



CITY OF VANCOUVER

CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: July 03, 2008
Author: Daniel Hilton
Phone No.: 604.665.6082
RTS No.: 07407
VanRIMS No.: 08-2000-20
Meeting Date: July 22, 2008

TO: Vancouver City Council

FROM: General Manager/Fire Chief, Fire and Rescue Services

SUBJECT: Vancouver Fire and Rescue Services Respiratory Protection Program, support vehicle replacement and Award of Contract for RFP #PS08057 - The Supply and Delivery of Self-Contained Breathing Apparatus (SCBA) Compressed Air Cylinders, Integrated Communications Components, and Related Equipment.

RECOMMENDATION

- A. THAT subject to the conditions set out in Recommendations B, C, D, E and F, Council authorize the General Manager of Vancouver Fire and Rescue Services (VF&RS) and the Manager of Materials Management to award the contract to Draeger Safety Canada for 260 SCBA units and associated equipment, at a total cost of \$1,385,855 plus applicable taxes (less any municipal rebate received) and the Provincial Environmental Levy; source of funding to be a loan from the Truck and Equipment Plant Account to be repaid through increases to the VR&RS Operating budget starting in 2009, and the existing VF&RS Operating Budget.
- B. THAT Council approve the replacement of an existing minivan with a cube van in support of the VF&RS Respiratory Protection Program, at an estimated capital cost of \$103,000; source of funds to be the Truck and Equipment Plant Account.
- C. THAT Council approve the annual operating costs of \$157,200 (\$259,000 total costs with partial offset from VF&RS' existing maintenance budget of \$101,800) for respiratory programs, with funding to be added to VF&RS' operating budget beginning in 2009, subject to annual operating budget review.

- D. THAT the Director of Legal Services be authorized to execute and deliver on behalf of the City all legal documents required to implement Recommendation A.
- E. THAT all such legal documents be on terms and conditions satisfactory to the General Manager/Fire Chief of Vancouver Fire & Rescue Services, the Manager of Materials Management and the Director of Legal Services.
- F. THAT no legal rights or obligations will be created by Council's adoption of Recommendation A, B and C above unless and until such legal documents as referred to in recommendation E are executed and delivered by the Director of Legal Services.

CITY MANAGER'S COMMENTS

The City Manager recommends approval of the above recommendations.

COUNCIL POLICY

Council's policy is to secure contracts for the purchase of equipment, supplies and services that will provide the best value, based on an overall assessment of quality, service and price. Contracts with a value over \$300,000 are referred to Council.

Council approves expenditures from Reserves, including the Truck and Equipment Plant Account.

PURPOSE

The purpose of this report is to obtain Council approval for the following:

- To award a contract to Draeger Safety Canada for the supply of SCBA and related respiratory equipment at a total cost of \$1,385,855 plus applicable taxes (less any municipal rebate received) and the Provincial Environmental Levy;
- To approve ongoing operating costs of \$259,000, with partial offset from VF&RS's existing maintenance budget of \$101,800, for the Respiratory Program as outlined in this report; and
- To replace an existing minivan that is due for replacement in 2009 with a new van that is suitable for a mobile maintenance and testing program for VF&RS' SCBA units and masks.

BACKGROUND

On July 12, 2007 Council approved a recommendation from the General Manager/Fire Chief of VF&RS and the Manager of Materials Management to issue a Request for Proposal (RFP) for the provision and maintenance of SCBA and associated equipment. On April 01, 2008 Materials Management issued RFP PS08057, which closed April 29, 2008.

DISCUSSION

Due to the nature of the work that members of VF&RS participate in, VF&RS is mandated through WorkSafe BC to provide and manage an extensive Respiratory Protection Program (WorkSafe BC Regulations Part 8.32-45 Personal Protection Clothing and Equipment - Respiratory Protection, Part 31.19-26 Firefighting - Respiratory Protection and Part 31.18 Firefighting - Personal Protection Clothing and Equipment - Personal Alert Safety System). The purpose of the Respiratory Protection Program is to assess staff risk exposures and ensure that the appropriate steps are taken to protect staff members.

VF&RS members can be exposed to a number of hazardous respiratory environments working in different roles as fire fighters. Most of these environments have staff members working in immediately dangerous to life and health (IDLH) atmospheres.

