WATER | ENERGY | LIFE

RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE: MAY 10, 2021**

SUBJECT: CIRCUIT 1364 AND CIRCUIT 1451 RELIABILITY IMPROVEMENT AND FUSE COORDINATION PROJECT – WORK ORDER NO. 2115405 FOR A TOTAL CAPITAL EXPENDITURE OF $460,000

ISSUE:

Consider approval of Work Order No. 2115405 for a total capital expenditure of $460,000 for the Circuit 1364 and Circuit 1451 Reliability Improvement and Fuse Coordination Project.

RECOMMENDATION:

That the Board of Public Utilities approve Work Order No. 2115405 for a total capital expenditure of $460,000 for the Circuit 1364 and Circuit 1451 Reliability Improvement and Fuse Coordination Project.

BACKGROUND:

In 2014, Riverside Public Utilities (RPU) approved a Distribution Reliability Improvement Plan for electric distribution circuits. Implementing Distribution Automation (DA) has been outlined as a critical component for reducing outages' duration and the number of customers impacted.

Distribution Automation is a major component for improving RPU's electric distribution system for reliability and response to system outages. DA includes sensors and associated controls throughout RPU's electric grid, along with various intelligent devices and technologies such as automatic circuit reclosers, remotely controlled switches, smart relays, digital remote terminal units, and system fault indicators. The DA system will help Electric Grid Operations to identify and resolve system problems efficiently and timely. As a result, benefits such as quicker restoration, improved reliability, and better overall control of the system are achieved.

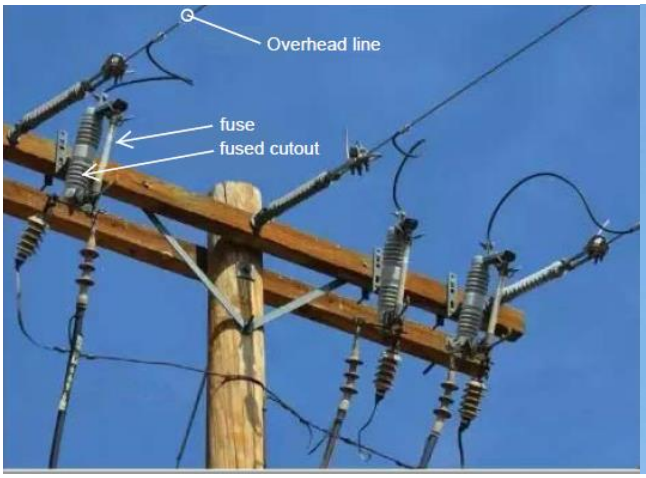
RPU's Electric System Planning staff recently performed a reliability study to improve the performance of circuits that are on the top ten worst performing circuit list. Due to the numerous outages within the last five years and the increase in energy demand and load growth in the area, staff recommended the improvement of Circuit 1364 and Circuit 1451. The reliability study identified system risks that could result in additional outages and recommends the implementation of appropriate system enhancements to reduce outage time, thereby improving the System Average Interruption Duration Index (SAIDI). This index represents the duration in minutes that an average customer was without power. Staff recommended the installation of reclosers on both Circuit 1364 and Circuit 1451, as well as the replacement of several existing fuses with ampacities

higher than some of their branch conductor's ampacity. In addition, upgrading the existing conductors of an existing overhead span of wire that will serve as a circuit tie between these two circuits. The implementation will allow for fault clearing, isolation of short circuit faults on lateral or tapped lines, avoiding tripping the entire circuit. Any system outages will be coordinated with customers and notices will be provided in advance to minimize impact to customers.

DISCUSSION:

This project will replace existing obsolete overhead electrical distribution equipment to properly coordinate with operations and substation equipment, improving overall system reliability and electric service to customers in the area. Replacement of aged and obsolete overhead infrastructure is identified as part of the Utility 2.0 Electric Infrastructure Road Map.

The project includes the removal and installation of cutouts and fuses on existing and new locations. Due to the reduced fuse sizes, most of the cutouts currently on Circuit 1451 will be replaced with the appropriate size cutout to properly hold the fuse. The project also includes installing four reclosers, two on each circuit, and the reconductoring of approximately 1,300 ft of overhead feeder wire on Circuit 1451, along Bandini Avenue, between Brockton Avenue and Palm Avenue. The pole locations are within the neighborhoods north of Jurupa Avenue, along Brockton Avenue and Palm Avenue, in the vicinity of the Wood Streets neighborhood. RPU electric field crews will perform the construction of this project. No contract civil underground electric work is planned for this project.



Fused Cutouts on Crossarm

Typical Pole Mounted Recloser Construction

The project and fiscal breakdown are proposed as follows:

Project and Fiscal Breakdown		
Work Type	Performed By:	Amount ($)
Design, Construction Management, and Inspection	RPU Engineering and Operations	$57,509
Electrical Work, Field Testing and Commissioning	RPU Field Forces and Test Group	$360,672
Contingency (10%)		$41,819
Work Order Total:		**$460,000**
Anticipated Start Date:		**June 2021**
Anticipated Duration:		**2-3 Months**

FISCAL IMPACT:

The total fiscal impact is $460,000. Sufficient funds are available in Public Utilities Electric Capital Account No. 6130000-470655.

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Approved by: Al Zelinka, FAICP, City Manager
Approved as to form: Kristi J. Smith, Interim City Attorney

Certifies availability of funds: Edward Enriquez, Chief Financial Officer/City Treasurer

Attachment*:* Project Site Map