

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: December 17, 2008

SUBJECT: PROCUREMENT AUTHORIZATION – COMMUNICATIONS AND
INFORMATION SYSTEM (CIS) CELLULAR SERVICES

ACTION ITEM

RECOMMENDATION

It is recommended that the Commission authorize the issuance of a purchase order to Bell Mobility (Bell) in the upset limit amount of \$1,361,000 for the provision of Communications Information System (CIS) Cellular Services for a 5 year term, commencing December 17, 2008, subject to negotiating acceptable terms and conditions.

FUNDING

Sufficient funds have been included in the approved TTC 2008 and TTC 2009 Operating Budgets and will be included in future Operating Budgets as required.

BACKGROUND

The CIS is a life safety system providing data and voice communications between buses and streetcars and divisional control offices including Transit Control. The CIS is primarily used as a route management, emergency communications and response co-ordination tool. The majority of CIS data and voice communications are on an Ultra High Frequency (UHF) radio system maintained by internal Commission resources. When the UHF system or other critical portions of CIS are unavailable due to system loading or other issues, emergency voice and limited data communications from vehicle Operators to control centres is handled via the Bell cellular communications network. Approximately 25% of CIS communications is routed through the Bell cellular communications network. The cellular communications system within CIS is considered a vital component of the overall system, providing emergency communications and response co-ordination during CIS UHF radio failure. A disruption in this communications service will have a negative impact on the safety of operators and transit riders.

In September 1988, the Commission entered into an agreement with Bell to provide cellular network services for the CIS system and since 1988 Bell has not increased the annual cost of providing the CIS analogue cellular service.

The TTC's existing CIS analogue cellular communications equipment is based on obsolete technology and was designed for and will only operate on Bell's analogue cellular

communications network (analogue network). In 2004, Bell had notified staff that their analogue network will be decommissioned in 2008 and more recently confirmed that the actual date for system decommissioning was November 16, 2008.

Approval to extend the CIS analogue cellular services contract with Bell for an additional 3 year period, (on a single source as Bell's analogue system is the only one on which CIS will operate) was received at the Commission Meeting of December 15, 2004. Subsequently, two amendments have been processed to date to extend the contract and Bell has further agreed to extend the current contract until the December 2008 Commission meeting.

In 2005, after several unsuccessful formal attempts at finding an external vendor to provide an alternative solution for the analogue network that will integrate with the existing CIS, ITS staff developed an in-house solution based on Code Division Multiple Access (CDMA) technology (digital technology) to replace the TTC's analogue network. Due to the time constraints, staff considered converting to this digital technology the most viable alternative. This approach does not require major upgrades to other sub-systems within CIS and will work on the existing Bell network and with modifications, other digital cellular networks, thus minimizing the potential of disruptions to communication services. Staff intended to undertake this work to provide a stable digital cellular platform for CIS for a 5 year period to provide time for staff to develop and implement solution(s) for continued communications services within CIS, which may include the use of other providers or alternative technologies

Staff issued three competitive Request for Proposals (RFP) in 2007 & 2008 to acquire the hardware (i.e. CDMA modems, CDMA interface boards and cables) necessary for the conversion from analogue to digital cellular network. At the November 2007 Commission Meeting, approval was received to award a contract for the supply of CDMA modems to Automotive Technology Group (ATG). The contract required ATG to work with Bell in retrofitting the CDMA modems on Bell's digital cellular network, as they are the current provider for the existing CIS cellular communications system. Bell provided a substantial amount of technical assistance to staff in programming the new modems and other logistical support to facilitate a near seamless transition and conversion from the analogue network to the digital network. Without Bell's assistance and support, staff would not have been able to meet the conversion deadline, which would have jeopardized the safety of the Commission's operators and customers.

During 2005 staff requested pricing for the CIS digital cellular services from various major service providers. Bell provided the lowest annual cost which was approximately 32% less than the second lowest price.

DISCUSSION

The conversion to Bell's digital cellular system provides an additional five year life cycle for this component of CIS with the added option of allowing the Commission to consider the future use of other digital communications networks and to develop and implement solution(s) for continued communications services within CIS, which may include the use of other providers or alternative technologies.

The existing CIS system is now operating on the Bell cellular network and to change to a new cellular service provider will require the Commission's staff to reconfigure each unit in the existing CIS revenue service fleet (approximately 2000 vehicles plus 250 units that are spares). Staff estimates the Commission's internal cost to be \$215,000 for the reconfiguration work, this estimate does not include the conversion cost that may be charged to the Commission by a new service provider. As a result, staff considers that revising CIS to be able to operate on other suppliers' digital cellular networks would not be feasible or cost-effective at this time as the pricing for cellular services previously received indicates that Bell would likely have the lowest pricing. In addition, as CIS is a life safety system, staff considers it imprudent to risk continually changing CIS as it could potentially have a negative impact on the operation and stability of CIS.

Based on this situation, staff requested Bell to submit a proposal for the provision of CIS cellular services for a five year term on a sole source basis on the grounds maintaining consistency in the operation of a TTC life safety system along with significant financial advantage to the Commission.

Staff requested Bell to submit a formal sole source proposal for the CIS digital cellular network services for a five year period. Staff negotiated Bell's original proposal and as a result, staff received a price discount of 20%, which represents a cost avoidance to the Commission of approximately \$270,000 for the five year contract term.

The cost of digital service contained within Bell's proposal is approximately 44% higher than analogue service. However, it should be noted that digital cellular technology provides improved communications speed and other security features, not offered with the analogue technology. In addition, Bell has not increased the annual costs for the analogue cellular service since 1988 despite the relative price increases with other similar products.

Bell is completely familiar with the complexity and architecture of the CIS system as they have been providing the CIS cellular communications services to the Commission since 1988. They have offered competitive pricing that staff considers reasonable. Staff recommends awarding this contract to Bell subject to acceptable terms and conditions, which are currently being negotiated between staff and Bell's representatives.

JUSTIFICATION

The CIS is a life safety system providing data and voice communications between buses and streetcars and divisional control offices including Transit Control. The cellular communications system within CIS is considered a vital component of the overall system, providing emergency communications and response co-ordination during CIS UHF radio failure. A disruption in this communications service will have a negative impact on the safety of operators and transit riders.

December 17, 2008

Attachment: Appendix 'A'

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APPENDIX 'A'

**PROCUREMENT AUTHORIZATION - COMMUNICATIONS AND INFORMATION SYSTEM
(CIS) CELLULAR SERVICES**

PROPOSAL SUMMARY

DESCRIPTION	PRICING
ANNUAL CIS CELLULAR SERVICES	\$ 216,004.50
5 YEAR SUB-TOTAL	\$ 1,080,022.50
RECOMMENDED 5 YEAR UPSET LIMIT (incl. GST and 20% contingency allowance)	\$ 1,361,000.00