



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: June 22, 2007
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Meeting Date: July 10, 2007

TO: Vancouver City Council

FROM: General Manager, Fire and Rescue Services

SUBJECT: Replacement of Self-Contained Breathing Apparatus (SCBA) used by Vancouver Fire & Rescue Services (VF&RS)

RECOMMENDATION

- A. THAT Council approve the replacement of VF&RS Self-Contained Breathing Apparatus and associated equipment at an estimated cost of up to \$3,200,000; source of funding to be subject to report back to Council.
- B. THAT Council direct the General Manager/Fire Chief of Vancouver Fire and Rescue Services, together with Materials Management, to issue a Request for Proposals (RFP) for the provision and maintenance of Self-Contained Breathing Apparatus and associated equipment, on terms satisfactory to the Director of Legal Services.

GENERAL MANAGER'S COMMENTS

The City Manager RECOMMENDS approval of A and B.

COUNCIL POLICY

Contracts with a value over \$300,000 are referred to Council for approval.

SUMMARY

The SCBA equipment currently used by VF&RS is nearing the end of its life cycle and requires replacement. In addition, the compressed air cylinders that provide oxygen to fire fighters are over 13 years old and the Canadian Standards Association requires that the use of compressed air cylinders must be limited to a 15-year service life. This replacement process will begin with a Request for Proposals document that will be drafted by Legal Services, Fire and Materials Management staff. The cost of the SCBA replacement is estimated to be up to \$3,200,000. The award of RFP to the successful Responder and the source of funds for the purchase will be subject to report back to Council by the end of 2007.

PURPOSE

The purpose of this report is to seek Council approval for the replacement of VF&RS Self-Contained Breathing Apparatus and approval to proceed with the RFP process for the provision of this equipment.

BACKGROUND

On May 17, 1994, Council approved the replacement of VF&RS Self-Contained Breathing Apparatus and associated equipment, at a cost of approximately \$750,000.

The National Fire Protection Association (NFPA) standards for breathing apparatus changed effective February, 2007.

DISCUSSION

Fire fighter safety is an essential component to maintaining an effective Fire and Rescue Service. Therefore, the Department considers the procurement of Self-Contained Breathing Apparatus as one of its most critical purchasing decisions.

Similar to scuba diving equipment, the SCBA unit provides the fire fighter the ability to breathe, work and communicate in a potentially toxic atmosphere that would otherwise be perilous to health and safety.

Emergencies, such as structure fires, vehicle fires and hazardous material release, all contain elements of smoke, fire and chemical compounds. The SCBA unit protects the fire fighter in these environments while performing rescue and hazard mitigation activities.

There are three key reasons for replacing this equipment now:

- The fixed service life of the compressed air cylinders will expire in less than two years
- The aging units require increased maintenance costs to keep them at a safe operational standard.
- The timing of this replacement will provide the Department with units that comply with the NFPA standards that changed as of February, 2007

Over the last 10 years, self-contained breathing apparatus (SCBA) and Personal Alarm Safety Systems (PASS) that are attached to the units have undergone significant changes to make them safer, more durable and to provide greater functionality. These improvements are necessary to ensure that today's fire fighter is protected from the life threatening hazards encountered with the work they perform. The cost for the upcoming replacement is expected to be significantly higher than the cost of the 1994 purchase. The cost drivers, apart from general inflation, have been the many quality improvements in four distinct areas: safety, communications, electronics and durability, described as follows:

Safety: Some of the safety changes include: enhanced voice communication, in-mask information on air levels, and louder alarms and lights when the fire fighter is down on air or in distress. The SCBA units must be compatible for use in environments caused by acts of terrorism such as chemical, biological, radiological and nuclear releases. These units are lighter and have superior performance including the ability to rapid-fill between bottles in a dangerous environment.

Communications: The need to communicate with each other inside a deadly environment and with the outside team is paramount. To achieve this level of functionality, current technology now utilizes electronic amplification in the face piece.

Electronics: The SCBA has an electronic platform which must be functional and reliable in the harshest environments. SCBA components such as enhanced communications, data logging, warning lights, audio alarms, air level management are controlled by the electronic platform.

Durability: The new 2007 NFPA standard requires SCBAs to have greater flame and heat tolerance and the capacity to withstand water immersion for up to three hours.

Health and Safety groups have reviewed fire fighter deaths and injuries occurring across North America. Their recommendations have been incorporated into this new generation of SCBA equipment.

The RFP process will request proposals for the provision, training and maintenance of self-contained breathing apparatus and associated equipment. An open competitive procurement process will yield the best overall value to the City. It is anticipated that the RFP process, testing and evaluation of product and proposal submissions will be undertaken from August to mid-October, 2007, with a final report to Council on the award of RFP and financing expected before the end of the year.

ALTERNATIVES/OPTIONS

The compressed air cylinders that provide oxygen to fire fighters are over 13 years old and the Canadian Standards Association (CSA) regulations require that the use of compressed air cylinders must be limited to a 15-year service life. Replacing just the cylinders is not an option as the required certification of safety equipment standards must be performed with both cylinders and SCBAs together as a unit. Various manufacturer's air cylinders and masks are not interchangeable with each other.

FINANCIAL IMPLICATIONS

A very preliminary replacement cost of the required Fire safety equipment has been estimated at up to \$3,200,000. This estimate reflects a significantly higher cost from the last replacement in 1994 at about \$750,000 and is due to rising costs of materials as well as the technologically-driven safety and communication improvements described elsewhere in this report.

The source of funding will be subject to report back to Council at the time of award to the successful Proponent from the RFP process. As the new SCBAs will be in use for at least a ten year period, all funding options will involve spreading the costs over a number of years, to lessen the taxation impact on any single budget year.

CONCLUSION

Vancouver Fire & Rescue Services must proceed with the replacement of its self-contained breathing apparatus and related equipment, due to their age, rising maintenance costs and CSA and WorkSafe BC regulations. There was a recent change in February, 2007 to the NFPA standards related to this equipment; therefore, the Department will have the opportunity to replace essential safety equipment for front line emergency personnel that reflects the latest in communication and technological improvements.

The RFP process will request proposals for the provision, training and maintenance of self-contained breathing apparatus and associated equipment. An open competitive procurement process will yield the best overall value to the City. It is anticipated that the RFP process, testing and evaluation of product and proposal submissions will be undertaken from August to mid-October, 2007, with a final report to Council on the award of RFP and financing expected before the end of the year.

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