

TORONTO TRANSIT COMMISSION

MEETING DATE: November 26, 2008

REPORT TITLE: HYBRID / DIESEL BUS NEGOTIATION SETTLEMENT

ACTION ITEM

REASON FOR CONFIDENTIAL INFORMATION:

This report contains advice or communications that are subject to solicitor-client privilege.

RECOMMENDATION

It is recommended that the Commission:

- 1) Approve the confidential recommendations as set out in the Confidential Attachment; and
- 2) Not authorize the public release of the confidential information and recommendations in the Confidential Attachment as the information and recommendations are subject to solicitor-client privilege; and
- 3) Convert the existing 559 diesel/electric hybrid buses equipped with lead acid batteries to Lithium-Ion (Li-Ion) batteries; and
- 4) Maintain the existing order with Daimler for delivery of 130 Hybrid buses in 2009; and
- 5) Proceed with the award to Daimler for delivery of the Optional order of 120 Diesel buses for delivery in 2010 with the option to be exercised no later than December 15, 2008; and
- 6) Approve the "Life extension" bus re-build of 52 existing buses in the total amount of \$3,500,000; and
- 7) Adopt the above changes as budget amendments to the Bus Fleet Plan for inclusion in the TTC's 2009-2013 Capital Program budget; and
- 8) Direct the Chair to communicate to City Council for its December 10, 2008 meeting that the Commission approved the changes to the TTC's 2009 Recommended Capital Budget and 2010-2013 Recommended Capital Plan to reflect: (1) a net reduction of \$15.8 million for the procurement and overhaul of 40 foot buses and (2) cash flow adjustment sufficient to offset the remaining \$5.1 million in 2009. This would fulfil the requirements of recommendation number 169.3 of Executive Committee Report #EX27.1.

FUNDING

Sufficient funds are available within the 4.11 Bus Procurement projects as outlined on pages 1001-1006 of the 2009-2013 Capital Program approved by the Commission on August 27, 2008. Following the Commission approval of the budget, both the Commission and City of Toronto Council subsequently approved the acquisition of 120 forty-foot low-floor diesel buses (instead of hybrid) on October 23rd and 31st respectively. Staff has continued to assess changes in the bus fleet requirements including the contract amendment for 120 buses from Hybrid to Diesel, negotiated with the contractor to convert the batteries to Li-Ion technology, undertaken a review of bus contract costs including project cost impacts of foreign exchange and other equipment issues, and further assessed bus rebuild requirements to life extend the existing fleet. This review has resulted in a net overall cost savings in the Bus Procurement projects of \$19.300 million, partially offset by the addition of a new bus rebuild project for 52 GM buses in the amount of \$3.500 million in 2009. The resultant net reduction in the bus fleet requirements of \$15.800 million was approved by City Budget Committee at its meeting of November 17, 2008 as shown on Attachment 'C'.

BACKGROUND

The TTC will receive 564 Orion VII diesel-electric hybrid buses as part of Contract C32PY04839 awarded by the Commission to Daimler in May 2005. The 564 hybrid bus order is comprised of 559 units outfitted with lead acid hybrid system storage batteries and the last 5 buses of the final delivery batch being outfitted with Li-Ion batteries, which is Daimler's latest generation of hybrid battery technology. This contract covered bus deliveries for the period of 2006 through 2008.

The current contracts details are as follows:

Contract C32PY04839 (Daimler 2006 – 2008 Bus Deliveries)

Original Contract Amount	\$208,086,892.35
Previously Awarded Amendments	<u>\$317,611,219.09</u>
Revised Contract Amount	\$525,698,111.44

In addressing the TTC's fleet plan requirements for 2009, the Commission awarded a separate contract (C32PY08704) to Daimler in December 2007 for 130 Next Generation (NG) Orion VII diesel-electric hybrid buses equipped with Li-Ion batteries. Required production activities have now commenced on this Daimler order with deliveries scheduled to begin in June 2009.

To accommodate TTC fleet plan requirements for 2010, at its meeting of October 23, 2008, the Commission issued the following directives to staff:

Award of Option Order – 120 Clean Diesel Buses (2010 delivery)

- Moved Award; and
- Staff be given authority to delay the 120 clean diesel bus award to Daimler until satisfactory resolution of the battery problems on the existing hybrid fleet (559 buses) is achieved; and
- Staff alternatively be authorized to award the 120 clean diesel bus order to an alternate supplier.

