



## STAFF REPORT ACTION REQUIRED

### Toronto Radio Infrastructure Project Update

<b>Date:</b>	July 29, 2014
<b>To:</b>	Executive Committee
<b>From:</b>	Chief and General Manager, Toronto Fire Services Chief, Toronto Police Service Chief, Toronto Emergency Medical Services
<b>Wards:</b>	All
<b>Reference Number:</b>	p:\2014\ClusterB\FIR\ex140027

#### SUMMARY

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The purpose of this report is to provide an update on the progress and capital expenditures of the Toronto Radio Infrastructure Replacement Project (TRIP) for Toronto Police, Toronto Fire Services and Toronto Emergency Medical Services.

The project has experienced schedule delays that will result in the final completion of the project in mid-2015. However, the project is still on target to meet critical operational goal of implementing core digital infrastructure by the end of 2014.

Higher than anticipated construction costs requiring budget adjustments will be considered by the Budget Committee during the 2015 Capital and Operating Budget process. An amendment to an existing contract with Motorola Solutions Canada to increase the contract value because of added construction costs and added lifecycle costs related to equipment change orders will be required and will be subject to budget approval in 2015.

#### RECOMMENDATIONS

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The Chief and General Manager of Toronto Fire Services, the Chief of Toronto Emergency Medical Services, and the Chief of the Toronto Police Service recommend that:

1. City Council receive this report for information.

## **Financial Impact**

There are no immediate financial implications associated with this report.

The additional funding required in 2015 to complete project activities as described in Comments section has been included in the 2015 Capital and Operating Budget submission for consideration by the Budget Committee during the 2015 Capital and Operating Budget process.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agree with the financial impact information.

## **DECISION HISTORY**

[City Council on March 7, 2007](#), adopted Budget Council approved the 2007 Capital Budget for the Radio Communication Systems Replacement project and authorized initial project cost of \$0.750 million in 2007 and \$0.250 million in 2008.

[City Council at December 11, 12 and 13, 2007](#) meeting approved the 2008 Capital Budget for the Radio Communication Systems Replacement project authorizing a \$70 million capital project. As recommended by Council, the Steering Committee continued to report to Budget Committee annually.

[City Council on February 6 and 7, 2012](#) The City Council approved recommendation for contract award of Request for Proposal 2105-11-3007 and authorized staff to negotiate and execute agreement with Motorola Solutions Canada Inc.

Additional background information can be found in the following annual Information Report to Budget Committee during procurement phase:

<http://www.toronto.ca/legdocs/mmis/2007/bu/bgrd/backgroundfile-5258.pdf>

<http://www.toronto.ca/legdocs/mmis/2008/bu/bgrd/backgroundfile-15481.pdf>

<http://www.toronto.ca/legdocs/mmis/2009/bu/bgrd/backgroundfile-25238.pdf>

<http://www.toronto.ca/legdocs/mmis/2011/bu/bgrd/backgroundfile-34871.pdf>

<http://www.toronto.ca/legdocs/mmis/2012/bu/bgrd/backgroundfile-53638.pdf>

## **ISSUE BACKGROUND**

In 2005 a consultant, Lapp-Hancock Associates Limited was commissioned to write a feasibility report on radio infrastructure options and financial impact for the next 15 years. Accordingly, a capital budget was approved for \$70 million in 2007 and an oversight was established through formation of Steering Committee for the Radio Communication System Replacement consisting of Deputy Chiefs from the three (3) emergency services, reporting to the City Manager.

The original timelines for the completion of this project changed due to the unexpected delays associated with the federal regulatory matters affecting radio frequency availability and the G20 Summit held in the City in 2010.

In June 2012, as a result of RFP 2105-11-3007, the contract with Motorola Solutions Canada Inc. was finalized and the three year capital budget to implement the new systems was revised to \$50.728 million ( \$51.705 million including prior year work) which represented an overall savings of \$18.295 million from the original approved project cost of \$70.000 million.

In 2013, the program experienced issues relating to civil construction work at tower sites which has had an impact to both the schedule and approved budget. The risk of being over budget was raised at the December 2013 Program Steering Committee meeting after November's forecast reported spending to be 98% of the 2012-2014 plan and then raised with the City Manager at a meeting February 18, 2014. As much of the construction costs were estimates at that time, it was agreed to continue monitoring the costs and ask for additional funds (if needed) with the 2015 capital budget process. A few months later when construction costs were more defined, the Steering Committee agreed at a meeting held May 5 to move forward with capital budget request for additional funds in 2015. The City Manager was advised at a follow up meeting June 2.

## **COMMENTS**

### **Overview of Program Status**

The infrastructure implementation project is targeted to be complete mid-2015. The upcoming 2015 Pan Am games presents additional schedule constraints as Toronto Police requires a stable system before and during the games. The implementation plan was revised to concentrate on implementing the new digital (P25) system by end of 2014, and leave implementation of less critical components and decommissioning/ removal of legacy equipment to the first quarter of 2015. The program is focusing on having Toronto Police operational on the new infrastructure by mid September 2014 followed by EMS and Fire by year end.

Rapid progress on tower site construction and equipment implementation has been made in the first half of 2014. Most construction is now complete except for remaining communications site facility construction which is expected to be completed by September 2014. Construction no longer presents high risk to the program schedule, but has impacted budget leaving a funding shortfall in 2015 to complete final deliverables.

