



ADMINISTRATIVE REPORT

Report Date: May 9, 2012
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RTS No.: 9584
VanRIMS No.: 08-2000-20
Meeting Date: June 12, 2012

TO: Vancouver City Council
FROM: Fire Chief/General Manager, Vancouver Fire & Rescue Services (VF&RS)
SUBJECT: Addition to Self-Contained Breathing Apparatus(SCBA)

RECOMMENDATION

- A. THAT Council authorize the General Manager of Vancouver Fire and Rescue Services (VF&RS) to purchase an additional 47 Drager Self Contained Breathing Apparatus and related equipment, at a total estimated cost of \$202,000 plus applicable taxes (less any municipal rebate received); source of funding to be a loan from the Truck and Equipment Plant Account.
- B. THAT the capital costs be repaid to the Truck and Equipment Plant account through annual charges of \$26,600; funding for 2012 to be provided from the existing Vancouver Fire and Rescue Services Operating Budget and future years to be managed in the context of the annual Operating Budget process.
- C. THAT the annual maintenance and operating costs of approximately \$15,000 be provided from the existing 2012 Vancouver Fire and Rescue Services Operating Budget with future years to be managed in the context of the annual Operating Budget process.

REPORT SUMMARY

The department has a mandate to provide the necessary safety related Personal Protective Equipment including Self Contained Breathing Apparatus (SCBA), so that all staff is able to safely perform their duties. **(WorkSafe BC Regulation - 31.19 General)**

Through the redeployment of apparatus, and additions to the fleet the department has reached a point where it no longer has an adequate supply of SCBA to meet respiratory protection requirements. The department requires an additional 47 SCBA to meet ongoing operational needs and avoid risking inadequate response, by continuing to send the appropriately equipped apparatus to the appropriate emergency. This will also improve the department's ability to reduce response times and meet City initiatives and financial targets surrounding fuel reduction, lower maintenance costs and other efficiencies.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

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

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The Fire Chief/General Manager of Vancouver Fire & Rescue Services recommends approval of the foregoing.

REPORT

Since 2009, when VFRS purchased 260 SCBA units, the department has undergone several changes in its deployment model. The first change in 2010, in conjunction with the Olympics, was implementing a cross staffing model for the apparatus. This involved positioning smaller, more efficient apparatus (either Medic pick-ups or Rescues) in firehalls to allow the smaller apparatus to respond to medical calls instead of the larger apparatus.

The intent is to send the right tool (truck) for the job, a fire apparatus for fire calls, and a smaller apparatus to medical calls. Staff are assigned to two apparatus, the larger fire apparatus, and the smaller medical response apparatus. When it is required for them to respond to a medical call, they "cross over" to the smaller apparatus and use it to respond to this type of call; conversely, when they are dispatched to a fire call they "cross back" and use the fire apparatus.

The redeployment strategy has realized savings in fuel consumption, lower maintenance costs, improved response times, and less wear and tear on the more expensive large apparatus. This strategy involved some additions to the fleet (smaller pickups) and the redeployment of smaller Rescue units to fire halls where they could be paired with large Aerial trucks.

The original deployment strategy for the crossover staffing model did not have SCBAs allocated to the crossover apparatus. The initial thought was these apparatus would only respond to medical calls and not respond to fires. As the department worked through the initial changes, it was found that although these crossover apparatus were primarily responding to medical calls, when a need to respond to a fire call arose, that staff would have to return to the fire hall and change back to the other apparatus with the SCBAs on it. This was extremely inefficient, causing substantial delays in getting staff on site at the fire. In addition to this and with the increased response to medical calls involving hazardous gases such as Carbon Monoxide, a decision to equip all medical response vehicles with SCBA was made.

In 2011 the department underwent a second phase of the redeployment model by replacing three compact vans with three medic trucks. These medic pickups also required three SCBAs each, which were reallocated from the fireboats and Battalion Chief vehicles. These pickups have been a success in allowing the department to continue to take significant steps in reducing its fuel usage and maintenance costs without impacting service levels to the community.

In late 2011, and to further support the cross-staff model, the Department received approval from Council (RTS # 08568) for two vehicles to the fleet that require four SCBAs each. These vehicles are comprised of: two new additional medic pick-ups plus the up fitting of an existing pick-up truck to be used as a service ready vehicle or as a medic crossover unit when required.

