



## DEPARTMENT OF UTILITIES

**Department of Utilities**  
Water Treatment Facility  
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### MEMORANDUM

**Date:** December 11, 2025

**To:** Chairperson Brad Firkus and Members of the Finance Committee

**From:** Chris Stempa, Director of Utilities

**CC:** Ryan Rice, Deputy Director of Utilities  
John Pogrnt, Water Operations Supervisor  
Jeri Ohman, Finance Director

**Subject:** **Finance Committee Action: Approve Change Order #2 to Fabick Power Systems as part of the Appleton Water Treatment Facility Emergency Generator Control Equipment Project totaling \$93,148.50 and 2025 budget amendment: Water Chemical System Upgrade CIP - \$93,148.50, Water Generator Control Panel CIP + \$93,148.50**

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### BACKGROUND:

The Appleton Water Treatment Facility (AWTF) has two 2,500 horsepower Caterpillar (CAT) diesel powered generators that are utilized for emergency backup power. On February 5, 2025, Common Council approved a contract with Fabick Power Systems to replace the original obsolete generator controls and install new medium voltage switchgear protective relays for a cost of \$653,837 with a contingency of \$46,163 for a total not to exceed \$700,000. An additional \$1,504 was later added to the base contract to accommodate the City's bonding requirements, increasing the base contract to \$655,341.

On April 2, 2025, Common Council was presented with Change Order #1 totaling \$49,863 after discovering that two large feeder relays, associated control switches, lock-out relays, and indicator lights on the high voltage electrical distribution system were also obsolete. This change order also included the cost of portable generator rental to maintain uninterrupted treatment operations.

### CHANGE ORDER #2 DESCRIPTION

On November 4, 2025, planned testing and commissioning activities were conducted by the Fabick/Enercon commissioning team. During testing, two sudden electrical "flash-over" events occurred. A flash-over is defined as a short burst of electricity jumping across parts that should be insulated from each other, similar to a spark, but much more powerful. The testing team was making sure that only one power source could feed the system at a time (so two sources don't accidentally connect, which is dangerous). Everything worked as designed until they tried powering the system from Generator #2, at which point the flash-over happened. A second test was then initiated after discovering that one of the switches was believed to have not been adjusted correctly. However, after repeating the test the same flash-over occurred. After the second failure, the team inspected

the generator wiring and grounding and discovered that both generators were missing important grounding connections. In plain terms, their neutral grounding transformers were absent from the appropriate connections. This nonconforming issue was a remnant from original plant construction and not known until this testing occurred. The inadequate grounding has never revealed itself during the past 25 years because the generators are usually connected to the electrical utility and/or they have some load placed on them.

## **CHANGE ORDER #2 COST AND FUNDING SOURCE**

Change Order #2 includes the labor and equipment needed to complete the missing wiring connections for the generator neutral grounding transformers. These connections will convert the generator system from an ungrounded configuration to one that is solidly referenced to ground at a fixed voltage level. The work also includes installing resistors on the secondary side of the bus potential transformers (PTs). Each PT will have its own appropriately sized and rated resistor to ensure proper operation. The total cost of the Change Order #2 is \$93,148.50

The change order would be funded from dollars remaining from the Water Chemical System Upgrade.

## **RECOMMENDATION:**

This change order would result in the contract with Fabick Power Systems increasing from \$703,700 to \$796,8448.50. No additional contingency funds are being requested currently with the change in scope. The following budget amendment will be required to fund the project:

Water Chemical System Upgrade CIP - \$93,148.50

Water Generator Control Panel CIP + \$93,148.50

If you have any questions regarding this project, please contact me at 920-832-2353.