

MEETING DATE: July 16, 2003

SUBJECT: Purchase Authorization -Vehicle Work Order System

RECOMMENDATION

It is recommended that the Commission approve the issuance of a conditional contract to IFS North America Inc.Canada, in the upset limit amount of \$7,902,000.00 (including taxes) for the purchase of a vehicle work order system and inventory system.

FUNDING

Sufficient funds for this expenditure have been included in project 7.2 Intelligent Transportation and Technical Systems, under Vehicle Work Order Systems Replacement, as set out on pages 1023-1026, category State of Good Repair/Safety, of the 2003-2007 Capital Program as approved by City Council on February 26, 2003.

Funds will be included in future TTC Operating Budgets as required.

BACKGROUND

The Commission currently utilizes a number of legacy systems to administer and manage its vehicle maintenance operations. These systems are built on obsolete technology and are becoming increasingly difficult and expensive to support. Further, they lack the easy-to-use graphical interface that today's users expect, thus making ongoing training an issue.

During the spring of 2000, a maintenance philosophy document was composed through a joint effort of the four vehicle maintenance organizations within the TTC (Bus, Streetcar, Subway, Wheel-Trans). This document formed the basis for the development of user requirements for a common work order system for vehicle maintenance at the TTC.

The main area of focus for these systems is to track serialised components and provide functionality in the areas of fault isolation and failure analysis. Given that vehicle reliability is the main determinant of customer service, especially on the subway, this functionality must be maintained in any new system. The benefits of this functionality have already been accrued to the current systems and there would be a significant opportunity cost if this functionality was lost. The benefits of enhanced functionality, in a new system are difficult to quantify. The objective of providing this functionality is to make operations more cost effective. The Technology Advisory Committee (TAC) has ranked the Vehicle Work Order Replacement Project as the most critical technology project in the Commission.

During the fall and winter of 2001 a business model was constructed with supporting documentation, based on the maintenance philosophy document, as a mechanism to communicate the TTC's user requirements to potential suppliers of vehicle work order software.

In October, 2001, a Request for Information for a Vehicle Work Order System was publicly advertised and twenty-two companies responded. The companies were requested to provide information on their experience for their proposed system, technical compatibility to TTC's systems and core functionality. In order to be considered acceptable, the companies required three or more installations for their proposed system based on vehicle/fleet applications; their proposed system had to be technically compatible with TTC existing systems; and their system required the following areas of functionality: costing granularity, short and long-term scheduling, event/activity differentiation, and tree-structured serialisation. Eleven companies met this criteria.

DISCUSSION

In March, 2002 Request for Proposals for a commercial off-the-shelf Vehicle Work Order System and an Inventory System were sent to the short-list of eleven companies from the Request for Information. Eight companies submitted proposals as summarized in Appendix 'A'.

The RFP included a two envelope process whereby envelope number one contained qualitative information such as evidence of similar contracts for other companies and submission requirements demonstrating a proven "off-the-shelf" system that would meet the Commission's specified functional and technical requirements. The pricing information was contained in a second envelope and the envelopes of only those companies determined to be qualified were opened after the qualitative analysis and ranking was complete.

Staff reviewed and performed an initial evaluation consisting of a commercial review. Upon completion of this initial evaluation, all of the proposals were considered commercially non-compliant for various reasons. As there were no commercially acceptable proposals, staff continued with the evaluation to identify the proposal which best meets the Commission's requirements.

The eight responses were evaluated using an incremental evaluation process. The first step compared the respondent's proposed business model to the minimum requirements of the TTC's business model to assess structural compliance, or the potential for compliance with minor modifications. This step eliminated six companies from further evaluation.

The remaining two companies (SAP Canada Inc. and IFS North America Inc.) were further evaluated and rated in three categories: Technical; Functional; and Ease-of-Use. These ratings were determined through a process of analysing the written proposals as well as viewing software demonstrations conducted by the two companies following a pre-defined script with scenarios peculiar to the TTC's maintenance operation.

At the conclusion of the evaluation, IFS's proposal was considered the best overall in terms of functionality, ease of use, technical criteria and was ranked the highest proposal for both the vehicle work order and inventory systems.