Existing Daimler Contract – 130 Hybrid Buses (2009 delivery)

- Staff continue in its efforts to amend the existing contract with Daimler to exchange the order to clean diesel buses, including examining the impact on Federal and Provincial funding for those buses; and further
- Staff explore the impact of delaying or terminating the existing 130 hybrid bus contract with Daimler.

DISCUSSION

In accordance with the Commission's directives, staff undertook negotiations with Daimler to: (i) address the awarding of the 120 diesel bus order for 2010 delivery to an alternate supplier; (ii) explore the impact of either amending, delaying or terminating the existing 130 hybrid bus contract with Daimler for deliveries in 2009; and (iii) achieve a resolution of the lead acid battery problems. An overview of the negotiations with Daimler and staff's investigations are as follows:

(i) Award to Alternate Supplier - Optional 120 Diesel Buses (delivery in 2010)

Critical to the selection of an alternative supplier for this order is the assurance that deliveries can be achieved within 2010 to meet TTC operational requirements. As the bus manufacturing industry normally requires a period of between 18 and 24 months between contract award and the commencement of deliveries, the achievement of timely deliveries will likely be difficult.

In addition, staff anticipate cost increases due to new engine emission requirements as well as current foreign exchange impacts due as a result of the recent fall in value of the Canadian dollar to the US dollar.

In view of the anticipated cost increases in issuing an RFP to alternate suppliers at this time, and the fact that the 120 buses are required to be delivered as early as possible before the end of 2010, staff recommend that the consideration of seeking an alternative supplier in lieu of Daimler for the 2010 bus order is not viable.

(ii) Amend Existing Daimler Contract – 130 Hybrid Buses (delivery in 2009)

Due to a current shortage of buses, the assurance for the delivery of buses within 2009 is critical in evaluating any of the options deemed available for addressing any revision for the current 130 hybrid bus order with Daimler.

In order to ensure the required delivery of the 130 (Li-Ion) Hybrid buses commencing June 2009, Daimler have already completed the design review process, placed orders for long lead time parts, and reserved plant floor capacity and resources for the TTC order. As such, Daimler has advised that an amendment to change from hybrid to clean diesel buses at this time would delay delivery of buses by approximately one year.

Daimler have provided details to support their estimate of their costs and damages related to amending the current contract schedule for the 130 Li-Ion Hybrid buses at this late stage. The amount includes additional costs due to re-engineering required to reconfigure a new diesel bus to the TTC's specifications, plant shut-down due to loss of allocated plant capacity arising from deferment of order to 2010, cancellation cost for committed material orders, and loss of supplier discounts.

In summary, amending the current 130 hybrid order with Daimler would result in the delay of the delivery of the buses from mid 2009 to mid 2010 and as a result, TTC would not be able to meet service requirements.

In the event that the Commission were to terminate the existing 130 hybrid bus order, Daimler would claim further damages and cancellation costs in addition to the delay costs it is entitled to in accordance with the contract documents associated with the termination of the entire order.

Staff also reviewed the potential funding impact under the Canada Strategic Infrastructure Fund (CSIF) under which 18 hybrids are eligible for CSIF funding in 2009 in the amount of \$6M. Under the scenario where the 130 hybrid bus order was delayed to 2010 or terminated, staff considered this CSIF funding may still have been available toward buses received in 2008, however this would have required confirmation and approval of the Management Committee. It was anticipated that there would ultimately have been no impact on CSIF funding.

(iii) Lead Acid Battery Problems

The design life of the lead acid batteries on the Daimler Hybrid buses was stated to be 2.5 to 3 years, however in TTC service, the batteries have been failing anytime between 1 to 2 years.

Daimler is taking corrective action and has remained in compliance with its contractual requirements to honour the four year battery warranty through a continuous pro-active change-out program. To date the replacement of lead acid battery sets on 50 TTC buses has been completed with another 50 buses to be completed by the end of February 2009.

