



**BID NO. RPU-7719 FOR MULTI-SUBSTATION TRANSFORMER
UPGRADE AND RECONDITIONING PROJECT AND WORK
ORDER NO. 2002530 FOR A TOTAL CAPITAL EXPENDITURE OF
\$1,883,000**

Riverside Public Utilities

Board of Public Utilities
February 24, 2020

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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

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BACKGROUND

Substation Power Transformers in RPU's System:

1. Provide power to 4,000 or more customers
2. Single most expensive equipment in the electric system
3. 8 Transformer units identified at five substations for upgrades and reconditioning

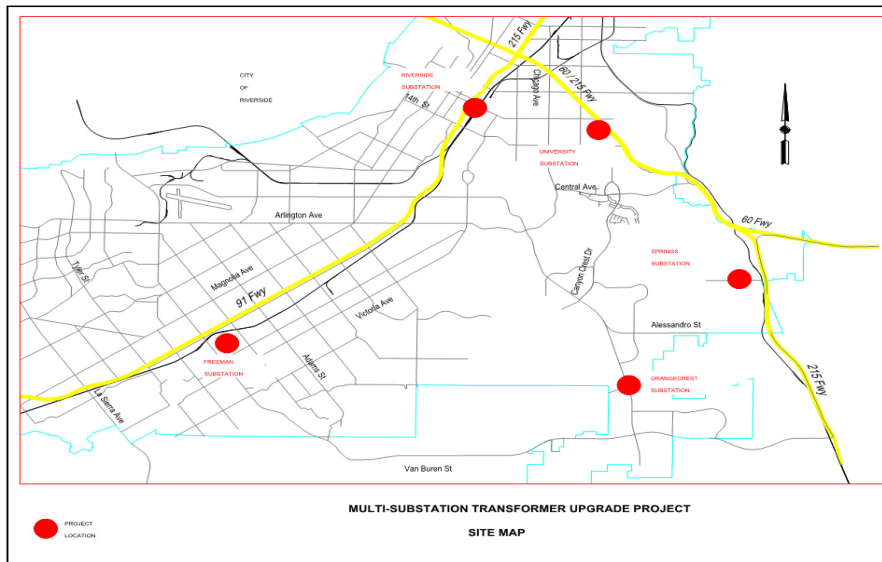
DISCUSSION

Proposes to upgrade and recondition eight transformers:

1. Freeman – T5 and T6
2. Riverside – T4
3. Orangecrest – T2, T4 and T5
4. Springs – T2
5. University – T4



DISCUSSION – SITE MAP



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DISCUSSION - BENEFITS

1. Planned upgrades and reconditioning measures of critical aging assets to optimize the life of transformers
2. Decrease the risk of in-service failures
3. Maintain electric system's reliability and safety to customers and personnel
4. Support implementation of future condition-based maintenance program

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DISCUSSION –WORK SCOPE

1. Upgrading load tap changers (LTC), installing new LTC controller
2. Install online monitors, maintenance-free breather units, and new gauges
3. Involves performing oil screen and electrical testing
4. Formal request for proposal Bid No. RPU-7719 was posted through the Purchasing Department on September 23, 2019 and closed on November 18, 2019



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BID NO. RPU-7719 RESULTS

VENDORS	AMOUNT	RANKING
Reinhausen Manufacturing	\$1,375,809	1st
Siemens Industry, Inc	\$1,791,740	2nd
Delta Star	\$1,872,525	3rd
SPX Transformer Solutions	\$1,881,086	4th
North American Substation Services, LLC	\$2,297,725.05	5th



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PROJECT BREAKDOWN

Project and Fiscal Breakdown		
Work Type	Performed By:	Amount (\$)
Project Management and Engineering	RPU Engineering	\$70,000
Construction (Bid No. RPU-7719)	Reinhausen Manufacturing	\$1,375,809
Inspection and Testing	RPU Substation Elect. and Test	\$299,611
Contract Contingency (10%)		\$137,580
Work Order Total:		\$1,883,000
Anticipated Start Date:		April 2020
Anticipated Duration:		12 Months



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RECOMMENDATIONS

That the Board of Public Utilities:

1. Award Bid No. RPU-7719 for the Multi Substation Transformer Upgrade and Reconditioning Project to Reinhausen Manufacturing, of Humboldt, Tennessee, in the amount of \$1,375,809.57; and
2. Approve Work Order No. 2002530 for a total capital expenditure of \$ \$1,883,000.



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