WATER | ENERGY | LIFE

RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE:** JUNE 24, 2019

ITEM NO: 7

SUBJECT: EMERGENCY WORK FOR LA COLINA AND RIVERSIDE SUBSTATION CIRCUIT BREAKER REPLACEMENTS – WORK ORDER NO. 1832655 IN THE AMOUNT OF $143,920

ISSUE:

Approve Work Order No. 1832655 in the amount of $143,920, in accordance with the City of Riverside Charter Article XII, section 1202(2) (b), for emergency work completed due to circuit breaker failure at La Colina and Riverside Substation.

RECOMMENDATION:

That the Board of Public Utilities approve Work Order No. 1832655 in the amount of $143,920, in accordance with the City of Riverside Charter Article XII, section 1202(2) (b), for emergency work completed due to circuit breaker failure at La Colina and Riverside Substation.

BACKGROUND:

High voltage circuit breakers (circuit breakers) are used to interrupt electrical faults and isolate sections of the electric system. Circuit breakers are essential for the electrical protection of surrounding equipment, the safety of personnel, and the reliability of the electric system.

The average service life of circuit breakers filled with oil is between 30-40 years. Several of these circuit breakers within Riverside Public Utilities (RPU) electric system have exceeded or are reaching the end of their design life. The age of the circuit breaker is a significant factor in the electric system reliability, safety, and maintenance costs. The interrupting capabilities experience a decline as circuit breakers age. Age also reduces the ability of the circuit breaker to handle electrical and mechanical stresses encountered during electrical faults.

RPU has experienced the in-service failure of two 69kV oil-filled circuit breakers, one at Riverside Substation and the other one at La Colina Substation.

Typical Oil Circuit Breaker
(Old Unit)

Typical Gas Circuit Breaker
(Replacement Unit)

DISCUSSION:

Circuit breakers provide protection for the safety of residents and the electrical personnel. As such, staff began repairs immediately under City of Riverside Charter Article XII, section 1202(b)(2) which allows work to be done without prior approval if there is an urgent necessity to preserve life, health, or property. As soon as practically thereafter, the matter shall be presented to the Board of Public Utilities.

RPU replaced these failed units with available spare units from other capital improvement projects. RPU staff has a plan to replace all oil-filled circuit breakers in RPU's system in the next four (4) years. This Board action is driven by the recent breaker failures and complements the existing plan to update these critical system components.

The restoration work has already been completed due to the criticality of this failure, and the need to restore the 69kV ring bus to maintain service reliability. This work included the removal and installation of new foundations and related electrical and underground work. The foundation design was performed by a consultant. The engineering design, construction, inspection, and equipment testing was performed by RPU field forces.

FISCAL IMPACT:

The total fiscal impact is $143,920. Sufficient funds are available in Public Utilities Substation Bus Upgrade Capital Account No. 6130103620-470616.

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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