WATER | ENERGY | LIFE

RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE:** JANUARY 22, 2018

ITEM NO: 7

SUBJECT: **AWARD RFP-801 FOR FURNISHING AND DELIVERING TWELVE 6000KVAR METAL ENCLOSED CAPACITOR BANKS TO NORTHEAST POWER SYSTEMS, INC OF QUEENSBURY, NEW YORK, IN THE AMOUNT OF $2,562,558 – APPROVE WORK ORDER NO. 1814007 FOR SUBSTATION CAPACITOR UPGRADE PROJECT FOR $5,306,000**

ISSUES:

Award RFP-801 for furnishing and delivering twelve 6000kVAR metal enclosed capacitor banks to Northeast Power Systems, Inc. of Queensbury, New York, in the amount of $2,562,558, and approve the capital expenditure of $5,306,000 for the Work Order No. 1814007.

RECOMMENDATIONS:

That the Board of Public Utilities:

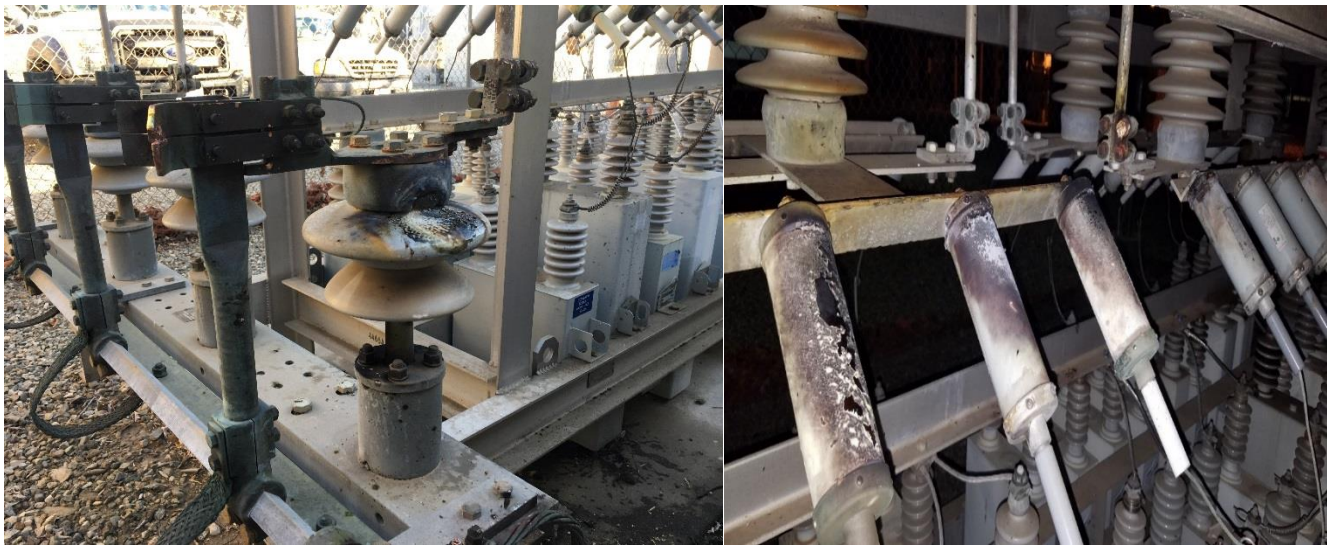
1. Award RFP-801 for furnishing and delivering twelve 6000kVAR metal enclosed capacitor banks to the lowest responsive and responsible bidder Northeast Power Systems of Queensbury, New York, in the amount of $2,562,558; and

2. Approve Work Order No. 1814007 for the Substation Capacitor Upgrade Project in the amount of $5,306,000.

BACKGROUND:

Substation capacitor banks (capacitors) are critical components for the reliability of the electrical power system. Capacitors are operated to support system voltage and provide reactive power to RPU's electrical power system. Reactive power must be supplied to most types of electric equipment, such as motors and transformers. Capacitors also contribute to the efficiency of the electrical power system by reducing system losses, improving system capacity, and ensuring that customers receive power at the proper voltage. In addition, capacitors maintain the proper power factor at the interface with Southern California Edison (SCE) at SCE's Vista Substation. The proper power factor at SCE's Vista Substation is identified in the Interconnection Facility Agreement between SCE and the City of Riverside.