Staff negotiated with Daimler to undertake a pro-active fleet wide change-out to Li-Ion batteries as it will provide improvements to the buses as follows: (i) an anticipated extended Li-Ion battery life of five plus years accompanied with a five year warranty on the initial batteries and a five year warranty on subsequent replacement batteries; (ii) fuel mileage savings of approximately 5% due to the net lighter weight of a Li-Ion battery set (net 3,000 lbs lighter per bus based on 4,100 lbs for a lead acid battery set vs. 1,100 lbs for a Li-Ion battery set); and (iii) decrease in battery maintenance and handling costs by TTC staff.

The negotiations between staff and Daimler are now complete and an agreement has been reached regarding the change-out of lead acid to Li-Ion batteries in 559 Hybrid buses.

Staff completed a life cycle cost comparison between lead acid and Li-Ion battery equipped Hybrid buses over their anticipated 18 year life. Based on 559 hybrid buses, the Li-Ion batteries would result in an operational savings due to the requirement for fewer change-outs for Li-Ion batteries and fuel savings due to the lighter weight of a Li-Ion equipped bus (net reduction of 3,000 lbs per bus).

Based on the negotiated settlement, staff is recommending approval to proceed with the change-out from lead acid batteries to Li-Ion batteries on 559 Hybrid buses.

Life Extension Bus Rebuild Program

During negotiations with Daimler regarding the Hybrid buses, staff has also assessed the updated impacts on the bus fleet plan. It was originally expected that any shortage would be addressed through improved reliability of new buses, supplemented by a number of retirement eligible buses operating through 2009. However, there have been some significant impacts and changes in variables assumed from the projections made during the advanced budget presentation. It is prudent to take all these impacts into account when making changes to the procurement plans.

Since the creation of the Capital Program budget there has been an increase in the number of buses (refer to Attachment B) required for the following reasons: increased construction impacts (both TTC and City related), an increase in the number of new buses off the road for warranty/retrofit related repairs including battery and other issues; and an increase in retirement eligible buses removed from service for structural failure. These factors have resulted in the need to add an unanticipated capital project to extend the life of 52 retirement eligible GM buses at a cost of \$3.5 M. This project will improve our ability to meet service delivery requirements through 2009 and the first half of 2010.

The scope of work for this life extension project will include panel replacements, flooring repairs, bulkhead repairs (25% replacement) and painting. It will also provide rebuilt engines and transmissions for anticipated breakdown repairs occurring during the extended life operation and will provide engine module removal to support Harvey shop as needed for body life extension. This project is expected to extend the life of the vehicle by 2 to 3 years. It will start with buses currently out of service to increase the available fleet for service, followed by buses which recently passed MTO inspection to minimize cost.

At its meeting of November 17, the Budget Committee adopted the inclusion of this additional bus overhaul requirement, in conjunction with the bus procurement changes, as a further amendment to the City's 2009 to 2013 Capital Program.

JUSTIFICATION

The approval of the negotiated settlement package with Daimler will permit the change-out of lead acid for LI-Ion batteries on 559 Hybrid buses, which will resolve the current battery problems and their impact on TTC revenue operations and will result in a reduction in the cost to maintain the Hybrid buses over their 18 year life. It will also permit staff to continue with the order for 130 Li-Ion Hybrid buses for delivery in 2009 and to proceed to award the order for 120 Clean Diesel buses for delivery in 2010.

The other changes to the bus fleet plans will improve the ability to address service delivery requirements and will amend the budgets based on current information consistent with the budget being taken forward for approval by City Council in December.

November 21, 2008
9/28

Attachments – Confidential Attachment
Attachment 'B'
Attachment 'C'

ATTACHMENT B
2009 Bus Fleet Plan Variances

Construction

St.Clair	-12
City	-7

Reliability

Warranty	-34
Battery Retrofit	-10
Camera / Stop Announcement	-10

-73

GM 2nd Life Extension

+ 52

-21

ATTACHMENT C

2009-2013 CAPITAL PROGRAM CASH FLOW REVISIONS
(\$ Millions)

	2008	2009	2010	2011	TOTAL
4.11 Bus Procurements (CTT111)	(17.2)	13.7	(15.0)	(0.8)	(19.3)
4.13 Bus Overhauls (CTT112)	-	3.5	-	-	3.5
TOTAL	(17.2)	17.2	(15.0)	(0.8)	(15.8)
