



STAFF REPORT ACTION REQUIRED

Purchase Order Amendment Authority - PNR Railworks Inc. - Toronto-York Spadina Subway Extension

Date:	May 31, 2016
To:	TTC Board
From:	Chief Executive Officer

Summary

PNR Railworks Inc. (PNR) has been awarded contracts for the Automatic Train Control (ATC) Project in two single source capacities: the Supply of Vehicles and Miscellaneous Services – ATC Project (purchase order C31PI15853) in the upset limit of \$3,240,106.52 and the Installation Services for ATC Equipment (purchase order C13SD15615) in the upset limit of \$500,000.

The ATC project requires board authorization to amend the existing single source PNR purchase order C13SD15615, Installation Services for ATC Equipment on the Toronto-York Spadina Subway Extension (TYSSE), in the amount of \$2,000,000 on a time and material basis.

Reasons:

- To complete cable tray installation in all remaining tunnels within the time and access constraints available.
- To enable PNR to be assigned the installation of wayside and facilities signaling equipment now that all remaining work has been fully scoped in a detailed construction schedule and all constraints identified.

The requested overall upset limit of this time and material only amendment to the contract with PNR will be \$2,500,000.

Recommendations

It is recommended that the board:

1. Approve a single source contract amendment to PNR in the amount of \$2,000,000, bringing the total upset limit to \$2,500,000 inclusive of taxes.

Implementation Points

This contract amendment with a completion date of December 31, 2016 supports the opening of the TYSSE line before December 31 2017. Following approval of this recommendation, adjustments can be made to the existing single sourced *Installation Services for ATC Equipment* contract with PNR and additional construction tasks be assigned to PNR.

Financial Summary

The Capital Project 2.4- Signal Systems- YUS ATC Resignaling in the 2016-2025 has an approved capital budget of \$562,835,000 as approved by City Council at its meeting on February 17, 2016. This remains unchanged.

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

Accessibility/Equity Matters

The entire TYSSE line is being built to be fully accessible meeting all AODA requirements and there are no accessibility or equity issues related to this report.

Decision History

On May 27, 2015 the Board approved TTC staff to negotiate with PNR for the procurement of PNR assets and miscellaneous services including any/all maintenance and training requirements to support the installation of the ATC system for the TYSSE line. This resulted in a contract for the Supply of Vehicles and Miscellaneous Services – ATC Project (purchase order C31PI15853) in the upset limit of \$3,240,106.52. Minutes of the Board meeting are available on the TTC website. Refer to: Agenda Item 1 in the following link:

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2015/May_27/Agenda/index.jsp

On November 16, 2015 the TTC CEO approved a request to allow management to negotiate with PNR a single source contract in the upset limit of \$500,000 with a contract completion date of January 24, 2016. The scope of the contract was for the installation of cable tray on the TYSSE line. Given the existing time constraints it was essential to start this work even with the full installation requirements not finalized.

The two contracts above are required to support the installation of the ATC equipment on the TYSSE line in a dynamic environment where many tasks require extensive

coordination with numerous contractors in time sensitive access windows and using specialized construction equipment.

Issue Background

Given the unique equipment and services available from PNR, the challenging completion schedule and the previous significant accomplishments of PNR in the TYSSE environment, TTC negotiated a time and material based contract for the tunnel cable tray installation works with PNR for an upset limit of \$500,000. The contract completion date was January 24, 2016.

This contract took advantage of resources and proprietary installation equipment from PNR that leveraged a 150% productivity advantage above that of other contractors. PNR's previous experience in construction on TYSSE allowed them to mobilize quickly and supplement TTC's forces not available for TYSSE work at that time. Effective mobilization of an experienced installer helped mitigate a schedule impact on TYSSE and maintain critical path activities.

The alternative considered was to issue a competitive Request for Proposal (RFP) for the work. However this would have taken three to four months to complete and delayed the completion of ATC project critical path activities, which in term would have delayed the TYSSE schedule. Additionally it was highly unlikely that a more qualified firm could be identified based on PNR's previous work and the use of their equipment.

