

**BID NO. SUB-836 FOR FURNISHING 24 SUBSTATION
CIRCUIT BREAKERS FROM V&S SCHULER
ENGINEERING IN THE AMOUNT OF \$2,170,143 AND
WORK ORDER NO. 1906356 FOR AN INITIAL CAPITAL
EXPENDITURE OF \$3,500,000**

Riverside Public Utilities

Board of Public Utilities
September 23, 2019

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BACKGROUND

Substation Power Circuit Breakers:

1. Critical components in electrical substations
2. Protect the power grid from electrical faults
3. Allow isolation of sections for maintenance and switching
4. Ensure the proper performance of substation reliability,
safety and maintenance

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BACKGROUND

Staff has identified circuit breakers in RPU's system that have:

1. Exceeded or are approaching end of service life
2. Problematic or unavailable replacement parts making breakers no longer economically efficient to maintain

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BACKGROUND



Typical Oil Circuit Breaker
(Aged Unit)

Typical Vacuum
Circuit Breaker
(Replacement Unit)



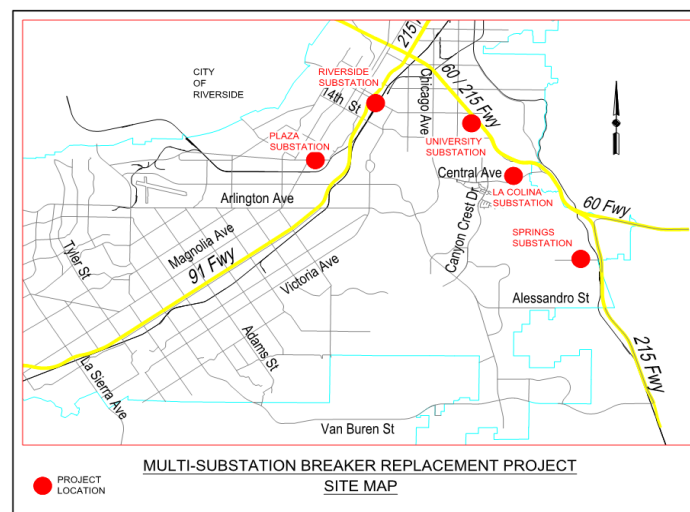
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DISCUSSION

1. RPU plans to replace 24 aging 69kV Power Circuit Breakers within next 3 fiscal years
2. Seeking approval of initial amount for FY 19/20 is \$3,500,000
 - A. Board approval to be requested in future fiscal years to fund entire project
 - B. Total project expenditure is estimated at \$7,636,200
3. This project will upgrade breakers five substations

DISCUSSION – WORK MAP



DISCUSSION

New breakers will:

1. Increase substation reliability by reducing chances of miss operation and interrupting fault current effectively
2. Provide safer conditions to personnel and protect expensive equipment by isolating faults and allowing switching during maintenance and construction in the substation
3. Reduce maintenance costs and repair efforts because vendors will have parts in stock, ready for shipment

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DISCUSSION

1. Scope of work includes procurement, factory acceptance test, and installation of breakers
2. Procurement: 7 vendors invited to Bid for equipment and material
3. Design: RPU Engineering will work with a consultant to perform engineering design for the project
4. Construction: RPU forces will perform installations

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BID RESULTS

VENDORS	LOCATION	BID AMOUNT	RANKING
V&S Schuler Engineering, Inc.	Canton, OH	\$2,170,143.00	1 st
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

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PROJECT AND FISCAL BREAKDOWN

WORK TYPE	PERFORMED BY:	AMOUNT (\$)
Fabrication/Delivery of 69kV Power Circuit Breaker per RFB No. SUB-836	V&S Schuler	\$2,170,143.00
Consultant Design Services	Consultant	\$970,427.00
Parts, Material and Equipment Rentals	Miscellaneous Vendors (TBD)	\$800,000.00
Project Management and Engineering	Riverside Public Utilities	\$532,000.00
Construction, Factory Testing, Field Testing and Commissioning	Riverside Public Utilities	\$2,800,000.00
Contingency (5%)		\$363,630.00
Work Order Total:		\$7,636,200.00
Anticipated Start Date:		February 2020
Anticipated Duration:		May 2022

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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.

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