## Capital Funding Overview

Table 1 – Program Cash Flow Summary by Sub-Project

	2012 – 2014 Plan	2012 – 2014 Actual / Proj. Spend	2015 Forecast	Variance
Project Management (CFR905-02)	\$1,300,000.00	\$579,106.17	\$252,250.45	\$468,643.38
Transitional Costs (CFR905-03-01)	\$1,000,000.00	\$1,435,623.84	\$0.00	(\$435,623.84)
System Infrastructure (CFR905-03-02)	\$39,473,199.00	\$33,190,455.02	\$4,939,738.55	\$1,343,005.43
Construction – Radio Sites (CFR-03-04)	\$8,955,125.00	\$14,131,149.97	\$0.00	(\$5,176,024.97)
<b>Total</b>	<b>\$50,728,324.00</b>	<b>\$49,336,335.00</b>	<b>\$5,191,989.00</b>	<b>(\$3,800,000.00)</b>

The Radio Infrastructure Replacement project with a total project cost of \$51,705,400.00 (including \$0.977 million approved prior to 2012) is a corporate initiative involving three Programs: Fire Services, Police Services and Emergency Medical Services and does not reside in any one of these Programs' Capital Plans. This project is managed by Toronto Fire Services.

The 2014 approved cash flow of \$27,269,856.00 and year-end spending is projected to be \$25,876,867 or 94.9%. The estimated cost to complete remaining project activities in 2015 is \$5,191,989.00 resulting in a projected funding shortfall of \$3,800,000.00 Construction, which will be full complete by end of September, is projected to exceed sub-project budget by \$5.176 million accounting for much of the expected \$3.800 million funding shortfall in 2015. Expenditures expected in 2015 are \$5.191 million for:

- System Infrastructure - final Motorola milestone payment (\$4.7 million)
- System Infrastructure - final Motorola change order payments (\$264K)
- Project Management fees and other minor incidentals (\$252K)

The additional funding required in 2015 to complete the above project activities has been included in the 2015 Capital and Operating Budget submission for consideration by the Budget Committee during the 2015 Capital and Operating Budget process.

### Status of Contract 47016848 with Motorola Solutions Canada

Early in 2015, to coincide with budget approval, an amendment to the contract will be required to increase the value because of added construction costs, as well as, added lifecycle costs because of equipment change orders. The amendment is currently estimated to be \$3.083 million which will revise the value from \$61.580 million to \$64.663 million.

The larger portion of this amendment (\$2.778 million) will be required to complete integration work in 2015. The remaining portion of the amendment (\$0.305 million over the 15 year period of the Post Warranty Services agreement) is required to cover incremental lifecycle costs associated with equipment changes identified during implementation.

Operating costs associated with the Toronto Radio Infrastructure Replacement Capital Project have been identified and are proportioned amongst the three agencies based on the established cost sharing formula contained in the Radio Infrastructure Governance Agreement as follows:

- Toronto Police Service Budget – 80%
- Toronto Fire Services (FR0011)– 13%
- Toronto Emergency Management Services (B31100) – 7%

The incremental operating impact in 2015 onwards is included in each of the three emergency services' 2015 Operating Budget Submission for consideration during the 2015 Operating Budget process. All estimates above are net of HST recoveries.

### **Analysis of Unanticipated Construction Costs**

Construction planned at \$8.955 million is now projected to be \$14.131 million upon completion, includes the following:

- Motorola-led site civil work and upgrades at 22 sites (\$6.7 million)
- Various City of Toronto led projects
  - Don Mills backup power and equipment room installation (\$1.2 million)
  - Four communication centre upgrades at two facilities (\$3 million)
  - New site development support TTC connectivity and existing site preparations (\$1.3 million)
  - Added equipment to support redundancy, TTC and PATH (\$2 million)

There are several aspects of construction which have led to unanticipated costs and a \$5.1 million variance, summarized as follows:

- Several existing sites had space restrictions or landlord concerns which were not identifiable until in-project equipment layout designs were completed; steps taken to address these issues included equipment room expansions, two new equipment shelters, and a new site build (contributed about \$1.5 million to variance)
- An in-project audit of existing site equipment rooms indicated requirements for environmental upgrades prior to equipment installation, with examples including air conditioning, fire suppression, and security alarms (contributed about \$1.4 million to variance)

- Hydrogen fuel cells were implemented as a better option for backup power at some sites; these cells are more dependable as a redundant power source, and have lower associated operating costs than batteries; use of this technology is relatively new in Canada and installation logistics and costs were not fully anticipated (contributed about \$1.0 million to variance)
- Five sites required additional structural work to accommodate infrastructure, and the full costs could not be projected until an in-project engineering analysis was completed (contributed about \$1.0 million to variance)
- Five sites required additional electrical work, such as additional structural support for generators, that could not be projected until in-project capacity was completed by site contractors (contributed about \$0.2 million to variance)

With the requirement of Toronto Police needing to complete migration of the new digital (P25) system by end of 2014, the implementation plan was revised to concentrate only on the new digital (P25) system, and leave implementation of less critical components and decommissioning/ removal of legacy equipment to the first quarter of 2015.

## **CONTACT**

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## **SIGNATURE**

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