Following the completion of the comparative technical evaluation, the pricing information contained in the second envelope was opened for both SAP and IFS. The pricing submitted, for the vehicle work order system, by SAP (\$5,921,682.35) is approximately 17% higher (\$853,463) than the pricing submitted by IFS (\$5,068,219.50). Reference the attached Appendix 'A'. A total price comparison including the cost of the inventory system is not possible as SAP did not include the cost of providing the inventory system licenses. as they incorrectly assumed that the users related to the Inventory Project were the same users for the Vehicle Work Order Project.

Staff contacted IFS to obtain copies of their agreements (i.e. Master Agreement, Software Order Form, Maintenance Order Form and Professional Services Order Form) that were not originally included with their proposal. Staff was able to successfully negotiate acceptable terms and conditions with IFS, which resulted in their proposal being considered commercially acceptable.

Due to the complexity of the maintenance systems' requirements, the evaluation of compliance with the Commissions requirements is extremely difficult. To ensure complete compliance with the requirements of our maintenance goals and objectives a "hands-on" evaluation of the proposed system was undertaken. As such staff authorized and issued a contract to IFS for approximately \$198,000 for an evaluation pilot, which included 5 user licenses for the software; supporting configuration assistance; and hardware; with the software assisted by IFS staff resources. The cost of the initial license of \$75,000 (plus tax) for this evaluation pilot will be applied against the final purchase of IFS applications.

The pilot revealed gaps in functionality between the IFS Business Model and the TTC Reference Model and these gaps were communicated to IFS. IFS responded with additional costs for the proposed gap remediation specification. Staff recommends a conditional contract be awarded to IFS. in order to mitigate TTC risks. Once this conditional contract is awarded, the joint TTC, IFS Project Team will have until November 30, 2003, to agree on acceptance criteria for the gaps and sign off on the gap specification solutions. Should the TTC not be satisfied with the gap specification solutions, TTC can return the software licences and get a full refund minus a software usage and maintenance charge of \$312,800 (taxes included) for the period of use until November 30, 2003.

JUSTIFICATION

The implementation of a common work-order system across all vehicle modes at the TTC is the first step in a corporate enterprise system strategy. The ability to share consistent information was a recommendation of the APTA rail audit conducted after the Russell Hill Accident. This will involve the elimination of the Subway Maintenance System (SMS), the Streetcar Maintenance System (SMS), the Bus Maintenance and Wheel Trans Vehicle Maintenance system (VMS) as well as the potential elimination of the Job-Based Costing System (JBCS) and the Mileage and Defect Systems. Combining the vehicle maintenance for the various modes in the same work order system will provide additional flexibility, efficiencies in training and support, and facilitate modal comparisons.

The existing work order systems and inventory system were designed in the late 1980's. As previously mentioned, these systems are built on obsolete technology and have reached the end of their life cycle. They are becoming increasingly difficult and expensive to support. Further they lack the easy-to-use graphical interface that today's users expect, thus making training an issue. Changes in business needs require time consuming modifications to the source code or simply cannot be accommodated within the present systems. From the viewpoint of State of Good Repair, these systems require replacement.

July 16, 2003

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Attachment: Appendix 'A'

APPENDIX 'A'

PROPOSAL SUMMARY – VEHICLE WORK ORDER SYSTEM

The pricing information of only those companies determined to be qualified were opened after the qualitative analysis was complete. As such, pricing for the following companies was not opened:

CINCOM SYSTEMS OF CANADA LTD
DATASTREAM SYSTEMS INC.
INDUS INTERNATIONAL
MINCOM INC.
PEREGRINE SYSTEMS INC.
SPEAR TECHNOLOGIES

Description	IFS NORTH AMERICA INC.	SAP CANADA INC.
Vehicle Work Order (400 Licenses), implementation costs & 1st year maintenance	\$5,068,219.50	\$5,921,682.35
Inventory (200 Licenses), implementation costs & 1st year maintenance	\$1,182,679.00	Not provided **
Maintenance cost for four additional years for Vehicle Work Order and Inventory	\$1,109,451.00	\$1,304,969.40
TOTAL EVALUATED PRICE	\$7,360,349.50	\$7,226,651.75
<u>ADDITIONAL PRICING:</u>		
License credit from the evaluation pilot (\$75,000 + tax)	(\$86,250.00)	-
Gap Remediation Specification	\$443,782.50	-

Additional implementation costs required for the Gaps	\$183,130.50	-
*Recommended Amount	\$7,902,000.00	-

*** Recommended for award in the total upset limit amount of \$7,902,000.00.**

** SAP incorrectly assumed that the users related to the Inventory Project were the same users for the Vehicle Work Order Project.

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