The Respiratory Protection Program supplies a variety of Personal Protective Equipment (PPE) in the form of:

- SCBA - for IDLH atmospheres;
- Supplied air confined space respirators - for IDLH atmospheres;
- Air purifying respirators - for non IDLH atmospheres with health exposures; and
- Powered air purifying respirator - for non IDLH atmospheres with health exposures.

As well as the various respirators, VF&RS' has two air compressors used to fill cylinders and testing and repair equipment to support the Program.

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; and
- The timing of this replacement will provide the Department with units that comply with the NFPA standards that changed as of February, 2007.

RFP Process

Proponents were invited to bid on the supply of SCBA apparatus and equipment which included: SCBA units, air bottles, specialized equipment, testing equipment and also specific training requirements from the vendor in support of the breathing units.

The market for fire fighter SCBA equipment is fairly specialized, with only six major manufacturers producing equipment for sale in North America through various distributors. The manufacturers work as partners with the distributors and the end user fire departments.

The City received six proposals in total. The evaluation process first determined that all six proposals met the basic requirements as set out in the RFP. The proposals were then assessed by an evaluation team composed of staff from VF&RS and Materials Management. The proposals were assessed against criteria contained within the RFP.

The Evaluation Team assessed the RFP submissions. RFP submissions were evaluated on the basis of the overall best value to the City including, but not limited to, the following criteria:

- a) the Proponent's ability to meet the requirements, qualifications and competencies set out in the RFP;
- b) the Proponent's financial offering, including but not limited to price, operating and maintenance costs, warranty and any life cycle considerations;
- c) the Proponent's business and technical reputation and capabilities; experience and where applicable, the experience of its personnel; financial stability; track record; and references of current and former customers;
- d) equipment quality, configuration, age and condition; and
- e) any other criteria reasonably considered relevant.

Based on consensus scoring from the evaluation of the proponents' submissions, a short list of four proponents was established. These proponents were asked to provide equipment for demonstration purposes with the goal of supporting information provided by proponents in their responses to the RFP. Draeger Safety Canada scored highest in the overall RFP response scoring.

As a result of the extensive internal review of the proponents' RFP submissions, and the evaluation of proposals, VF&RS and Materials Management staff recommends that the City of Vancouver enter into a contract with Draeger Safety Canada to supply SCBA and related equipment, as outlined in RFP No. PS08057, as it represents best overall value to the City.

Replacement Respiratory Protection Program Support Vehicle

Because the SCBA is critical emergency safety equipment, VF&RS is mandated by WorkSafe BC and National Fire Protection Association (NFPA) standards to carry out specific maintenance of respiratory personal protective equipment (PPE) and testing of staff annually. These tests focus on two areas, "flow testing" and inspection of all SCBA units, and face fit testing for 750 staff members.

The "flow testing" and inspection of the SCBA entails a detailed visual and functional test of all components on the unit to ensure they operate properly and the units are able to supply air as needed for the user.

The face fit tests for each staff member ensure that the SCBA or respirator face piece seals properly on their face and that there is no possible leakage of outside contaminants into the face piece. To face-fit test VF&RS staff, technicians currently pack up and load the test equipment, transport it to a firehall, unpack and set up, test staff members, repack and reload equipment, then move on to the next firehall as scheduled. When an emergency call of fire personnel happens, thereby interrupting the scheduled testing, the set-up and take-down has proven time-consuming and inefficient.

The SCBA units or respiratory personal protective equipment (PPE) are located at 20 firehalls throughout the city. Currently, when a SCBA unit requires inspection or maintenance, a reserve SCBA is transported to the firehall so that the SCBA can be transported to the repair center located at # 18 firehall, 1375 W. 38th Avenue. At this site, the unit is tested, repaired, and then returned to the firehall, with the reserve SCBA returned to the repair centre.

Currently, VF&RS has been using a minivan as a support vehicle for the Respiratory Protection Program. Rather than replacing this vehicle in its current form, VF&RS is requesting a replacement vehicle that is more suitable to the maintenance and testing needs of the Department. After discussions with Equipment Services (EQS), the proposal is for a cube van that has stand-up height in the rear and can be configured with work and test benches. The current unit (B9269) is due for replacement in 2009 and therefore it is timely to consider a more right sized vehicle to support the Respiratory Protection Program.

