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To: Chair and Members
Lambton Area Water Supply System Joint Board of Management

From: Clinton Harper
General Manager

Subject: Fuel Storage and Delivery System for Diesel Generators at WTP

Recommendation

That the LAWSS Joint Board of Management receive as information and forward the matter to the 2021 Budget Deliberation.

Background:

In Ontario the Technical Standards & Safety Authority (TSSA) regulates the transportation, storage, handling and use of fuels. In 2012, LAWSS awarded a \$450,000 contract for an upgrade of the fuel delivery and storage system for the diesel engines currently utilized for backup power at the LAWSS WTP. This project was required to be built in accordance with the 2006 standard requirements for fuel delivery and storage. This was not achieved.

In July 2018, EXP Services Inc. (EXP) was awarded RFP 18-131 "Engineering Design for Replacement of Emergency Generators at LAWSS". The project scope included Development and Design, Compliance Documentation and Tendering, Project Administration and Project Close out Components. With respect to the fuel system, the scope of project RFP 18-131 was limited to tying into the existing upgraded system completed in 2012. The project was amended, at staff's recommendation, to include the WTP's main 5kV switchgear (SWGR) with the benefit "peak-shaving" provision. This project has progressed and the Generator and SWGR manufacturers have been selected and production has started. Also, a pre-qualification tender had been executed; yielding three interested contractors capable and qualified of completing the project.

At the beginning for 2020, with all of the key items in place, an effort was finally being made by EXP to pull together the remaining items into a generalized construction contract. As part of this effort a TSSA Inspector was invited to the WTP to provide feedback on the proposed project. While it was expected that there would be some effort to tie into the existing fuel system, due to the systems age it was believed that this effort would be covered within a reasonable amount of contingency afforded in the

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contract. The TSSA inspection revealed that major deficiencies existed in the fuel system.

At this time, LAWSS staff have applied for a temporary variance to allow LAWSS to maintain system operation until after the generator replacement project could be completed.

Comments:

In response to the TSSA inspection, a complete fuel system audit was completed by a certified technician to determine the extent of the system deficiencies. The finalized audit was provided to LAWSS staff on May 28, 2020. The audit revealed substantial deficiencies in the existing fuel storage and delivery system that will need to be corrected separately from the current generator project; in a future capital project.

LAWSS staff are currently working with TSSA to establish a temporary variance that can be built into the current generator project and will allow for connection of the new generators into the existing fuel system. It should be noted that if the fuel system upgrade project had been completed up to the 2006 standard in 2012 then the current work would not have triggered a TSSA requirement. It should also be noted that without the TSSA inspection the fuel system's deficiencies would not have been realized until commissioning of the new standby generator system. While the situation is not ideal, by catching the issue at this point LAWSS is provided with an opportunity to achieve a competitive bid in advance of a TSSA compliance order for this project.

Consultation:

This report was prepared in consultation with OCWA Operational Staff, EXP Services Inc. and TSSA and the LAWSS General Accountant

Financial Implications:

The deficiencies identified in the fuel system audit are extensive and will take substantial effort and funding to rectify. Unfortunately, due to the current project being the trigger point, the existing fuel system will need to be brought up to the now 2015 standard. The financial impact is currently being quantified but it is expected that engineering and construction could range between \$750,000-\$1,000,000. The project has been included in the 2021 Preliminary Budget Proposal for the Board's consideration.

This report was prepared by Clinton Harper, LAWSS General Manger

Attachment(s):