

Meter Transmission Units Emergency and Emergency Non-Competitive Contract with Aclara Technologies LLC to Obtain Supply of Replacement Water Meter Transmission Units

Date: October 7, 2024

To: Infrastructure and Environment Committee

From: General Manager, Toronto Water, and Chief Procurement Officer

Wards: All

REASON FOR CONFIDENTIAL INFORMATION

The attachment to this report is about a plan to be applied to any negotiations carried on or to be carried on by or on behalf of the City of Toronto (City).

SUMMARY

The issuance of this non-competitive contract was a matter of extreme urgency. The rapidly increasing and premature failure of over 150,000 of the City's 470,000 Meter Transmission Units (MTUs), at a far greater rate than expected, has created a significant challenge for Toronto Water, requiring immediate action to support accurate, timely and efficient City water utility billing and customer service. This premature failure is expected to continue.

The purpose of this report is to advise City Council, in accordance with Chapter 195 of the Toronto Municipal Code, Procurement, Section 195-7.5, of a non-competitive emergency contract with Aclara Technologies LLC (Aclara) for the supply of initial replacement MTUs at a total cost of \$4,040,000 USD (\$5,534,800 CAD), net of all applicable taxes and charges (\$4,111,104 USD or \$5,632,212. CAD, net of Harmonized Sales Tax recoveries) issued pursuant to Purchase Order (PO) 6055735, as amended. This cost represents an agreed pro-rata warranty replacement cost for the failed MTUs.

The issuance of the PO was a matter of urgency as the premature failure of the MTUs was deemed an emergency by the General Manager, Toronto Water, under Chapter 195, Procurement, Section 195-7.1(G), and reporting back to City Council is required in accordance with Section 195-7.5, where the potential value of the non-competitive contract exceeds \$500,000.

This report also seeks the necessary Council authorities to continue to address this on-going emergency, enabling Toronto Water to secure the materials and services required to maintain the level of service necessary to support City water utility billing based on actual consumption and associated customer service operations.

Additionally, this report provides an overview of the steps taken to manage this issue, and provides, in Confidential Attachment 1, information for consideration by Committee and City Council, and recommended Confidential Instructions to Staff.

RECOMMENDATIONS

The General Manager, Toronto Water, and the Chief Procurement Officer recommend that:

1. City Council authorize the General Manager, Toronto Water, to enter into negotiations with Aclara Technologies LLC, as the manufacturer and exclusive supplier of the Meter Transmission Units, for the supply and delivery of additional Meter Transmission Units, and to report back to the Infrastructure and Environment Committee on the outcome of those negotiations, and the strategies identified in Confidential Attachment 1, by the end of the first quarter 2025.
2. City Council adopt the Confidential Instructions to Staff as contained in Confidential Attachment 1 to this report.
3. City Council direct that Confidential Attachment 1 to this report remain confidential in its entirety as it contains information and Confidential Instructions to staff respecting a plan to be applied to any negotiations carried on or to be carried on by or on behalf of the City, and direct that the confidential instructions to staff, if adopted, be made public at the discretion of the City Solicitor.

FINANCIAL IMPACT

The cost to the City of the Aclara Contract is \$4,040,000 USD (\$5,534,800 CAD), net of all applicable taxes and charges (\$5,632,212 CAD, net of Harmonized Sales Tax recoveries).

Funding is included in the Toronto Water 2024 Approved Capital Budget and 2025-2033 Approved Capital Plan, as summarized in Table 1 below.

Table 1: Financial Impact Summary

WBS Element/ Description	Dates	Total (net of HST recoveries)
CPW532-02-01 Automated Meter Reading System	July 23, 2024 - December 31, 2024	\$5,632,212

There are additional financial implications resulting from this report outlined in Confidential Attachment 1.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting on July 24 and 25, 2024, City Council, by its adoption of item EX16.18 "Toronto Water 2024 Capital Budget and 2025-2033 Capital Plan Adjustments", authorized, among other things, amendments to Toronto Water's 2024 Capital Budget and 2025-2033 Capital Plan by adjusting project cash flows contained within the Budget and Plan, to align forecasted project accelerations and deferrals and to reallocate project costs and cashflows to address an earlier than forecasted need to replace MTUs. City Council's decision can be viewed here: [Agenda Item History - 2024.EX16.18 \(toronto.ca\)](#)

At its meeting on October 29 and 30, 2019, City Council, by its adoption of item IE8.3, "Non-competitive Contract with Aclara Technologies LLC., for the supply of Proprietary Meter Reading Hardware, System Upgrade, and Annual Maintenance and Support," authorized the General Manager of Toronto Water to negotiate, enter into and execute a non-competitive supply of goods agreement with Aclara for, among other things, the supply of MTUs. City Council's decision can be viewed here: [Agenda Item History – 2019.IE8.3](#)

At its meeting on July 23, 2018, City Council, by its adoption, without amendments, of item PW31.6 "Authority to Negotiate a Non-Competitive Contract with Aclara Technologies LLC for the Supply of Proprietary Meter Reading Hardware, System Upgrade and Annual Maintenance and Support", authorized the General Manager of Toronto Water and the Chief Information Officer (CIO) to negotiate a non-competitive, five-year contract with Aclara for proprietary meter reading hardware, system upgrades, and annual maintenance and support. Additionally, Council directed these officials to report back with the negotiation results for contract approval in the first quarter of 2019. City Council's decision can be viewed here: [Agenda Item History – 2018.PW31.6](#)

