

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: September 30, 2010

SUBJECT: **PROCUREMENT AUTHORIZATION AMENDMENT:
AUTHORIZATION OF ADDITIONAL FUNDS FOR
CONTINUATION OF PHASE 5 "IMPLEMENTATION" OF PO
C31PV06860 "CONSULTANT SERVICES ENGINEERING
REVIEW OF AUTOMATIC TRAIN CONTROL TECHNOLOGY
YONGE/UNIVERSITY/SPADINA SUBWAY LINE"**

ACTION ITEM

RECOMMENDATION

It is recommended that the Commission authorize Amendment #6, to the Contract with Parsons Overseas Company of Canada, Ltd. (Parsons), in the upset amount of \$11,477,804 (USD), for the provision of Engineering Consultant Services, to provide additional specialist engineering personnel to work as an integral part of the YUS ATC Resignalling Project Delivery Team for five years (commencing October 2010) as specified in Phase 5 of Contract C31PV06860.

FUNDING

Sufficient funds for this expenditure have been included in Project 2.4, YUS ATO Resignalling in the State of Good Repair/Safety category, as set out on pages 433-437 of the 2010-2014 TTC Capital Program, as approved by the Commission on December 8, 2009.

BACKGROUND

The resignalling of the Yonge-University-Spadina (YUS) Subway line utilizing Automatic Train Control will improve safety and capacity throughout the length of the line. Automatic Train Control enforces a minimum safe separation between trains based on the safe braking distance from the last verified location of the rear of a preceding train or any other obstruction such as disturbed switches. This technology allows trains to travel closer together than the traditional fixed block system currently employed on the YUS line. This ability to travel closer together increases the throughput of the service and therefore allows more trains to be scheduled and more passengers to be carried.

Staff are in the process of design and implementation work to replace the existing traditional signalling system with Automatic Train Control supplemented by a new back-up

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conventional signalling system. Automatic Train Control Systems of this magnitude are very different than the Commission's current signalling technology. Two major contracts have been let relating to the delivery of this project. A contract to supply a Computer Based Interlocking (CBI) signalling system for Phase 1 (south Yonge) of the project was awarded to Ansaldo STS Canada, Inc. on September 19, 2008. A contract to supply the Automatic Train Control/Communication Based Train Control (ATC/CBTC) system for the entire YUS Line and upgrade the existing CSS was awarded to Alstom Signalling Inc on May 1, 2009. The supply of CBI for the balance of the YUS Line (including the Toronto York Spadina Subway Extension (TYSSE)) will be tendered this year.

The Consultant Services Contract provides for supplementing TTC staff with expert engineering staff to create an integrated project team to ensure a successful completion of this complex project. Parsons were originally awarded a Contract on December 29, 2006 based on a competitive bid process and are currently assisting TTC staff in the management of the engineering of the ATC Project. Staff recommend increasing the Consultant Services Contract to encompass the provision of additional expert personnel to work as an integral part of the project delivery team until late 2015 to further the implementation of ATC (including CBI) over the entirety of the YUS line. Automatic Train Operation (ATO) on the YUS Line is scheduled for revenue service in 2015.

Contract details are as follows:

Original Contract Amount (awarded in USD)	\$190,000 CAD	\$168,000 USD
Previously Approved Contract Amendments	\$21,021,365 CAD	\$17,885,597 USD
This Contract Amendment	\$11,936,915 CAD	\$11,477,804 USD
Total Revised Contract Amount (Upset Limit)	\$33,148,280 CAD	\$29,531,401 USD

Work under this Contract Amendment is 0% complete.

The currency exchange rate used for this amendment is \$1.00 US = \$1.04 CAD (Bank of Canada Noon Rate on August 19, 2010).

DISCUSSION

The scope of work for both the base work and additional work is that referenced in the Contract Documents for Consultant Services Engineering Review of Automatic Train Control (ATC) Technology Yonge/University/Spadina Subway Line (Purchase Order No. C31PV06860).

Parsons have completed work on the scope of work consisting of Phases 1, 2, 3, & 4. Phase 1 included production of a Work Plan for carrying out the Consulting Services; Phase 2 covered Conceptual Design; Phase 3 included writing a Detailed Specification for the provision of ATC on the YUS Line; Phase 4 of the contract covered support during

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Procurement activities of the ATC system. Phase 5 was an optional implementation phase requiring the initial provision of signalling personnel to complement TTC staff in making up the Project Delivery Team and was exercised in December 2008. The Project has progressed to the lead up to Preliminary Design Review (PDR), and the need for additional expert project team resources is now apparent. These resources working with TTC as an integrated team are required to address: complex ATC integration issues with related rolling stock and signaling contracts; implementation and integration with other TTC works, including State of Good Repair works, TYSSE, cellular services and platform screen doors; and additional review and testing support. Given the finite length of the project and the type of resources required, the recommended approach to meet this requirement is to increase consultant resources to ensure the successful delivery of the project.

Parsons have provided experienced staff well qualified to meet the needs of the project throughout their contract and continue to perform their role as integrated members of the project team with great success.

The quotation submitted by Parsons for the additional scope of Phase 5 as detailed by TTC staff has been reviewed and found acceptable.

JUSTIFICATION

Parsons are the recognized world authority on Automatic Train Control Systems and have planned and implemented projects worldwide.

Parsons assistance to TTC staff in the implementation of ATC to the YUS line will ensure a successful and timely implementation of the project. The new system will be phased in with the entire line operating under ATC in 2015.

August 17, 2010
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