

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Deputy City Manager, Environment and Infrastructure

Subject: Emergency Purchase of a MagnaDrive Adjustable Speed Drive

Date: July 27, 2021

Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions be taken with respect to the emergency, non-competitive purchase of a MagnaDrive Adjustable Speed Drive for the Southeast Reservoir and Pumping Station:

- a) The purchase order for the purchase of a MagnaDrive Adjustable Speed Drive from SCG Process under Section 14.2 of the Procurement of Goods and Services Policy at a total price of \$94,382.00 (HST excluded), **BE CONFIRMED**; and
- b) The financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix 'A'.

Executive Summary

Purpose

This report informs Committee and Council of an Emergency Purchase made under section 14.2 of the Procurement of Goods and Services Policy. A critical mechanical component, common to all the larger pumps within Southeast Pumping Station, has prematurely failed in all the larger pumps.

Context

London's Southeast Reservoir and Pumping Station transfers all drinking water received from the Elgin Area Primary Water Supply System into the City of London Drinking Water System. The station consists of four larger pumps and two smaller pumps. In early May 2021, premature failure was discovered on four key components that are common to all four larger pumps. All four larger pumps are inoperable until replacement components can be sourced and installed. While the ongoing investigation into all remediation options continues, City Administration decided that one of the larger pumps must be returned to service as soon as possible to maintain operational preparedness. To accomplish this goal, an Emergency Purchase of one replacement component identical to the original four components was made under section 14.2 of the Procurement of Goods and Services Policy.

Linkage to the Corporate Strategic Plan

This report supports the 2019 – 2023 Strategic Plan through the strategic focus area of Building a Sustainable City, by ensuring that London's infrastructure is built, maintained, and operated to meet the long-term needs of our community.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

None

1.2 Emergency Procurement

The Procurement of Goods and Services Policy outlines the processes that Civic Administration is required to follow to obtain the best value when purchasing goods or contracting services. In the event of an “Emergency”, section 14.2 Procurement in Emergencies permits Civic Administration to purchase goods/services under “Emergency” conditions in a non-competitive manner. In this section, “Emergency” means:

“an event or occurrence that the City Manager or Managing Director deems an immediate threat to:

- *Public Health;*
- *The maintenance of essential City services; or*
- *The welfare and protection of persons, property, or the environment; and the event or occurrence necessitates the immediate need for goods or services to mitigate the emergency and time does not permit for a competitive procurement process.”*

When section 14.2 is used, Civic Administration is required to follow defined protocols, and the emergency procurement must be reported to Committee and Council.

2.0 Discussion and Considerations

The City of London receives approximately 15% of its drinking water from the Elgin Area Primary Water Supply System (EAPWSS). Water is pumped to London through large-diameter watermains and received into the Southeast Reservoir. Water is then pumped into London’s network of watermains from the Southeast Reservoir by the Southeast Pumping Station.

The Southeast Pumping Station and Reservoir (SERPS) began service in September 2017. The station utilizes four larger pumps powered by 500 Hp electric motors and two smaller pumps powered by 150 Hp motors. The amount of water delivered by the larger pumps is controlled by a component called an Adjustable Speed Drive (ASD). In early May 2021, Water Operations staff noticed that the ASD on one of the larger pumps had failed. A subsequent investigation revealed that all four large pumps were experiencing the same premature failure and could no longer be used safely.

Upon discovering the damage, the four larger pumps were locked out of service and the control software for the station was modified to increase the pumping capacity of the two smaller pumps. Technical consultations were initiated with the ASD’s manufacturer, MagnaDrive Corporation in Bellevue, Washington, USA. The cause of the failures remains unknown. The most severely damaged unit was shipped to the manufacturer on May 12, 2021 for analysis to help determine the cause of the failure and to assess whether repairs are feasible and practical.

It is hoped that the manufacturer’s assessment will provide valuable guidance in determining next steps. This assessment has been delayed due to significant delays at the Canada/US border. At the writing of this report, the City has received information stating that the unit may cross the border on Friday, June 25, 2021 (more than six weeks after shipping).

3.0 Key Issues and Considerations

Through internal discussions, City Administration agreed that the primary goal is to return one of the larger pumps to service at SERPS as soon as possible. Although the two smaller pumps can provide the normal daily volume of water required from SERPS, there is no ability to pump significantly more water. Any unforeseen mechanical issues with either of the two small pumps at SERPS could adversely impact the City’s ability to

meet water demands.

City administration determined that the most prudent course of action would be to purchase one new MagnaDrive ASD from SCG Process. This purchase will provide the quickest return to service of one larger pump at SERPS and provide time to perform further analysis regarding the cause of the failures and the best course of action for the three remaining larger pumps.

On June 16, 2021, a Purchase Order was issued to SCG Process in the amount of \$94,382.00 (pre-taxes) for the purchase of one new replacement MagnaDrive ASD. The shipping date for the new ASD is August 19, 2021.

4.0 Financial Impact/Considerations

Sufficient funding for the purchase of the new Adjustable Speed Drive exists within the Southeast Pumping Station Optimization & Renewal Annual Program. Additional sources of funding may be required when the longer-term plan for the other three larger pumps is finalized, and these developments will be reported to Committee.

Conclusion

Sudden premature failure of identical mechanical pump components on four separate pumps at London's Southeast Reservoir and Pumping Station has impacted operational capacity to meet London's water demands. Although sufficient pumping capacity remains to meet London's needs, the ability to mitigate further unexpected water supply challenges has been significantly diminished. An emergency purchase of one component identical to the four failed components was deemed to be the most prudent course of action to restore pumping capacity while investigating the cause of the component failure and determining the most appropriate actions regarding the long-term remediation of the failed components.

Prepared by: John Simon, P.Eng.
Division Manager, Water Operations

Submitted by: Scott Mathers, MPA, P. Eng.
Director, Water, Wastewater & Stormwater

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Deputy City Manager, Environment and Infrastructure

Appendix 'A' Sources of Financing

cc: Dan Huggins, Water Quality Manager
John Freeman, Manager III, Purchasing and Supply
Zeina Nsair, Financial Business Administrator, Finance and Corporate Services

Appendix "A"

#21118

July 27, 2021

(Award Contract)

Chair and Members
Civic Works Committee

RE: Emergency Purchase of a MagnaDrive Adjustable Speed Drive
(Subledger FWSSERPE)
Capital Project EW110420 - Southeast Pumping Station Optimization and Renewal
SCG Process - \$94,382.00 (excluding HST)

Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing for this project is:

Estimated Expenditures	Approved Budget	This Submission	Balance for Future Work
Construction	100,000	96,043	3,957
Total Expenditures	\$100,000	\$96,043	\$3,957
Sources of Financing			
Drawdown from Water Works Renewal Reserve Fund	100,000	96,043	3,957
Total Financing	\$100,000	\$96,043	\$3,957

Financial Note:

Contract Price	\$94,382
Add: HST @13%	12,270
Total Contract Price Including Taxes	106,652
Less: HST Rebate	-10,609
Net Contract Price	\$96,043

Jason Davies
Manager of Financial Planning & Policy

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