By having an appropriately outfitted vehicle to support VF&RS Respiratory Protection Program a large amount of travel time would be eliminated, as the vehicle would be outfitted to facilitate SCBA testing and repairs as well as onsite face fit testing. Configuring the vehicle in this manner would allow one trip to a firehall to perform both testing functions, thereby reducing the number of trips to fire halls throughout the city.

FINANCIAL IMPLICATIONS

It was previously reported to Council, on a very preliminary basis, that the capital cost for the SCBAs and supporting equipment could be as high as \$3,200,000. This amount represented a potential maximum costs as, without manufactured units meeting the new NFPA standards available in the retail market, the cost estimates were necessarily based on vendor web-site pricing. The competitive bid process has brought these costs down considerably.

One-time Costs

Award of Contract (RFP PS08057)

The recommended contract with Draeger Safety Canada for the provision of SCBA equipment as detailed in Appendix A is estimated to be \$1,385,855 plus applicable taxes (less any municipal rebate received) and the Provincial Environmental Levy. The SCBA equipment consists of three main components with separate cycle replacements: Communications equipment - 5 years, SCBA Mask Units - 10 years, and Air Cylinders - 15 years. The source of funding for the purchase and ongoing replacement of this safety equipment is the Truck and Equipment Plant Account.

Respiratory Protection Program Support Vehicle

The Mask Repair Van is a replacement of an existing fleet vehicle upgraded and outfitted to provide higher operational efficiencies while providing repair and on-going maintenance of the SCBA program. The funding source for the vehicle is the Truck and Equipment Plant Account at an estimated capital cost of \$103,000.

Other One-time Costs

Other one-time costs totaling \$41,400 include (source of funding will be VF&RS's existing Operating budget):

- 1) Fit testing and tool kits required for face fit testing of the masks
- 2) Training of 20 Suppression Staff in equipment use and 12 repair technicians in equipment repair and maintenance
- 3) Installation of mounting brackets for the SCBA equipment in all existing apparatus..

Ongoing Operating Costs

The ongoing annual cost to the City of Vancouver associated with the replacement SCBA units is estimated to be approximately \$259,000, comprised of loan repayment in respect of SCBA equipment, loan repayment in respect of Mask Repair Van, and SCBA equipment maintenance and testing, as described below in Table 1. VF&RS' existing maintenance budget for SCBA maintenance and replacement of parts is about \$99,800. It is anticipated the units will be operational in the latter part of Q4, 2008; therefore, funding for on-going maintenance will be required starting in 2009. Adjustment to the operating budget will be made periodically, according to annual replacement schedule of components and accessories that need to be replaced in a given year, subject to the normal operating budget review process.

Maintenance Costs for the SCBA Equipment includes on-going maintenance and replacement of various components (consumables) like head harnesses, visors and shoulder bands. These costs also include purchase of other consumables like batteries and any broken unit replacements. Hydrostatic testing costs are also funded through the maintenance budget. The key components of the SCBA equipment are under limited warranty and as a result the maintenance costs will increase with the age of the SCBA equipment: 1-3 years, \$259,000 a year; 4-6 years, \$311,500 a year; and 7-11 years, \$327,000 a year; subject to annual budget reviews.

Maintenance costs of Mask Repair Van include the yearly insurance and the gas costs for the vehicle in the amount of \$3,000 offset by existing Operating budget of \$2,000.

Table1 - On-Going Maintenance & Loan Repayment Costs

Component Description	Operating Costs
Maintenance Costs SCBA Equipment	32,765
Maintenance Costs Mask Repair Van	3,000
Loan Repayment SCBA Equipment to the Plant Account	211,466
Loan Repayment Mask Repair Van to the Plant Account	11,769
Total On-Going Operating Costs	\$259,000
Less: Existing VF&RS SCBA Operating Budget	\$99,800
Less: Existing VF&RS Operating Budget for existing Van	2,000
Total Incremental Operating Budget increase	\$157,200

Another component of the SCBA respiratory program are two compressor units at filling stations located at two Firehalls in the City (# 8 Firehall, located at 895 Hamilton Street and # 18 Firehall, located at 1375 W. 38th Avenue). The unit at #8 Firehall has a remaining life of 7 years and will need to be replaced in 2015. The unit at # 18 Firehall is being replaced this year through one-time departmental funding and has a service life of 20 years. While Council is not asked to approve replacement of these units at this time, future replacement of these two compressor units (with a current replacement value of approximately \$75,000 each) should be funded through the Truck and Equipment Plant Account.

