maintenance of a substation.

In 2017, Riverside Public Utilities (RPU) Engineering staff developed a breaker replacement program that identifies and replaces circuit breakers that are beyond their service lives, or contain problematic or unavailable parts, and therefore, can no longer be cost-effectively maintained. The objective of the program is to minimize the probability of in-service failures of circuit breakers by initiating projects that proactively replace circuit breakers that represent the highest risk to the reliability of RPU's electrical system and safety of the public and RPU's employees. Engineering staff has identified a total of 24

breakers in need of replacement within the RPU electric system. These units either have exceeded or are reaching the end of their design life.



*Typical Oil Circuit Breaker
(Aged Unit)*



*Typical Vacuum Circuit Breaker
(Replacement Unit)*

DISCUSSION:

RPU is committed to providing safe and reliable energy service to all customers. As part of RPU's Utility 2.0 effort to identify and replace aging infrastructure, RPU plans to replace 24 of the 69kV power circuit breakers in the next three (3) fiscal years. RPU Engineering staff will work with a consultant to perform the engineering design for this project. RPU field forces will perform the construction work, testing, and commissioning. In order to minimize risks of field accidents and unforeseen outages to customers, staff has determined that single breaker replacements, one at a time, in each station is the optimum approach to complete this project. The construction completion date for this project is May 2022.

On April 8, 2019, RPU invited seven (7) vendors to submit bids in response to Bid No. SUB-836 for the furnishing of 24 substation power circuit breakers through an informal procurement process. Bids closed May 6, 2019. Four (4) vendors submitted bids and three (3) vendors declined to participate. Staff evaluated the bids and deemed V&S Schuler Engineering, Inc., of Canton, Ohio, to be the lowest responsive and responsible bidder. The bid was within the engineer's estimate. Evaluation for the final bid amounts took into consideration the proposal base amount, shipping and storage costs, optional item prices, and spare parts pursuant to the Bid No. SUB-836.

The table below summarizes the bid results:

Vendors	Location	Bid Amount	Ranking
V&S Schuler Engineering, Inc.	Canton, OH	\$2,170,143.00	1st
Concept Power Inc.	Las Vegas, NV	\$2,181,839.35	2 nd
OneSource Distributors	Riverside, CA	\$2,260,826.27	3 rd
Graybar Services, Inc.	San Bernardino, CA	\$2,291,041.56	4 th
➤ Engineer's Estimate		\$2,420,000.00	

The breakdown for the total capital expenditure is as follows:

Project & Fiscal Breakdown		
Work Type	Performed By:	Amount (\$)
Fabrication and Delivery of 69kV Power Circuit Breaker per RFB No. SUB-836	V&S Schuler	\$2,170,143
Consultant Design Services per	Consultant	\$970,427
Parts, Material, and Equipment Rentals	Miscellaneous Vendors (TBD)	\$800,000
Project Management and Engineering	Riverside Public Utilities	\$532,000
Construction, Factory Testing, Field Testing and Commissioning	Riverside Public Utilities	\$2,800,000
Contingency (5%)		\$363,630
Work Order Total:		\$7,636,200
Anticipated Start Date:		February 2020
Anticipated Completion Date:		May 2022

At this time, staff is requesting Board of Public Utilities (Board) approval for \$3,500,000 for the first phase of the project. The initial approval includes the procurement of 12 breakers, factory acceptance test, engineering consultant services, and construction of the 12 breakers.

Before this calendar year ends, staff will seek Board approval to award a professional consultant services agreement for design consulting services. Staff will also return to the Board at the beginning of each of the next two (2) fiscal years to seek approval to increase funding of this work order in order to complete construction and design of the remaining installations. The overall construction schedule is as follows:

Description of Work	Fiscal Year	Amount (\$)
Twelve (12) Power Circuit Breaker Replacements	2019/20	\$3,500,000
Nine (9) Power Circuit Breaker Replacements	2020/21	\$3,000,000
Three (3) Power Circuit Breaker Replacements	2021/22	\$1,136,200
Work Order Total		\$7,636,200

The Purchasing Manager concurs that the recommended actions are in compliance with Purchasing Resolution No. 23256.

FISCAL IMPACT:

The total fiscal impact for year one of installations is \$3,500,000. Sufficient funds are available in Fiscal Year 2019/20 budget in Public Utilities Substation Bus Upgrade Capital Account No. 6130100-470616.

Prepared by: George R. Hanson, Utilities Assistant General Manager/Energy Delivery

Approved by: Todd M. Corbin, Utilities General Manager
Approved by: Al Zelinka, FAICP, City Manager
Approved as to form: Gary G. Geuss, City Attorney

Certifies availability
of funds: Brian Seinturier, Utilities Fiscal Manager

Attachments:

1. Project Site Map
2. Bid No. SUB-836 Award Recommendation to V&S Schuler Engineering, Inc.
3. Presentation