



## DISTRICT OF SQUAMISH FIRE RESCUE

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**2007 YEAR END REPORT**

*Our cover photo shows a structure fire that occurred in the Highlands.*



## Year-End Overview

Squamish Fire Rescue faced a year of funding challenges and operational curve balls in 2007. And, first and foremost, both our career and paid-on-call members must be commended for their ability to face those challenges head on. Thanks to their experience and diligence, we continued to meet exceptional fire service standards in most areas.

Our strategic objectives for 2007 included:

- a) Community Wildfire Protection Plan initiatives;
- b) Replacement of Public Safety Building;
- c) Modernizing Dispatch/Fire Communication Systems;
- d) Fire protection Initiatives;
- e) Successor planning;
- f) Leadership development; and
- g) Health and Safety initiatives.

Our first success following adoption of the 2007 budget was the introduction of the Community Wildfire Protection Plan in June. This great planning tool will assist the community in reducing trees and shrubbery that may contribute to rapid forest fire growth. Fire personnel started the public education process by distributing Fire Smart Home Owner Manuals in areas identified as having a high risk of fire exposure.



The department also hired a consultant to assist in developing a fuel management pilot project request through UBCM/MOF for joint funding.

The strategy for replacing the Public Safety Building was delayed to enable staff to investigate alternatives to the District constructing the building. The first step in the process consisted of contracting with the architect firm of Killick, Metz, Bowen, Rose to undertake a needs analysis that will identify both current and projected space requirements. The architect firm will present the needs assessment and projected construction costs to Council, as well as the advantages and disadvantages of various alternative construction methods.

The strategy to modernize Dispatch /Fire Communication systems took a 180-degree turn early in the year, when the District made the decision to get out of the business of dispatching, moving the entire function to E-Comm in Vancouver. This process created several challenges and required the department to dedicate in-house resources to the process, taking attention away from other operational activities. We offer special thanks to Deputy Chief Steve Virgint and Firefighter Sean Sweeney for their good work in facilitating a smooth transition. See page 13 to 16 for details on the work required to complete the transition.

As part of the strategies concerning fire protection initiatives, successor planning, and leadership development, the fire department received Council authorization late in 2006 to strengthen its paid-on-call volunteer force by 10 members to a total of 60. To achieve this new manning level and provide for attrition, the department selected and trained 16 new members by April. Thanks to Firefighter Russ Inouye, the career staff and the many volunteers who assisted him, for a very highly regarded training process.



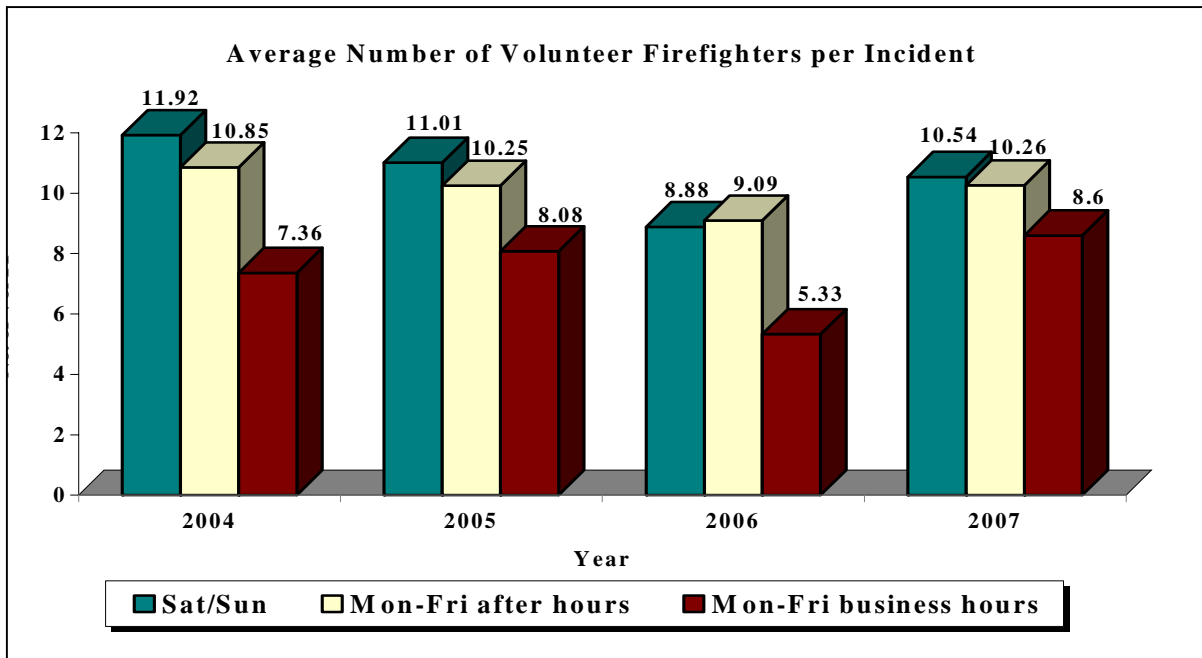
*16 new paid on call volunteer firefighters join Squamish Fire Rescue April 2007*

