TORONTO

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September 19, 2008

To: Executive Committee

From: Budget Committee

Subject: Request for In-Year Adjustment of Toronto EMS' 2008 Capital Budget

Recommendations:

The Budget Committee recommended to the Executive Committee that:

1. City Council increase the Emergency Medical Services' 2008 Approved Capital Budget by $1.26 million to be fully funded from the EMS Equipment Reserve XQ1019 for the purchase of various essential emergency service equipment.

Background:

The Budget Committee on September 19, 2008, considered a report (August 27, 2008) from the Chief and General Manager, Toronto Emergency Medical Services, entitled "Request for In-Year Adjustment of Toronto EMS' 2008 Capital Budget".

for City Clerk

Merle MacDonald/mb
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TORONTO

STAFF REPORT
ACTION REQUIRED

Request for In-Year Adjustment of Toronto EMS' 2008 Capital Budget

Date:	August 27, 2008
To:	Budget Committee
From:	Chief / General Manager, Toronto Emergency Medical Services
Wards:	All
Reference Number:	

SUMMARY

The purpose of this report is to request approval to create a new capital project in the amount of $1.26 million to be fully funded from the EMS' Equipment Reserve Fund XQ1019 for the purchase of various essential emergency service equipment.

RECOMMENDATIONS

The General Manager of Emergency Medical Services recommends that:

1. the Emergency Medical Services' 2008 Approved Capital Budget be increased by $1.26 million to be fully funded from the EMS Equipment Reserve XQ1019 for the purchase of various essential emergency service equipment.

Financial Impact

There is no net financial impact resulting from the approval of the recommendation contained within this report. The recommendation seeks to authorize the creation of a new capital project within the Capital Budget for the purchase of essential emergency medical equipment. The total project cost of $1.26 million in 2008 will be fully funded from the EMS' Equipment Reserve Fund. The current balance of the EMS' Equipment Reserve as of August 2008 is $2.058 million.

New Capital Project: Medical and Health and Safety Equipment

SUB-PROJECT	# REQUIRED	UNIT COST (EST)	MAXIMUM COST
New Stair Chairs	150	$1,700-$2,700	$460,000*
Misc. Equipment for Spare Ambulances	35	$4,500-$5,500	$220,000*
New Stretchers	3 Heavy Duty 20 Regular	$27,000 $4,500	$135,000*
Upgrade of Defibrillators	10	$14,000	$160,000*
Purchase of AEDs	50	$4,000-$5,000	$285,000*
TOTAL			**$1,260,000***

* Maximum total includes all applicable charges and taxes

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

EMS' 2008 Approved Capital Budget of $10.592 million was approved by City Council at its meeting of December 11, 12 and 13, 2007.

ISSUE BACKGROUND

Toronto EMS must make periodic purchases of long-life equipment items. Normally, these are managed on a replacement, as-needed, basis through equipment and materials accounts in the Division's operating budget. Occasionally, however, larger quantities are required for various operational purposes, or where the purchase of the equipment meets other paramedic or service delivery needs.

Generally, system-wide equipment replacement is forecast based on the expected life-cycle of the specific piece of equipment, and this is then built into the appropriate operating or capital budget submission. This report requests approval for the purchase of items (via a defined capital project) which were not anticipated at this time last year. The rationale for the purchases follows in the 'Comments' section. Two of the requests support health and safety initiatives being pursued by the Division, in addition to the equipment benefits.

COMMENTS

The requested capital project called 'Medical and Health and Safety Equipment' will have a project value of up to $1.26 million. The exact final amount required will depend on vendor cost estimates on some items, as determined through the City's standard purchasing process.
The breakdown and rationale for the requested amount is as follows:

- **Purchase of New Stair Chairs (**$290,000 to $460,000)

Toronto EMS has one of the highest Musculo Skeletal Disorder injury rates in the City. While this is understandable given the physically strenuous work that paramedics undertake daily, the situation nonetheless requires serious attention in order to minimize the short and long term risks to staff, to optimize service productivity levels, and to provide paramedics the opportunity to operate in a sustained and healthy working environment.

To that end, Toronto EMS has actively supported a joint Management-Union Musculo Skeletal Disorder (MSD) Committee since the spring of 2007 (part of the City's broader continuous improvement efforts). Working closely with health and safety and WSIB staff, the Committee has explored a number of ergonomic initiatives, including investigation of new pieces of equipment, training, and improved work practices.

Statistically, one of the highest areas of MSD injury for paramedics involves lifting, often when using lift-assist devices like stretchers and stair chairs. Stretchers, or gurneys, are mobile beds used primarily to roll patients along from one point to the next. Stair chairs are devices that literally operate as wheeled chairs. Using two paramedic operators, they are used in circumstances where a patient must be moved, but where stretcher use is not possible or practical. Most commonly, stair chairs are used to convey patients down or up a flight(s) of stairs, as in a multi-storey house, or in an apartment with a very small elevator. The stair chairs currently in use by Toronto EMS have been identified as being ergonomically taxing, with their design and method of use contributing to the increased possibility of paramedic injury.

The annual direct costs (lost hours, treatment) of MSD injuries for EMS are in the range of $1.3 million. Of that total, the direct costs for stair chair related injuries is approximately $150,000. Additional indirect costs (salary top up, administrative charges, overtime, backfill staffing) are estimated to range between four and ten times the direct cost amounts, which would put the potential indirect costs for stair chair injuries at between $600,000 and $1.5 million annually. Total combined annual direct and indirect stair chair related injury costs, then, are between $750,000 and $1.65 million.