PERSONNEL IMPLICATIONS

Maintenance Staffing

In the past VF&RS has used trained suppression staff members from each of the four shifts (two to three per shift) to perform all of the related maintenance and testing to support the Respiratory Protection Program. These staff member are detailed/temporarily transferred to our repair facility to work in the capacity of SCBA repair technician on their assigned shift, performing this work on day shifts only.

This model has the following negative operational implications:

1. Staff members are not always available due to other training commitments;
2. If suppression staffing is below minimum manning, then backfill overtime is required to detail staff into these positions;
3. There is difficulty maintaining continuity and communication between the different shifts; and
4. The true cost of maintenance to the department for labour has not been clearly identified within the department's budget.

In the last three years VF&RS has been required to manage the challenge of dramatic increases in repair and maintenance costs for our current SCBA units. This is due primarily to the age of the units (average age, 11years). Because of this increase VF&RS initiated a trial last year which included seconding a suppression staff member into this position to work a four day a week schedule that intersected all shifts. We have found a significant reduction in overtime paid compared to backfilling to have technicians detailed into SCBA repair, from 588 hours in the year prior to June 2007, to zero since then. As a result of the changes implemented during this trail, all of the maintenance was coordinated and completed much more efficiently

If VF&RS hired an outside contractor to perform required maintenance, it would cost approximately \$50 - \$80 per unit for annual testing (for a total cost of approximately \$16,900)and approximately \$30,000 for annual face fit testing. Using VF&RS staff to perform this work would be the most cost effective method to maintain and test this equipment. It also allows VF&RS to better control and manage our Respiratory Protection Program and also utilize these staff members to do ongoing training in support of the program.

With new and better engineered equipment, VF&RS anticipates a decrease in needed maintenance man hours and parts expenditures. The department will continue to assess how manning for maintenance of respiratory protection equipment for the department is provided and funded. This area will be further examined in detail in an upcoming comprehensive operational review of VF&RS (tentatively scheduled to be reported to Council in November 2009).

ENVIRONMENTAL IMPLICATIONS

An appropriately outfitted and configured vehicle would facilitate a single trip to a firehall to perform both testing functions (SCBA testing and repair, face fit testing) reducing the vehicle trips to the firehalls and staff time.

IMPLEMENTATION PLAN

It is estimated that VF&RS will have the new SCBAs in service in the fourth Quarter 2008.

The implementation plan has several components:

1. All staff members that may be required to wear/use the new respirators must be face fit tested prior to use. Draeger Safety Canada staff with the assistance of VF&RS staff will schedule and carry out fit testing for all staff members. Draeger Safety Canada staff will be responsible and carry out the majority of this testing, with VF&RS staff assisting to test staff members missed during initial testing.
2. VF&RS on-duty trainers will train staff in the proper and safe use of SCBAs. Draeger Safety Canada staff will train 20VF&RS staff in a one day "train the trainer" program. VF&RS will be required to pay overtime for the trainers to attend this one day program.
3. Trainers will go out to the firehalls to train staff prior to use of the new SCBA. Trainers will be rotated through firehalls on their shift and carry out training of staff members at those locations.
4. Equipment must be inventoried and distributed to all firehalls. VF&RS staff will be responsible to inventory and distribute equipment.
5. VF&RS repair technicians must be trained to the level of "Draeger warranty approved service technician". Twelve VF&RS staff from four different shifts will be trained in this capacity. VF&RS will be required to pay overtime to staff to attend this three day program.
6. Mounting brackets on fire apparatus must be changed over to accommodate the new SCBAs. VF&RS will be required to pay manpower costs to retrofit mounting brackets; work will be preformed by VF&RS apparatus maintenance division.

