



MAYOR & COUNCIL COMMUNICATION

DATE: December 03, 2013
CONSENT
ITEM #4
MOTION

AGENDA ITEM: SCADA System Upgrade
SUBMITTED BY: Mike Bouthilet, Public Works Director
THROUGH: Dean Zuleger, City Administrator
REVIEWED BY: Adam Bell, City Clerk

SUGGESTED ORDER OF BUSINESS:

- Introduction of Item City Administrator
- Report/Presentation.....City Administrator
- Questions from Council to Staff Mayor Facilitates
- Call for Motion Mayor & City Council
- Discussion..... Mayor & City Council
- Action on Motion..... Mayor Facilitates

POLICY RECCOMENDER: Mike Bouthilet - Public Works Director

FISCAL IMPACT: \$29,203.25 for Hardware/Software Purchase & Installation

SUMMARY AND ACTION REQUESTED:

Requesting authorization to purchase Ethernet radios, computer, monitor, upgrade graphical interface system and add or update associated software.

LEGISLATIVE HISTORY:

SCADA is an acronym for *Supervisory Control and Data Acquisition*. Supervisory control allows remote operations to a utility. Data acquisition allows remote monitoring, data collection, and storage. Alarms are programmed to notify operators of conditions requiring immediate attention.

The City’ current SCADA system was designed and installed in 2007 in conjunction with the Water Tower II and water main extension construction projects.

BACKGROUND INFORMATION (SWOT)

Incorporating two new lift stations into the SCADA system identified both new and known deficiencies. The current radios are obsolete. A compatible alternative with was specified and included in the new projects. It is recommended to use Ethernet net radios with the system. This would not increase the costs on the new stations, but requires radio and system upgrades to the existing SCADA system.

Although the current SCADA system meets data collection and storage requirements, it has major deficiencies with operational control and alarm notification. Control is limited to on/off functions and can only be operated at the Public Works Garage. Alarms are limited, requiring multiple inputs on a single channel. The result is getting an alarm condition notice reporting “high or low level condition”, “power or phase fail”, check valve or low flows fail”. Operators must go to the utility site or public works garage to determine which of two alarm conditions are actually occurring.

System upgrades funded by the water and wastewater enterprise accounts. Shared costs split from existing utility, two in progress, well house in 2014, and future additions.

Strengths:

- New SCADA system can be accessed from any computer, tablet, or phone with internet or data plan. Operational control limited to utility staff, but monitoring could be allowed to other staff and Public Officials. The Fire Department would have real time status of tower levels and pump flow data during fire events.
- Alarms programmed with software. Allows detailed alarm notices and accommodates all current and future needs.

Weaknesses:

- Radio and IT technology development is dynamic. It has been determined the current proposal includes equipment expected to be field standard in foreseeable future.

Opportunities:

- Roseville IT department has the SCADA computer scheduled for replacement next year. A price was solicited and provided. Roseville will purchase computer/monitor and assist in establishing SCADA in the system. (Current SCADA not in network) A tablet was priced, but it was determined to delay any purchase until system is established to identify needs and criteria.
- Allows new well house programming/protocols to be incorporated in design.

Threats

- The need for remote access and control becomes increasingly important as pumps, tanks and controls feed the same infrastructure. With this comes the due diligence to assure and maintain the integrity and security of the system.

RECOMMENDATION:

Based on the aforementioned, the staff recommends the appropriate guiding motion.

Move to approve the purchase SCADA system radio upgrades, computer, and software from Telemetry Process Controls and the Roseville IT for \$29, 203.25

ATTACHMENTS:

- 1) SCADA System Summary
- 2) TPC SCADA Proposal
- 3) Communications Systems Diagram