Working with the EMS Equipment Committee, the EMS MSD Committee undertook a trial of two new prototype stair chairs. The trial took place in different ambulance stations over several months, and included the express involvement of one of the City's ergonomists and the EMS health and safety consultant team. At the end of the trial, there was almost unanimous support from paramedics to convert to one of the new stair chairs. It is notable that this new type of chair is also quickly becoming a chair of choice in other EMS systems throughout North America.

However, buying new stairs chairs presents financial issues. There are no new funds available, and no health and safety budget for this type of purchase, and the estimated cost to replace existing stair chairs ranges between $290,000 and $460,000, depending on the model selected through the purchasing process.

On the other hand, the cost-benefit analysis suggests that by investing a one-time cost of $290,000 to $460,000 in new chairs will save upwards of between $2.8 million to $7.0 million or more over the next seven years, in both direct and indirect costs combined. This is a compelling financial and health and safety reason to proceed with purchase of the stair chairs.

- **Purchase of Miscellaneous Equipment to Ensure Spare Ambulances are Fully Serviceable ($220,000)**

  At any given time, Toronto EMS maintains between 20 and 35 spare ambulances. The spare units are used to meet upward fluctuations in staffing, to provide backfill for when primary vehicles are being serviced, or for 'surge capacity' in the event of a major incident. However, the spare units are generally 'skeleton' units, and are not equipped with basic everyday portable equipment and supplies like airway bags, spinal kits, trauma bags, portable suction units, radios, defibrillators, phones and, in some cases, even stretchers.

  Whenever a crew is required to 'switch' vehicles, it must transfer all of its portable equipment to the new vehicle. This creates time delays, and in many cases leads to an inability to track certain pieces of equipment (a management and inventory control issue). In addition, in times of peak staffing, there is not always enough equipment to provide for a fully stocked and operational ambulance.

  The purchase of miscellaneous portable supplies and equipment will allow Toronto EMS to ensure all of its ambulances – including all spares - are fully serviceable all the time, with the exception of high cost items like radios, which are typically much easier to track anyway. Other higher priced items like defibrillators are addressed below.

- **Purchase of New Stretchers ($135,000)**

  In the section on Stair Chairs above, it was noted that the proposed new chairs had been trialed with positive results. At the same time, the Toronto EMS and Health and Safety Committees had been trialing a new stretcher, one which eliminated one part of the lift for paramedics loading a patient into an ambulance. The results of the stretcher trial were not as resounding, and it was identified that there were some limitations to the new stretcher design. However, it was felt that there could be some useful application of the stretcher in specific high-risk, high-weight bearing environments. The MSD Committee recommended that EMS purchase three of the stretchers for specialized use: (1) at the Hospital for Sick Children, to assist in the transport of heavy neonatal incubators, and (2) in the Division's two bariatric transport units (ambulances specially configured to manage extremely heavy patients).

  The balance of the funds for this sub-project will be used to purchase twenty regular stretchers. Ten of these will be used to support the serviceability of spare ambulances, described in the previous section, and the additional ten will replace stretchers past their regular life-cycle.

- **Upgrade of Primary Care Defibrillators to Advanced Care Defibrillators ($160,000)**

  Toronto EMS currently operates 100 cardiac monitor-defibrillators of a model design to be used by Primary Care Paramedics (PCPs), and 100 of a model design to be used by Advanced Care Paramedics (ACPs). The breakdown between ACP and PCP use reflects the rough breakdown

between the number of ACP vs. PCP providers in the City of Toronto, and the ACP vs. PCP features available in the different unit models.

All 200 cardiac monitor-defibrillators are in use in Toronto EMS. However, educational and operational changes have resulted in more ACP unit models being required than was originally forecast. This is primarily a result of (1) the assignment of 5-8 units at any given time for EMS education training and preceptor purposes, and (2) a slight increase in the number of ACP model units being referred for service and diagnostics (due to the more intricate component features). Consequently, at any given time, EMS is up to ten ACP monitor-defibrillator units short of the number required operationally (this has led to some instances where ACP trained paramedics have had to use PCP monitor-defibrillators, thus depriving them of the ability to utilize all of their advanced skill sets, and the patient of access to the advanced diagnostic interventions available).

To meet this demand differential, Toronto EMS would like to upgrade ten of its PCP defibrillator units to ACP.

- **Purchase of Fifty Automatic External Defibrillators ($225,000 to $285,000)**

  Toronto EMS wishes to purchase fifty lower-cost Automatic External Defibrillators (AEDs) to replace higher-cost fully-featured cardiac monitor-defibrillators. The cost of an AED is approximately $4000 - $5000 compared to the $28,000 cost of a fully-featured cardiac monitor-defibrillator. The placement of the AEDs would be (1) in Operational supervisory units. This would then free up standard cardiac monitor-defibrillators to be used in spare ambulances, to help with the issue of maintaining ambulances in a fully serviceable condition (see previous section), and (2) in vehicles or in program units where trained EMS staff do not have access to defibrillation devices. This would include various EMS Education sites, the EMS Communications Centre, and specified non-operational vehicles.

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SIGNATURE

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