CONCLUSION

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; and
- The timing of this replacement will provide the Department with units that comply with the NFPA standards that changed as of February, 2007.

Award of the SCBA supply contract will allow the replacement of aging SCBA and associated equipment for VF&RS. The award of this contract to Draeger Safety Canada will provide the best value to the City based on quality, service and price.

The addition to the fleet of a dedicated Respiratory Protection Program support vehicle follows City best practices by reducing environmental impact as well as efficiencies in manpower usage.

* * * * *

SCBA Equipment List

Item	Description	Quantity	Service Life	Use Desc.	Funding Source	Authority
1	NFPA 1981 & 1982 Certified (2007 Edition) Self Contained Breathing Apparatus With Three Year Warranty On All Electronics (Replacement)	260	10 years	Respirators used to supply air in IDLH (Immediately Dangerous to Life and Health) atmospheres	Plant Account	Council Report (RTS 6848) July 12/07
2	45 Minute Rated Carbon Fibre Composite Wrapped Compressed Air Cylinders	700	15 years	Storage cylinders to provide air supply while using SCBA	Plant Account	Council Report (RTS 6848) July 12/07
3	60 Minute Rated Carbon Fibre Composite Wrapped Compressed Air Cylinders	70	15 years	Storage cylinders to provide air supply while using SCBA	Plant Account	Council Report (RTS 6848) July 12/07
4	Confined Space - Supplied Air Respirators	12	10 years	Special use respirators used to supply air for extended periods or in confined spaces	Plant Account	Council Report (RTS 6848) July 12/07
4a	Spare Con. Space Escape Cylinders	8	15 years	Storage cylinders to provide air supply while using SCBA	Plant Account	Council Report (RTS 6848) July 12/07
5	Personal Face Pieces With Heads Up Display (with additional options)	100	10 years	Face pieces for use with SCBA for staff that do not fit the standard face piece	Plant Account	Council Report (RTS 6848) July 12/07
6	Voice Amplification Devices With Five Year Warranty	260	5 years	Device to aid in person to person communication while wearing SCBA	Plant Account	Council Report (RTS 6848) July 12/07
7	Radio Communications Interface Including Lapel Microphone Five Year Warranty	60	5 years	Device to allow a SCBA user to communicate using a radio while wearing SCBA	Plant Account	Council Report (RTS 6848) July 12/07
8	Rit Pack Complete With All Hoses And Connections And Carry Bag	16	15 years	Special use rescue pack to supply air to fire fighter or citizen in and emergency	Plant Account	Council Report (RTS 6848) July 12/07
9a	Technician Tool Kits and Test Kit for servicing the SCBA and related equipment	2	N/A		VFRS Operating Budget	Council Report (RTS 6848) July 12/07
9b	FIT Test Face Pieces, Two Sample Face Pieces of each size with Medium Nose Cups will be supplied for Fit Testing (Six in total)	6	10 years	Sample test face piece to be used when carrying out annual face fit testing	VFRS Operating Budget	Council Report (RTS 6848) July 12/07
9c	FIT Test Connection Interfaces for Portacount FIT Tester	6	10 years		VFRS Operating Budget	Council Report (RTS 6848) July 12/07

Item	Description	Quantity	Service Life	Use Desc.	Funding Source	Authority
9d	BIO-Systems Posi Check machine including licensed software and testing interface connections for SCBAs and BIO-Systems Posi Check Software and Testing Interface Connections	1	20 years	Machine to annually test SCBA	Plant Account	Council Report (RTS 6848) July 12/07
10	APR (Air Purifying Respirator) Adaptor With Standard Scba Face Piece with Voice Amplification Devices	20	10 years	Adaptor to allow standard SCBA face piece to be used as an APR	Plant Account	Council Report (RTS 6848) July 12/07
11	PAPR (Powered Air Purifying Respirator) with Standard SCBA Face Piece	16	5 years	Battery powered fan augmented APR	Plant Account	Council Report (RTS 6848) July 12/07
12	Ziamatic Quic - Lock Scba Mounting Brackets	132	15 years	Fire apparatus SCBA mounting bracket that are specific to new SCBA	Plant Account	Council Report (RTS 6848) July 12/07
TOTAL CAPITAL OUTLAY \$1,385,855.00						