TORONTO

Non-Competitive Award of Contracts for IT and Cybersecurity Audits

Date: October 8, 2020
To: Audit Committee
From: Auditor General
Wards: All

SUMMARY

The City of Toronto, is increasingly conducting business and key operations using innovative technology solutions. This makes operations more efficient and enhances the delivery of City services to citizens and businesses. However, this comes with increased risk of cyberattacks and data breaches as threat actors are becoming more sophisticated with their attacks.

The Auditor General recognizing the increased risks of cyberattacks has been proactive in performing cybersecurity audits at the City. Performing Information Technology (IT) penetration testing (Pen Testing) and vulnerability assessments (VA) is complex and requires highly trained IT security experts and specialized testing tools and software. Each tester must have a police security clearance to perform assessments on critical technology systems.

In 2019, The Auditor General presented her report " Cyber Safety: A Robust Cybersecurity Program Needed to Mitigate Current and Emerging Threats" at the City Council meeting on October 29 and 30, 2019.

At the meeting the recommendation *"City Council request the City Manager, in consultation with the Auditor General, to report by the December 17 and 18, 2019 meeting of City Council on mechanisms required that would enable the Auditor General to conduct risk assessments or investigate cyber security for City Agencies and Corporations not currently within the Auditor General's purview."* was adopted.

To mitigate emerging cybersecurity threats the Auditor General increased the number of cybersecurity audits on her workplan. The Auditor General has now sole sourced several work assignments to the Firm that won a competitive bid in 2019 for a cybersecurity audit. We selected this Firm because the only other proponent that bid has since performed consulting work for the City, so there is an independence issue. The selected Firm has the expertise in cybersecurity and provided very competitive rates. The selected Firm is familiar with the current state of City system architecture and this knowledge is key.

As most of the pre-qualified Firms have expressed little interest on bidding for these assignments, the Auditor General expects to continue to sole source such projects to the Firm. The Auditor General intends to revisit the sole source arrangement during latter half of 2021 to evaluate and determine other procurement choices.

The Auditor General expects that the aggregate value of all contracts for various technology and cybersecurity audits at the City and its Agencies and Corporations may exceed $500,000 in total. Therefore, the purpose of this report is to keep Audit Committee and Council apprised of the non-competitive nature of these procurements.

RECOMMENDATIONS

The Auditor General recommends that:

1. City Council authorize the Auditor General to award new non-competitive contracts through her pre-qualified roster for IT and cybersecurity audit work. The aggregate total amount of projects may exceed $500,000 if it is to conduct critical systems cybersecurity work.

FINANCIAL IMPACT

The recommendation contained in this report does not have any additional financial impact other than the amounts approved in the Auditor General's Office budget.

DECISION HISTORY

The Auditor General's annual work plans include information technology and cybersecurity audits. The Auditor General conduct these audits on a regular basis. Most recent reports are listed below:

1. Cyber Safety - Critical Infrastructure Systems: Toronto Water SCADA System, January 24, 2020
https://www.toronto.ca/legdocs/mmis/2020/au/bgrd/backgroundfile-145342.pdf

2. Cyber Safety: A Robust Cybersecurity Program Needed to Mitigate Current and Emerging Threats, October 8, 2019
https://www.toronto.ca/legdocs/mmis/2019/au/bgrd/backgroundfile-138905.pdf

3. Information Technology Infrastructure and Asset Management Review: Phase 2: Establishing Processes for Improved Due Diligence, Monitoring and Reporting for Effective IT Projects and Asset Management, June 28, 2018
https://www.toronto.ca/legdocs/mmis/2018/au/bgrd/backgroundfile-118363.pdf

4. IT Infrastructure and IT Asset Management Review: Phase 1: Establishing an Information Technology Roadmap to Guide the Way Forward for Infrastructure and Asset Management, January 30, 2018
https://www.toronto.ca/legdocs/mmis/2018/au/bgrd/backgroundfile-112385.pdf

The Auditor General's annual work plans are available at:

https://www.torontoauditor.ca/reports/type/work-plans/

COMMENTS

The City maintains a large number of systems that are critical to the City's functioning, such as water, transportation, and first responder systems. These systems also store sensitive data including financial, confidential and personal records. The IT environment is comprised of a complex infrastructure of applications, networks, and computers spread over 700 locations, servicing more than 50 City Divisions and as well as the citizens who call Toronto home.

