THE CORPORATION OF THE MUNICIPALITY OF KINCARDINE

Subject: SCADA Network Implementation

Report Number: Public Works-2021-01

Meeting Date:Friday, January 15, 2021

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Recommendation: THAT Council provide pre-budget approval for the necessary SCADA upgrades to integrate existing sites and to replace the existing Verbatim at the Kincardine Water Treatment Plant;

AND FURTHER THAT Council authorize Staff to utilize section 9.1 – Direct purchase from a supplier from the Purchasing and Procurement Policy to purchase the instrumentation from DataSoft.

Date to be considered by Council: Friday, January 15, 2021

Report Summary:

The Kincardine Water Treatment Plant (KWTP) requires a capital upgrade to the dialer alarm system in 2021. The current system is causing issues and staff are concerned about impacts failure could impose and are therefore seeking pre-budget approval from Council to permit replacement now. Staff feel the use of SCADA technology at our sites to monitor operations, collect data and to simplify operations is a necessity. We have several sites that have SCADA technology installed and functioning, however on a remote level. This results in staff having to visit each site to understand how they are functioning and to physically pull data from each site for monitoring and reporting purposes. Integrating the sites advanced with SCADA technology will further support staff and allow our sites and operations to evolve to present methods. The Municipality utilizes DataSoft Solutions for their SCADA services and are requesting Council permit direct purchase through them for the necessary upgrades.

Origin: 2021 Capital projects

Existing Policy: G.G. 2.17 Purchasing and Procurement Policy

Background/Analysis: The 2020 budget included upgrades to the Tiverton and Kincardine Standpipes inclusive of data management components. Both projects

are underway with data management components scheduled for January installation. In 2021 the existing Verbatim dialer at the KWTP is due for replacement. The device is required to alert operators of any exceedances to established operational parameters.

SCADA systems are an operational tool that manages all processes, data collection and alarms for systems in an integrated and accessible fashion. In 2016 the Leachate facility at the WMC was completed with a SCADA system installed. In 2017 SCADA upgrades were performed at the KWTP to replace the outdated system that was no longer functioning. In 2018 the Connaught Sewage Pumping Station was constructed with a SCADA system installed. All sites that have SCADA presently installed are remote standalone sites. All the other sites have aging methods of data collection that could be replaced with SCADA instrumentation as they require replacement.

Through further investigation by staff, a proposal was prepared to consider amending the upgrades at the standpipe projects to include SCADA components. The altered technology imposes no financial impacts to the existing contracts, however prepares both sites for future connectivity. Additionally, the service provider has provided pricing to look at connecting all remote sites back to the KWTP, and further replacing the Verbatim process with SCADA functions. This would bring our operations to the 21st century with respect to instrumentation with an integrated approach and avoid further stop gap upgrades until a time when full SCADA operations were possible. Staff would be able to access all site data from one location for the sites connected, in addition to remote access to understand and possibly trouble shoot system alarms and make process changes.

Staff are requesting Council consideration to replace proposed project G042 with a SCADA upgrade to our sites. This would integrate all sites, improve operations and system response times and further improve the overall operational integrity Undertaking the upgrades now would impose long term savings as we can repurpose existing SCADA equipment from the KWTP to the standpipes; should we update the standpipes only now we would need to purchase like equipment which would result in a spare unit vs repurposing the one at the KWTP. The unit at the KWTP would be upgraded to allow expanded functionality of multiple sites being added now and able to adapt to add others with future offsite additions. Due to the concerns at the KWTP with the Verbatim, we are requesting pre-budget approval to allow staff to proceed with the necessary upgrades in January. Our current systems are supported through DataSoft Software Solutions; and staff are requesting approval to use the direct purchase method from the purchasing and procurement policy to enable us to continue working with our provider.

Corporate Strategic Plan 2020-2025: Sustainable Practices and Organizational Efficiency & Innovation.

Financial Implications: There are no financial impacts to the existing contracts at the two standpipes. The proposed SCADA upgrades amount to a cost of $100,000.

This project is to be funded as follows:

$45,000 from the Kincardine Water RF 68

$45,000 from the Sewer RF 67

$10,000 from the Lifecycle RF

This project replaces project G042 KWTP Verbatim Replacement ($20,000) in the 2021 draft capital budget.

Attachments:

G042 KWTP Verbatim Replacement