

ITEM #: 19
 DATE: 04-09-24
 DEPT: W&PC

COUNCIL ACTION FORM

SUBJECT: CHANGE ORDER #1 FOR THE SWITCHGEAR ROUTINE MAINTENANCE SERVICES

BACKGROUND:

On February 27, 2024, a contract was awarded to Tri-City Electric Company of Davenport, Iowa in the amount of \$65,325 to provide switchgear routine maintenance services at the Water Treatment Plant (WTP), Old High Service Pumping Station (Old HSPS), and the Water Pollution Control (WPC) Facility. These routine maintenance services include work on switchgear, breakers, panels, and other associated electrical connections and to evaluate the existing systems in accordance with recently updated NFPA 70B standards.

When the bid package was originally released, the scope included infrared thermal imaging of the equipment. This test can reveal locations of failing insulation, overloaded circuits, or loose electrical connections. To be able to do the thermal imaging, however, the panels must be opened while the equipment is still energized. Some potential bidders expressed safety concerns with having the panels opened while energized due to the high voltages involved, and staff chose to remove by addendum that scope element.

Staff has since worked with the successful bidder on the project, Tri-City Electric, to obtain a quote to install infrared screening ports at the WTP at a cost of \$15,483. This will permit the thermal imaging to be performed during subsequent maintenance in a safe manner. Infrared ports are not being proposed for WPC at this time. A new electrical building is being constructed as a part of the Nutrient Reduction Modifications, and the infrared screening ports will be installed as a part of that project.

Funding for the change order is available from the project budget as indicated in the table below:

	Expense	Funding
Tri-City Contract		
Original Contract	\$ 65,325	
Change Order #1 (<i>This action</i>)	15,483	
Capital Improvement Plan		
3919 - Water Plant Switchgear		\$ 107,510
3438 - WPC Switchgear		97,000
	\$ 80,808	\$ 205,510

ALTERNATIVES:

1. Approve Change Order #1 with Tri-City Electric to install infrared ports in the main circuit breakers and automatic transfer switches at the Water Treatment Plant in the amount of \$15,483.
2. Do not approve the change order. **Due to safety constraints, thermal imaging of the equipment cannot be performed without the infrared viewing ports. That means that any "hot spots" in the equipment may go undetected, increasing the potential for premature equipment failure or an electrical fire.**

CITY MANAGER'S RECOMMENDED ACTION:

Regular inspection and cleaning of electrical switchgear is an important safety measure that helps reduce the potential for a catastrophic equipment failures, and is required by the City's property insurance provider. Because of the high voltages present in the gear at the Water Treatment Plant, bidders on the project declined to quote thermal imaging that requires the gear to be open while energized.

Installing infrared viewing ports allows thermal imaging to be safely performed while the gear is energized without the need to open the cabinets. The current year's contractor has provided a quote to install 24 infrared ports. The revised contract price is still well within the authorized budget for the work. Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative #1 as described above.