In addition to increasing our numbers, we were hoping to have a completed the Fire Underwriter Survey by the CGI group in 2007. The survey provides an insurance industry assessment of our fire service and is an effective planning tool, however the development of the report has been delayed within CGI group. It was necessary to postpone other strategic items within this section as a result of funding shortfalls.

The last strategy related to Health and Safety initiatives and saw the roof over the apparatus bay on the Public Safety Building repaired, removing slip and fall and electrical shock hazards and the risk of further infrastructure and equipment damage. Other items were not funded, but the department did find funding within its core budget to enable firefighters the opportunity to receive their Hepatitis Shots.

## Manning levels

After adjusting our paid-on-call membership to 60, the department experienced an increase of 20 percent in volunteer attendance to emergency calls.



While manning levels have improved, the department is still concerned with our response times. Response times measure time elapsed between the time we are paged out and a fire truck's arrival time on scene. The NFPA Standard for response times for a department that is staffed solely by career firefighters calls for a fire truck en route within 60 seconds and on the fire scene within four minutes, for a total response time of five minutes, 90 percent of the time. During our current career hours of operation, our 2007 response time average was 7 minutes and 30 seconds. This is the average response time from the Tantalus Road fire hall to downtown Squamish, Valleycliffe, Smoke Bluffs and those areas in the north normally protected by the Tantalus Road hall.

While this response time does not meet NFPA standards, in part due to the travel distances from the Tantalus Road fire hall, we believe they are satisfactory given the size of the community and its financial capacity to have career staff available to respond.

When we look at the NFPA 1720 standard for paid-on-call departments, which applies to Squamish 75 percent of the time, NFPA recommends having 15 members on scene within nine minutes of receiving a call. In 2007, our typical response during times when the hall was not staffed by career members saw an average of six members on scene within 10 minutes and 30 seconds. The department's challenge in meeting the NFPA standard relates to the availability of paid-on-call members, how far they drive to get to the hall, traffic flow and weather conditions.

## Call Volumes

Incidents by Type	2006	2007	% of Calls
MVA Layered Response			
Fire with No \$ Loss	36	35	7.5%
Alarm No Fire	102	90	19.3%
Smoke/Burn Complaint	99	40	8.6%
Fire with \$ Loss	24	20	4.3%
Brush Fires	36	35	7.5%
Public Service	17	18	3.9%
MVA Extrication	6	5	1.1%
First Responder	19	7	1.5%
False Alarms	15	10	2.1%
EHS Assist	19	39	8.4%
Chimney Fires	4	6	1.3%
Wildland Fires	4	2	0.4%
Fire Investigations	5	1	0.2%
Hazardous Materials Incidents	1	10	2.1%
Gas Leaks	22	14	3.0%
Rescue (Miscellaneous)	5	1	0.2%
Industrial Accidents	1	0	0%
Explosions	1	0	0%
Incidents Unclassified	4	3	0.6%
Hydro Assist Power Line	4	6	1.3%
Public Hazard (Misc.)	2	0	0
Vehicle Fires	0	13	2.9%
Dumpster Fires	0	8	1.7%
	<b>529</b>	<b>466</b>	<b>100.0%</b>

There were no concessions in call volumes, and we experienced an increase in dollar loss fires in 2007. Examples include a fully involved house fire on Highlands Way North, a tanker fire on the highway, total loss fires in North Yards and Valleycliffe, and a forest fire.