This contract was to initiate ATC construction work with PNR on TYSSE while a detailed strategy and schedule was developed for construction task assignments between TTC and PNR forces. A key requirement was that TTC utilize the specialised PNR equipment in conjunction with PNR.

PNR mobilized on November 25, 2015 and completed all assigned scope, within the available tunnel on January 20, 2016. On January 20, 2016 PNR were demobilized and TTC construction forces mobilised on January 25, 2016 for activities utilizing PNR specialized equipment.

On January 20, 2016 at the completion of this work by PNR approximately \$270,000 was spent, leaving \$230,000 remaining in the contract upset limit. On March 30, 2016 a contract date extension to December 31, 2016 was internally requested and approved.

Throughout the months of April and May 2016, as specific tunnel sections became available within set timeframes, the ATC project took advantage of these and utilized PNR for cable tray installation work. This was to meet the aggressive construction deadlines. This work is expected to consume the remaining \$230,000 of the original upset limit and PNR is to be demobilized by the end of May 2016.

Comments

With all signaling designs clarified, ATC scope/schedules finalized, TYSSE available access determined, construction resources identified and PNR scope determined, the list below outlines the PNR scope required along with the actual/estimated costs for each to complete TYSSE construction before the end of 2016:

Item	Approximate Cost	Location	Description	Status
1	\$270,000 (actual cost to January 24, 2016)	Sheppard W to Finch W	Cable tray installation - tube tunnel Installation/realignment	Complete
2	\$110,000	Finch West to York University	Cable tray tube/SEM/box tunnel installation	Complete
3	\$120,000	York University to Pioneer Village	Cable tray tube/box tunnel installation	Ongoing
4	\$200,000	Pioneer Village to VMC	Cable tray tube tunnel installation	Proposed
5	\$800,000	Pioneer Village to VMC	Cabling/Wayside installation	Proposed
6	\$600,000	Pioneer Village and VMC	Facilities equipment installation	Proposed
7	\$400,000	Finch W to VMC	Installation contingency	Proposed
	\$2,500,000		New Upset Limit	

1. From November of 2015 to January 24, 2016 PNR completed the installation and realignment of cable tray where required in the tunnel sections from Sheppard West to Finch West.
2. In the April 2016 limited access available from Finch West to York University PNR was assigned installation of all tunnel cable trays in this territory. As a result of the time limited access, PNR worked longer daily and weekend shifts which lead to additional labour premiums.
3. During the May 2016 limited access available from York University to Pioneer Village PNR was assigned the installation of all tunnel cable trays in this territory. As a result of the time limited access, PNR worked longer daily and weekend shifts which lead to additional labour premiums.
4. Given the anticipated access available from Pioneer Village to Vaughan Metropolitan Center (VMC), PNR will be assigned the installation of all tunnel cable trays in this territory from July to September 2016.

5. As the ATC construction scope has been developed, management determined that the installation of signaling equipment in the four TYSSE facilities has been underestimated. To maintain a schedule for completion by December 31, 2016, a plan to parallel the work of TTC and PNR forces has been developed to allow TTC forces to install and wire signaling equipment racks in two of the facilities, while PNR is tasked to install all required cable tray, all main cabling, cable boxes and wayside radios in the Pioneer Village to VMC stations.
6. With the compressed TYSSE construction schedule, PNR will be utilized to complete the signaling equipment installation at Pioneer Village and VMC stations.
7. Given the tight installation schedule, TTC forces may be required to support or complete construction work in the existing Line 1 territory. In addition, TTC forces may be required on the portion of Wilson Yard that is now within the scope of TYSSE. If TTC forces are required for this work, then a requirement to use external resources would be required to meet the December 2016 deadline. As a result, a contingency amount of \$400,000 is being factored into the revised upset limit.

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