At its meeting on November 12, 2015, the Public Works and Infrastructure Committee received for information item PW9.6 - "Water Meter Program - Final Report" whereby the General Manager of Toronto Water reported on the status of the project advising, among other things, that the project achieved substantial performance in March 2015, approximately nine months ahead of schedule, with total projected expenditures forecasted at \$168 million, or 77% of the \$219 million funding limit. At the time, the financial benefits to the City were projected to be approximately \$32.8 million per year, including \$27.8 million in revenue recovery and \$5 million in operating savings. This information report can be viewed at: [Agenda Item History – 2015.PW9.6](#)

At its meeting on June 23 and 24, 2008, City Council, by its adoption, with amendments, of item PW16.12 "Request for Proposal (RFP) 0713-08-0001: Water Meter

Replacement and Automated Meter Reading System", authorized, among other things, the General Manager of Toronto Water and the Treasurer to negotiate and enter into an agreement with Neptune Technology Group (Canada) Limited for a total amount of \$191,756,663.14, net of GST, including provisional items for the Water Meter Replacement and Automated Meter Reading (AMR) System project as specified in RFP 0713-08-0001 (the AMR Agreement). Additionally, a funding limit of \$219 million, net of GST, was set to finance the AMR system, covering contingency, provisional items, and inflationary indexing for labor and materials over six years. City Council's decision can be viewed at: [Agenda Item History – 2008.PW16.12](#)

COMMENTS

BACKGROUND

Approximately 92% of Toronto Water's revenue is derived from water sales based on metered water consumption. Water metering infrastructure, installed in homes and businesses across the City of Toronto, plays an integral role in ensuring accurate, timely, and efficient water billing.

Automated Meter Reading System

In 2015, Toronto Water completed the implementation of the Automated Meter Reading (AMR) system, replacing or installing new water meters, MTUs, Data Collector Units (DCUs), and information management technology City-wide, ward by ward. This AMR system created a communication network to capture and transmit water consumption data for water utility billing purposes. The AMR system relies on proprietary hardware and water utility billing across the City of Toronto.

To ensure the efficiency and effectiveness of the AMR system, Toronto Water developed a plan to maintain service levels and optimize financial investments in the system over its 20-year lifecycle. This plan includes the eventual replacement of the AMR system after its useful life with the next generation of meter technology.

Meter Transmission Unit Component and Operations

MTUs are critical components of the AMR system, transmitting metered water consumption data from individual meters to the City's central system via radio frequency. This data is essential for generating accurate and timely water utility bills. If an MTU fails, the City does not receive transmission of meter readings of actual water consumption. As a result, the City must rely on estimated water consumption, based on historical usage, for the purposes of its water utility billing and, specifically, for determining the amount to be billed to water consumers until such time as actual meter readings are obtained, either through manual meter readings or the installation of a new MTU.

Based on a 20-year service life for the City's MTUs, Toronto Water established processes, as part of normal operations, to manage and sustain a normalized and expected MTU failure rate of approximately 1% per year due to manufacturing and environmental factors. Sustainment includes assets and labour necessary for replacing failed MTUs and installing new ones as needed for new water services.

Aclara is the manufacturer and exclusive supplier of MTUs compatible with the City's AMR system.

Impact of Premature Failure of Meter Transmission Unit Components

A significant number of the City's MTUs are failing prematurely, well before their expected 20-year service life. Currently, over 30 per cent of the City's 470,000 MTUs have failed. This has led to water utility billing and customer communication challenges, affecting the City's ability to maintain an appropriate level of customer service.

The high rate of MTU failure, Toronto Water's resourcing constraints, and supply chain challenges have led to a significant backlog of MTUs requiring replacement. Failures are expected to continue at a current forecasted rate of 5,000 to 8,000 MTUs per month, with higher failure rates anticipated during the winter months as compared to summer. This trend is expected to continue until all the originally installed MTUs are affected.

As an interim measure, the City has moved affected water utility customers to estimated billing.

Emergency Response

Toronto Water established a cross-disciplinary working group to review, manage and address the critical issue of widespread MTU failures. This group was tasked with:

- Investigation of the cause of the premature MTU failure.
- Assessment of operational impact.
- Engagement and communication with senior City officials, affected customers and other affected City Divisions.
- Procurement of such goods and services as may be necessary to address this issue, including the emergency procurement of the initial replacement MTUs through a non-competitive contract with Aclara.
- Continuous monitoring and tracking the progress of the resolution of this issue.

Emergency Procurement

The premature and unexpected failure of the City's MTUs has affected the City's water utility billing and customer service. In response, the General Manager, Toronto Water, has deemed the premature failure of the MTUs and the need for their replacement as an emergency. Early effects on utility billing include an increase in the number of customers receiving estimated water utility bills, delays in issuing utility bills, and impacts on revenue accruals.

The City's ability to address the emergency has been further complicated by supply chain challenges and obsolescence issues, which have significantly limited the availability of replacement stock. Aclara, the supplier of the City's MTUs, has phased out production of the MTU type and associated installation kits compatible with the City's AMR system. These factors are making it more difficult for Toronto Water to secure replacement units in a timely manner.

Accordingly, an emergency non-competitive procurement was entered into with Aclara for the supply of initial replacement MTUs pursuant to the issuance of the PO. The PO was issued on the basis of the terms being in accordance with an agreed replacement cost and the existing MTU supply agreement between the City and Aclara dated January 26, 2021.

Toronto Water staff are actively exploring strategies to address the premature MTU failures. This includes considering factors such as implementation logistics, operational risks, financial implications, and customer impact. This is in addition to ongoing communications with Aclara regarding the availability of MTU replacement stock and installation kits.

CONTACT

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SIGNATURE

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ATTACHMENTS

Confidential Attachment 1 - Strategies and Next Steps