Board of Aldermen Request for Action

MEETING DATE: 10/17/2023 **DEPARTMENT:** Public Works

AGENDA ITEM: Resolution 1276, authorize an emergency purchase of a new SCADA and PLC system at the water treatment plant.

REQUESTED BOARD ACTION:
A motion to approve Resolution 1276, authorizing the emergency purchase of a new SCADA (Supervisory Control and Data Acquisition) and PLC (public logic control) system at the water treatment plant in the amount of $20,750.

SUMMARY:

The water treatment facility uses real-time radio technology, SCADA, to monitor distribution system assets and to remotely control distribution system pumps and isolation valves. This allows operators to turn pumps on and off and fill towers from the water treatment facility without having to do so manually in the distribution system.

With the addition of the new raw water pump station, the SCADA network is now a mixed system of cellular technology and the original radio technology. Under normal circumstances, this would not be an issue, but the outdated PLC equipment that was installed in 2006 cannot handle the additional information load placed on it. This has resulted in the failure of the SCADA system with communication errors and the inability to run the raw water pump or the chemical feed system at the raw water pump station and will require replacement. Additionally, the system alarms are not responding, and we are having to manually go to the raw water pump station to regulate chemicals and control pumps. This system controls the pumps that feed the water towers and provides water levels of the towers.

The upcoming water treatment facility improvements that are currently being engineered would call for an upgrade and expansion of the SCADA / PLC putting further demands on the system. The new system will take into account this additional load, so we are prepared for the expansion.

PREVIOUS ACTION: none

POLICY ISSUE:
Infrastructure maintenance

FINANCIAL CONSIDERATIONS:

There is funding in the combined water and waste water budget for this replacement of the SCADA/ PLC system in the water plant maintenance budget.

ATTACHMENTS:

- ☐ Ordinance
- ☒ Resolution
- ☐ Staff Report
- ☒ Other: Quote
- ☐ Contract
- ☐ Plans
- ☐ Minutes

RESOLUTION 1276

A RESOLUTION AUTHORIZING AN EMERGENCY PURCHASE OF A NEW SCADA AND PLC SYSTEM AT THE WATER TREATMENT PLANT

WHEREAS, the SCADA (Supervisory Control and Data Acquisition) and PLC (Public Logic Control) System at the water treatment plant was installed in 2006; and

WHEREAS, with the addition the new raw water pump station, the SCADA network is now a mixed system of cellular and the original dial up technologies; and

WHEREAS, the outdated PLC cannot handle the additional information and the SCADA system is failing to communicate with the systems necessary to run the water treatment and distribution system; and

WHEREAS, R.W. Vaught has provided the City with a proposal to replace the existing SCADA and PLC system in an amount of $20,750.

NOW THEREFORE BE IT RESOLVED BY THE BOARD OF ALDERMEN OF THE CITY OF SMITHVILLE, MISSOURI, AS FOLLOWS:

THAT the Board authorizes the emergency purchase of a new SCADA and PLC system at the water treatment plant with R.W. Vaught in the amount of $20,750.

PASSED AND ADOPTED by the Board of Aldermen and **APPROVED** by the Mayor of the City of Smithville, Missouri, the 17th day of October, 2023.

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Damien Boley, Mayor

ATTEST:

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Linda Drummond, City Clerk

Friday, October 6, 2023

R.W. Vaught Technical Services
Controls / Scada Systems for the
Water and Wastewater Industry

3681 MC 5036
Yellville, AR 72687

To: Bob Lemley, Jennifer Garner; City of Smithville
From: RW Vaught; R.W. Vaught Technical Services
Subject: Price Quote for Scada/Controls for WTP

Dear Bob and Jennifer

As we have discussed, the Scada system hardware at the WTP has a major problem with the PLC system. A component in the PLC system is malfunctioning, keeping the WTP from running in automatic. This system is 18 years old, and some of the components are not available new any longer. The alternative is to replace the existing PLC system, with a modern version of the same. However, it not only requires all new wiring, it also requires all new programming for the Scada computer, and the touch screen. I anticipate a minimum of 2 weeks of programming time (most of which can be done off site).

We will need to do a change over of the system, to allow for installation and wiring of the new PLC system. I figure that will take most of one day, which will require running the WTP in hand.

Price for the above is $20,750.

Call if you have questions.

Sincerely,

RW Vaught

RW Vaught
R.W. Vaught Technical Services
870-656-2030