



City of Columbia

701 East Broadway, Columbia, Missouri 65201

Department Source: City Utilities - Water and Light

To: City Council

From: City Manager & Staff

Council Meeting Date: August 7, 2023

Re: Public Hearing: Perche Creek Substation Transformer and Switchgear Addition.

Executive Summary

This is the public hearing concerning the addition of one new 69 kV station class transformer and switchgear lineup at the Perche Creek Substation. The project location is shown on the attached Location Map. An interested parties (IP) meeting was held on May 17, 2023. The resolution estimate for this project is \$2,100,000 and will be paid from Project E0184 of the Electric Capital Improvement Program.

Discussion

This project will add a third 69/13.8kV station class transformer and switchgear lineup to Perche Creek substation. The two existing transformer lineups have a capacity of 20MVA. The new transformer lineup will also have 20MVA capacity. This improvement will provide better redundancy for reliability and maintenance of the system. The two existing station class transformers are able to serve existing load, but would be unable to do so in the event that one of them was rendered inoperable due to a malfunction or external event. Adding a third transformer increases the electric reliability and redundancy for load being served by this substation. This substation has seen an increase in load to serve the new developments on the west side of Columbia. Both the Water Treatment Plant and the Wastewater Treatment Plant are served by Perche Creek Substation. A third transformer will provide increased electric reliability to these essential services provided by the City.

Adding an additional transformer does not require any transmission upgrades as the third transformer lineup will be connected to the existing 69kV bus. Three new 13.8kV distribution feeders will be constructed from the new switchgear lineup as separate projects in the future. Two of the three feeders will relieve load on the two existing transformers. The third feeder will be constructed to provide a backup electric source to the Water Treatment Plant and southwest subdivisions. There is sufficient space on the existing Perche Creek Substation property in order to install the new transformer lineup as proposed. The project graphic showing the proposed improvement is attached.

An Interested Parties (IP) Meeting was held on May 17, 2023, at City Hall. Three citizens attended the meeting and two expressed concerns that this project included proposed transmission line additions. This work is to upgrade an existing substation to improve reliability. The resolution estimate for this project is \$2,100,000 and will be paid from Project E0184 of the Electric Capital Improvement Program. Funds for this project are proposed to be from electric revenue bond funds and/or electric enterprise funds.



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Fiscal Impact

Short-Term Impact: The resolution estimate is \$2,100,000.

Long-Term Impact: Minimal impact to operations costs.

Strategic & Comprehensive Plan Impact

[Strategic Plan Impacts:](#)

Primary Impact: Reliable Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

[Comprehensive Plan Impacts:](#)

Primary Impact: Infrastructure, Secondary Impact: Not applicable, Tertiary Impact: Not Applicable

Legislative History

Date	Action
07/17/2023	R106-23 Setting a public hearing: Perche Creek Substation transformer and switchgear addition.
05/17/2023	Interested Parties (IP) Meeting

Suggested Council Action

Direct staff to proceed with final design for the Perche Creek Substation transformer and switchgear addition.