Riot Recommendation

As part of the Stanley Cup riot report titled: *The Night the City Became a Stadium* (recommendation # 33), VF&RS has integrated members into the Public Safety Unit (PSU). Our staff will operate three Wildland fire apparatus from the current fleet inventory as part of this team; each apparatus will be staffed with four members. These trucks previously did not require SCBAs, but in this new role there is a mandatory need to supply SCBA respiratory protection.

The Department uses an apparatus staffing model that defines a minimum number of staff, with the corresponding number of SCBAs for each type of apparatus (truck). Below is a chart that shows the staffing for each apparatus type. With the purchase of the additional SCBAs, all front-line response units will have a standard outfitting that corresponds to the staff deployed to that unit.

Apparatus Type	Minimum number of staff	Maximum number of staff
Engine	4	4
Quint	4	4
Aerial Ladder	4	4
Aerial Platform	4	4
Medic	2	3
Crossover Rescue	4	4
Public Safety Unit	4	4
Fireboat	4	4

The following chart summarizes the specific changes within the department since 2009 that have driven the need for additional SCBAs.

Number of SCBA	Additional SCBAs Required for Additional Fleet and Staff/Vehicle Redeployment Changes
4	2010: One service ready apparatus put into service (at # 2 firehall) to support cross staff model.
3	2010: Six Rescues deployed as cross staff units with a staff of four, where previously there were seven Rescues with a staff of three.
12	2010 & 2011: Five medic units placed into service with three staff; three SCBAs reallocated from Battalion Chief vehicles and up fitting of existing vehicle for dual purpose.
4	2012: One service ready vehicle used as either a Battalion Chief's car or as a crossover medical response (four staff).
8	2012: Two additional four staff medic cross over pickup trucks. (RTS #8568)
12	2012: Three VF&RS Wildlands units equipped for use as Public Safety Units.
4	2012: Four service ready SCBA units to augment pool of current service ready SCBA used to support maintenance and repair SCBAs.
47	Total additional SCBAs Required

Maintenance Considerations

Considering the mechanical nature of the equipment, and to meet defined, mandatory maintenance requirements, a repair inventory of service-ready SCBA units is maintained at approximately 15% of overall inventory. Purchase of the additional units will return the repair units available to acceptable levels.

Financial

One-time Costs

The SCBA equipment to be purchased 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 a loan from the Truck and Equipment Plant Account.

Ongoing Operating Costs

The ongoing average annual costs to the City of Vancouver associated with the addition of these SCBA units is estimated to be approximately \$41,600, comprised of loan repayment in respect of SCBA equipment, and SCBA equipment maintenance, as described below in Table 1. It is anticipated the units will be operational in the latter part of Q3, 2012; any costs for 2012

is to be provided from the existing Vancouver Fire and Rescue Services Operating Budget and future years to be managed in the context of the annual Operating Budget process.

Maintenance Costs for the SCBA Equipment include 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 parts replacements. Cylinders require mandatory hydro testing and valve overhaul maintenance every five years and these costs are also funded through the maintenance budget.

Table 1: Average Annual Operating Costs for Additional SCBA Units

Description	Life (years)	One-Time Capital Costs	Average Annual Operating Budget Requirements		
			Capital	Maintenance	Total
SCBA with Voice Amplification	10	\$140,000	\$19,000	\$10,400	\$29,400
SCBA with Nexus Communication	10	\$51,000	\$6,700	\$3,800	\$10,500
45 Minute Cylinders	15	\$11,000	\$900	\$800	\$1,700
Total		\$202,000	\$26,600	\$15,000	\$41,600
Total Average Annual Increase					\$41,600

Environmental

The cross staffing model of deployment has been extremely successful, both in environmental and operational terms. VFRS has reduced the on road time for our large apparatus by using smaller apparatus to respond to the majority of call volume that is medical in nature. The additional SCBA will allow the department to continue and expand this program supporting the City's goal to be the greenest city in North America.

Supply Chain Management

The department engaged Supply Chain Management (SCM) and the procurement process was followed as outlined in the Corporate Procurement Policy - AF-015-01, Section 9 - Sole Source Contracts, specifically, section 9.3 - Single Supplier.

In this case, it was identified that only one supplier was able to provide the specific goods required that would provide continuity with current equipment in use.

A "NOITC" was posted which expired May 14 from which the City has received no challenges. The intent of the NOITC is to inform the public of our intent and to provide potential suppliers an opportunity to respond with their questions / concerns.

CONCLUSION

Purchase of these additional 47 SCBAs will allow VFRS to meet the required safety regulations around respiratory protection for fire personnel while also supporting City initiatives as described in this report, in addition to meeting the department's on-going goal to reduce response times to incidents.

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