



BID NO. RPU-7927 FOR FURNISHING AND DELIVERING TWO SUBSTATION POWER TRANSFORMERS

Energy Delivery

Board of Public Utilities
November 14, 2022

RiversideCA.gov

BACKGROUND

Substation Power Transformers

1. Essential components of the power grid
2. Critical to the reliability and optimum operation of the electric grid
3. Expected design life of approximately 40 years



2

RiversideCA.gov

BACKGROUND

Substation Power Transformers in RPU's System

1. Provide power to 3,000 or more customers
2. Among most expensive component in the electric system
3. Several units exceeding end of design life
4. Long lead-time equipment (Average 72 weeks)



3

RiversideCA.gov

DISCUSSION

RPU proposes to replace transformer no. 4 at University substation and transformer no. 2 at La Colina substation



Old Unit



New Unit

4



RiversideCA.gov

DISCUSSION

1. **University T4** - 30-year-old transformer that experienced an internal fault and cannot return to service; mobile transformer No.2 is carrying customer load
2. **La Colina T2** - 55-year-old transformer at end of its design life and test results show deterioration



5



RiversideCA.gov

BENEFITS

1. Minimize the risk of prolonged power outages due to transformer failures
2. Provide safe and reliable energy service for all customers
3. Maintain electric system's reliability and safety to personnel
4. Planned replacement of critical aging equipment approaching the end of their service life

6



RiversideCA.gov

SCOPE OF WORK

1. Five vendors submitted bids for transformers through City's Online Bid System under Bid No. RPU-7927
2. Includes installation of transformers, related electrical, civil and underground work, and upgrades
3. Consultant firm to perform structural engineering design and analysis, another one to perform design review and factory acceptance testing
4. RPU personnel to perform engineering, construction and testing



7

RiversideCA.gov

RPU-7927 BID SUMMARY

VENDOR	CITY LOCATION	EVALUATED BID AMOUNT	RANKING
Virginia Transformer Corporation	Roanoke, VA	\$2,986,263	1
WEG Transformers USA	Washington, MO	\$4,868,910	2
OTC Services Inc. (Equipment Marketing & Listing Service Inc.)	Louisville, OH	\$3,362,915	(non-responsive)
Delta Star Inc. (HighPoint Power Systems)	San Carlos, CA	\$4,281,219	(non-responsive)
Hitachi Energy (Pacific Utilities)	Crystal Springs, MS	\$5,281,453	(non-responsive)

Engineer's Estimate \$3,360,000

8



RiversideCA.gov

PROJECT BREAKDOWN

DESCRIPTION	WO No. 2219619	WO No. 2202776
Project Management and Engineering Design	\$67,000	\$82,000
Structure Analysis and Design	\$45,000	\$45,000
Factory Acceptance Testing and Transformer Design Review	\$48,000	\$48,000
Construction, Testing and Commissioning	\$147,000	\$222,000
Virginia Transformer Corporation	\$1,310,177	\$1,676,085
Contingency (10% of Transformer Cost)	\$131,000	\$167,000
Construction Material	\$246,823	\$259,915
TOTAL COST	\$1,955,000	\$2,500,000



9

RiversideCA.gov

STRATEGIC PLAN ALIGNMENT



Strategic Priority 6 - Infrastructure, Mobility and Connectivity

Goal No. 6.2 – Maintain, protect, and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity.

Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability & Resiliency



Equity



Innovation



10

RiversideCA.gov

RECOMMENDATIONS

That the Board of Public Utilities:

1. Award Bid RPU-7927 for furnishing and delivering two substation power transformers to Virginia Transformer Corporation, of Roanoke, Virginia, in the amount of \$2,986,263 plus contingency of 10% in the amount of \$298,000;
2. Approve the capital expenditure for Work Order No. 2219619 in the amount of \$1,995,000 for University Substation Transformer No. 4 Replacement Project, which includes all design, construction, equipment purchase, construction support, contract administration, and inspection;
3. Approve the capital expenditure for Work Order No. 2202776 in the amount of \$2,500,000 for La Colina Substation Improvement Project, which includes all design, construction, equipment purchase, construction support, contract administration, and inspection; and
4. Authorize the City Manager, or designee, to execute any documents necessary to effectuate the project described herein, as well as the ability to make minor and non-substantive changes in alignment with all purchasing policies.



11

RiversideCA.gov