



REPORT FOR ACTION

Contract for the Provision of Transmission Operations Optimizer (TOO) Upgrade, Support and Maintenance Services from IBI Group Inc.

Date: March 19, 2019

To: Infrastructure and Environment Committee

From: General Manager, Toronto Water

Chief Purchasing Officer, Purchasing and Materials Management Division

Wards: All

SUMMARY

The purpose of this report is to request authority to enter into a non-competitive contract with IBI Group Inc. (IBI), for the continued post-warranty support and maintenance of the Transmission Operations Optimizer ("TOO") proprietary system software for a period of up to a three years (two-year base term with a City option to renew for an additional one-year period). The software generates pumping schedules for the City's water filtration plants and pumping stations and saves on hydro costs while maintaining standards for emergency storage levels, system pressure and water quality. TOO is a unique and successful customized computer software linked to data channels and the Toronto Water Supervisory Control and Data Acquisition (SCADA) network.

City Council approval is required in accordance with Municipal Code Chapter 195-1 Purchasing, and Chapter 71-11 Financial Control where the cumulative five-year commitment and \$500,000 threshold exceeds staff authority. The original five-year contract with IBI was awarded through a competitive process by the Bid Committee #34 September 5, 2007, and work began in 2008. The initial work took longer than expected as it is highly complicated and the first of its kind in Canada and was completed in 2015. IBI extended the warranty period, which expired on December 31, 2018.

RECOMMENDATIONS

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

1. Toronto City Council authorize the General Manager, Toronto Water to negotiate and, subject to the terms and conditions being acceptable to the General Manager, enter into and execute on behalf of the City a non-competitive agreement with IBI Group Inc. to provide TOO system support and maintenance services, including GUI upgrades, at a cost not to exceed \$651,264 net of HST recoveries, for a period of up to three years (a Contract for Provision of Transmission Operations Optimizer (TOO) Upgrade

base two-year term plus a City option to renew for an additional one year period) and in a form acceptable to the City Solicitor.

FINANCIAL IMPACT

The total value of the non-competitive contract identified in this report is not to exceed \$651,264 (net of HST) recoveries as shown below.

The following table identifies estimated costs (net of HST recoveries) for the TOO support and maintenance services, including GUI upgrades, for a period of up to three years (two-year base term plus one optional year).

Table 1: Estimated costs (net of HST recoveries) for TOO support and maintenance services

Year 1 2019	Year 2 2020	Year 3 2021 (if City option exercised)
\$234,048	\$234,048	\$183,168
		Total \$651,264

Funding in the amount of \$234,048 for the first year is available in the 2019 Approved Operating Budget for Toronto Water (Cost Center TW6045, Commitment Item 4474). Funding for the balance of the 2-year base term of \$234,048 will be requested in the 2020 Operating Budget Submission for Toronto Water.

Should the City of Toronto choose to exercise its option to renew for an additional one (1) year period, then appropriate additional funding, if needed, will be included in the 2021 Operating Budget Submissions for Toronto Water.

The requested amounts for the base 2-year term period are as quoted by IBI and represent fixed pricing for the proposed service levels and scope of work. The amount for the optional 1-year terms is estimated based on the current and expected future requirements, anticipated technology changes and estimated inflationary increases. .

Staff consider the pricing provided by the IBI Group Inc. for the next two years reasonable, and is also below the amounts quoted in the original TOO development agreement.

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

DECISION HISTORY

On September 5, 2007, City Council Bid Committee granted authority to award a competitive contract to IBI Group Inc. to develop a system software, known as TOO, and provide warranty support and maintenance services over a five-year period.

City Council Decision Document:

<https://www.toronto.ca/legdocs/2007/agendas/committees/bd/bd070905/bd070905.pdf>

The initial Purchase Order to IBI Group Inc. for \$4,518,820 was amended by \$450,000 in October 2016, for additional developmental costs incurred.

ISSUE BACKGROUND

Since the initial implementation of TOO on November 9, 2015, and the following six months of User Acceptance Testing, TOO has proven electrical savings of 20 kWhrs per ML water pumped at the 14 pumping stations controlled by TOO and saved Toronto Water \$1.1 million dollars annually in hydro (GL2215) costs. Annual cost savings for the work IBI is performing are over four times higher than the cost of the services provided, the return-on-investment is approximately three months.

This proposed contract will provide ongoing support and maintenance services and upgrades to the Graphical User Interface (GUI) for the TOO system. As part of the original TOO development agreement, dated October 15, 2008, this vendor has provided warranty service and maintenance support for the TOO project for the past two years and developed and owns the source code, subject to certain reserved rights of the City and the Regional Municipality of York. The original agreement did not include provisions for service and maintenance support beyond the warranty period.

IBI Group Inc. services are required for the effective support and maintenance, including upgrade, of the TOO system. As the only firm involved in the software's development from feasibility to inception, IBI Group Inc. is the only firm with the core knowledge of the programming and associated algorithms contained within TOO. City of Toronto staff do not have the required knowledge, skills or abilities to perform the work.

The services to be provided by IBI Group Inc. under the contract are necessary to ensure the TOO system continues to properly operate on a daily basis. Without the support and maintenance services of IBI Group Inc., hardware and software issues will significantly compromise TOO functionality.

TOO does require regular maintenance to ensure the data inputs, databases and automated pump controls continue to work as intended. The user interface or GUI is based on 2009 legacy Windows® systems and requires upgrading to maintain and enhance user and administrator controls.

Essential to the functionality of the TOO system is the ongoing timely accessibility, of the following:

- Immediate response to service calls for network and database troubleshooting
- Technical guidance to Toronto IT Staff
- Continued improvement of the optimization algorithms
- Support for hydraulic model changes

Achievements

TOO took over six and half years to develop to a state ready for User Acceptance Testing (March 2009 to November 2015), an extremely challenging technical and operational assignment. Here are some achievements:

- TOO received the City Manager's Award in September 2016 for its demonstrable success.
- TOO received a one-time Incentive contribution from Toronto Hydro and IESO of \$1.629 million in July 2016 for the Save-On-Energy Retrofit Program. At the time it was the largest incentive payment made by IESO in Ontario.
- York Region contributed 33% to the capital project and has paid Toronto \$1,656,972.41 since the project started, as the lowered operating costs directly benefit York Region by way of the metered water rate calculation.
- To date, TOO has a net savings to the City of \$1.616 million over three years; the gross capital costs less contributions less operating expense savings.
- The original TOO development agreement with IBI Group Inc. provided for options for up to two additional years of post-warranty support and maintenance at a cost of \$470,000. Staff have reviewed the pricing with IBI Group Inc. and negotiated such services at a cost of \$360,000 (net of HST recoveries)

COMMENTS

IBI Group Inc. is an industry leader and is developing and marketing the TOO system as "Blue-IQ". Although other pump scheduling software sources exist such as MWHSoft and Derceto, IBI Group Inc. has successfully implemented TOO as a custom package for Toronto Water. Accordingly, given the customization of the TOO system, there is no comparable competitor or option to IBI Group Inc. for the provision of the timely technical services that are required to ensure TOO continues to provide substantial savings for the City of Toronto.

The Fair Wage Office has reported that IBI Group Inc. has indicated that it has reviewed and understands the Fair Wage Policy and Labour Trades requirements and has agreed to comply fully.

The City does have rights to access, use and modify the source code for its purposes under the development agreement. With the source code, a software engineer could provide the necessary services, but the ability to deliver it in a timely manner would be significantly impacted by their lack of familiarity with the source code and software.

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SIGNATURE

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