RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE:** JUNE 10, 2019

ITEM NO: 11

SUBJECT: PLAZA AND RIVERSIDE LINE RELAY REPLACEMENT PROJECT – WORK ORDER NUMBER 1927495 IN THE AMOUNT OF $492,000

ISSUE:

Approve Work Order Number 1927495 for the Plaza and Riverside Line Relay Replacement project in the amount of $492,000.

RECOMMENDATION:

That the Board of Public Utilities approve Work Order Number 1927495 for the Plaza and Riverside Line Relay Replacement project in the amount of $492,000.

BACKGROUND:

The Electric System Master Plan (ESMP) recommends replacing all electromechanical relays in the sub-transmission and distribution systems with microprocessor-based relays and implementing a Protection System Improvement Program based on a system condition assessment of the protection system.

Relays are critical components of electrical transmission and distribution systems. Electromechanical relays and control systems were the standard in the electrical industry until the 1980's. Since then, there has been a migration towards microprocessor-based relays and controls. Electromechanical relays are prone to electrical and mechanical failures, require frequent maintenance, and have setting limitations compared to microprocessor-based relays, which perform the same protection operations, but with higher precision and reliability. Due to the aforementioned reasons, replacement of electromechanical relays with microprocessor-based relays is essential to increase safety and system dependability. Therefore, Riverside Public Utilities (RPU) has standardized the use of microprocessor-based relays for all new installations and upgrades.

Typical Electromechanical Relays

Typical Microprocessor Relays

DISCUSSION:

RPU is committed to providing safe and reliable energy service for all customers. As part of the Department's effort to identify and replace aging infrastructure, RPU plans to replace line protection relays at Plaza and Riverside substations. The protective relaying equipment at Plaza and Riverside are approximately 50 years old and have exceeded their design life.

The project scope includes replacing electromechanical line protection relays with microprocessor-based relays for one sub-transmission line at each terminal at Plaza and Riverside Substations in addition to replacing all the auxiliary equipment and wiring.

RPU staff will perform project management, system integration, material and equipment procurement, construction, and testing. RPU will select a firm to perform engineering services from the consultant panel through a competitive bidding process administered by the Purchasing Department.

The project/fiscal breakdown is as follows:

Project and Fiscal Breakdown		
Work Type	Performed By:	Amount ($)
RPU Project Management and Engineering	RPU	$37,000
Design	Consultant Panel	$124,000
Construction	RPU	$115,000
Testing and Commissioning	RPU	$22,000
Equipment and Material	Vendor	$160,000
Contingency		$34,000
Work Order Total:		**$492,000**
Anticipated Start Date:		**August 2019**
Anticipated Completion Date:		**May 2020**

FISCAL IMPACT:

The total fiscal impact is $492,000. Sufficient funds are available in the Fiscal Year 2019-20 budget in Public Utilities' Substation Innovation Account No. 6130100-470614.

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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

Attachment: Project Site Map