Many of the capacitors installed in RPU's system have exceeded or are reaching the end of their design life. Also, some of these capacitors have limited power regulating capabilities. Operating equipment beyond its design life represents an undesirable safety concern to RPU field staff and residents, and a preventable reliability issue to RPU's electrical system. Last year, RPU experienced a failure of a capacitor bank at Harvey Lynn substation due to its physically open and exposed configuration, which made it susceptible to the elements and animals.



Damage to Existing Open Rack Capacitor at Harvey Lynn Substation

DISCUSSION:

Riverside Public Utilities (RPU) proposes to replace eleven capacitors at four substations (Freeman, Springs, La Colina and Harvey Lynn) with metal-enclosed capacitors. Also, as part of this effort, one capacitor at Mountain View Substation will be added. The new capacitor design will eliminate the open and exposed configuration of the equipment, and it will improve personnel safety, operational capabilities, and power quality of RPU's electric power system. The maintenance costs and potential operating failures will be reduced due to the enhanced technology and design features.

Typical Metal Enclosed Capacitor

The new capacitors will have better regulating capabilities compared to the existing units, and will maintain the supplied voltage at required levels. This will reduce power losses as well as reduce the impact of switching on the system which will prolong the life of sensitive equipment within the substation where the new metal enclosed capacitor units are installed.

The scope of work includes the demolition of the existing eleven capacitors, and the installation of twelve new capacitors. This proposed work also includes the upgrade of related auxiliary devices and protective relays at all five substations, new foundations, and related underground work. All construction work contemplated by this action within each of the substations will be performed by RPU field forces.

Five vendors were invited to submit proposals for equipment and material under RFP-801. Four of the five vendors submitted proposals. Staff evaluated the proposals and deemed Northeast Power Systems, Inc. to be the lowest responsive and responsible proposer.

The Purchasing Manager concurs that the recommended action is in compliance with the current purchasing Resolution.

The proposals are summarized in the table below:

Vendors	**Location**	**Proposal Amount**	**Evaluation**
1. Northeast Power Systems, Inc.	Queensbury, NY	$2,562,558	Lowest Responsive and Responsible Bidder
2. Scott Engineering, Inc.	Chino, CA	$2,685,250	2nd
3. Controllix Corporation	Walton Hills, OH	$3,078,878	3rd
4. ABB	Carry, NC	$3,660525	4th
5. Eaton	Cleveland, OH	NA	Did not submit bid
➢ *Engineer's Estimate*		$2,800,000	

The project breakdown is proposed as follows:

Project Breakdown	
Engineering Performed By:	RPU Engineering Staff
Electrical Work Performed By:	RPU Field Forces
Inspection and Supervision	RPU Field Forces
Anticipated Start Date:	July 2018
Anticipated Duration:	15 Months

The breakdown for the total capital expenditure as follows:

DESCRIPTION	**AMOUNT**
Northeast Power Systems, Inc.	$2,562,558
Project Management and Engineering	$400,000
Equipment Rental, Protective relays and Miscellaneous Material	$250,000
Construction	$1,400,000
Factory Acceptance Testing, Field Testing and Commissioning	$300,000
Contingency (8%)	$393,442
Work Order Total	**$5,306,000**

FISCAL IMPACT:

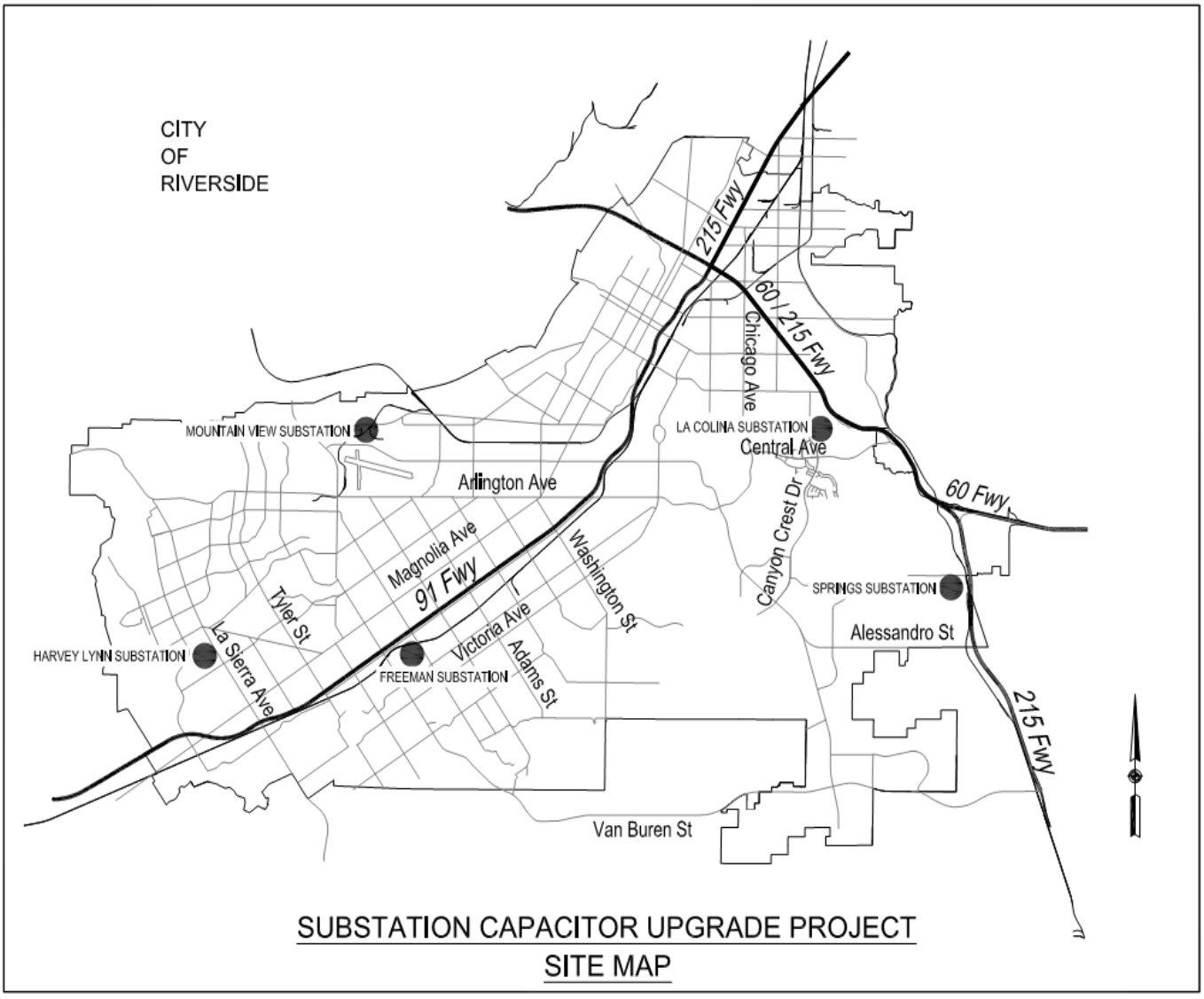
The total fiscal impact is $5,306,000. Sufficient funds are available in Public Utilities' Substation Bus Upgrade Capital Account No. 6130000-470616.

Prepared by: George R. Hanson, Utilities Assistant General Manager/Energy Delivery
Approved by: Todd L. Jorgenson, Utilities Interim General Manager
Approved by: John A. Russo, City Manager
Approved as to form: Gary G. Geuss, City Attorney

Certifies availability
of funds: Laura M. Nomura, Utilities Assistant General Manager/Finance

Attachments:

1. Award Recommendation
2. Presentation



SUBSTATION CAPACITOR UPGRADE PROJECT
SITE MAP