The Canadian Centre for Cyber Security, which is Canada's single unified source of expert advice and support on cyber security for government, notes that:

"a safe and secure cyber space is important for … security, stability, and prosperity"
It also assessed that: "Public institutions are also attractive to cyber threat actors …"

In recent years, many government organizations and municipalities in Canada and the U.S. have been affected by cyberattacks.

The Auditor General's 2020 Work Plan includes cybersecurity audits of the City's critical infrastructure as well as the Agencies and Corporations. The Auditor General's 2021 Work Plan includes projects that would continue the Auditor General's cybersecurity work, including audits at the Toronto Transit Commission, Toronto Police Service and Toronto Public Library.

As described above, over the past years the Auditor General has found that most of the pre-qualified Firms have expressed little interest on bidding for these assignments. One reason often cited is lack of resources due to timing of projects. As a result, the Office has sole sourced several audits to one of the pre-qualified Firms.

One Firm who bid on several projects and was awarded work during 2016 to 2018 was later approached by the City to work on a City-wide IT project. The City specifically asked the Auditor General about this Firm and subsequently engaged this Firm. This further limited the number of available and interested Firms on our roster.

The Generally Accepted Government Auditing Standards (GAGAS) has a requirement for the auditor to consider the effects of conflict of interest and effect on professional judgment as stated below. In this case it is clear there is conflict of interest.

"Other relevant factors include the ability of specialists to exercise competence in the circumstances of the engagement and the effects that bias, conflict of interest, or the influence of others may have on the specialists' professional judgment."

The table below summarizes the technology work assignments awarded during 2019 and 2020 and clearly reflects the trend for availability of vendors.

Table 1: Summary of IT Audit Projects Awarded from 2019 to June 2020

Audit Project Year	Project Description	No of Bids	Comments	Awarded amount to Vendor A
2019 Project 1	IT VA & Pen Testing Follow-up Review	2 Bids Vendor A, B	• Competitive award • Vendor A was lowest quote • Vendor B was also engaged by the City on an IT project - this created an independence issue	• $45,900
AG's Cybersecurity report to City Council presented in October 2019 City Council requested immediate security testing of critical systems because of criticality and interconnectedness of systems. The Auditor General completed one system and others are in the planning.				
2019 Project 2	Toronto Water System VA & Pen Testing	Non-Competitive	Non- Competitive procurement, Vendor A	$121,590
2020 Project 1	SAP Success Factors Review	Non-Competitive	Non- Competitive procurement, Vendor A	$47,500
2020 Project 2	TPS System VA and Pen Testing	Non-Competitive	Non- Competitive procurement, Vendor A	$121,250
Subtotal				**$336,240**
Requested by TFS	911 NextGen/CAD (Toronto Fire, Paramedic services and Toronto Police)	Non-Competitive	Non- Competitive procurement, Vendor A	Estimated: $120K
Requested By TTC	TTC Critical Systems, example, Signaling system	Non-Competitive	Non- Competitive procurement, Vendor A	Estimated: $120K
Total:				**$576,240**

Cybersecurity audits of the City and its major Agencies and Corporations will continue to evolve and will require expert knowledge, tools and resources. Use of external Firms

and fast tracking the security audit projects will always be an essential component of our work. The coronavirus (COVID-19) pandemic has also impacted our ability to procure qualified Firms to perform cybersecurity audits.

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SIGNATURE

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