The table on the previous page shows the types of calls the department handled in 2007 compared to 2006. Overall, our activity level remains consistent, with the exception of the decrease in the number of smoke/burning complaints. As a way of managing overtime, we started responding to smoke/burning complaints on the next business day. While we were successful in reducing overtime costs, we did not always satisfy complainants. The issue of people burning outside of the District's regulations continues to pose problems, and responding after the fact does little to get offenders to extinguish illegal burns.

In 2007 we created two new statistical categories specific to Vehicle and Dumpster fires. In the past these fires were combined in the category "Fires with \$ Loss". If we combine these two categories for 2007, we did have a significant increase in fire activity resulting in an estimated \$1 million financial loss.

Type of Incident	Location	Total Loss	Total Saved
<i>Fire school bathroom</i>	Buckley Avenue	-	-
<i>Residential fire</i>	Buckley Avenue	11,000	209,000
<i>Portable bathroom</i>	Carson Drive	1,000	-
<i>Apt. deck fire</i>	Diamond Road	200	998,800
<i>Constr. Shed fire</i>	Fifth Avenue	2,000	-
<i>Residential fire</i>	Government Road	75,000	-
<i>Trailer deck fire</i>	Government Road	2,000	148,000
<i>BCR – electrical fire</i>	Government Road	10,000	2,990,000
<i>Residential trailer</i>	Government Road	65,000	-
<i>Tub grinder</i>	Government Road	112,000	63,000
<i>Residential fire</i>	Guilford Drive	100	249,900
<i>Residential fire</i>	Highlands Way N	350,000	-
<i>Arson – fuel tank</i>	Fifth Avenue	100	9,900
<i>Residential fire</i>	Magnolia Crescent	280,000	-
<i>Condo complex fire</i>	Mamquam Road	50,000	1,200,000
<i>Bus shelter</i>	Pemberton Avenue	1,000	-
<i>Arson- multiple vehicle</i>	Pemberton Avenue	21,000	19,000
<i>Residential fire</i>	Rayburn	20,000	180,000
<i>Portable bathroom</i>	Smoke Bluff	300	-
<i>Industrial fire</i>	Third Avenue	2,500	1,497,500
<b>TOTAL</b>	<b>20 Incidents</b>	<b>\$1,003,200</b>	<b>\$7,566,100</b>

## Fire Safety Inspections

The fire department has had two fire prevention officers (FPO's) dating as far back as 1992 that specialize in building safety inspections, to meet the requirement of the Fire Services Act of British Columbia, Section 26, which states that *“A municipal council must provide for a regular system of inspection of hotels and public building in the municipality.”*

In 1995, Council approved a following schedule for conducting statutory fire inspections on public, commercial and industrial buildings, targeting those building types that were generally found to be non-compliant.

Property Description	Inspection Frequency
Motion pictures and performing arts	Every 6 months
Restaurants, schools, daycares, licensed beverage establishments	Every 6 months
Churches	Yearly
Arena	Every 6 months
Open Air Assembly	Yearly
Jail	Every 6 months
Hospital	Every 6 months
Residential – apartments, hotels, motels	Every 6 months
Banks, offices	Yearly
Department stores	Yearly
High hazard industry	Every 6 months
Medium hazard Industry	Yearly
Low hazard industry	Yearly

As testimony to the effectiveness of inspection programs, fires typically do not happen in buildings that are inspected regularly. For more than 10 years the fire department has prided itself on its success in continuing to meet that schedule in a growing community, but several influences reversed that positive trend in 2007. A lack of staff availability, largely due to sickness and personal injury, coupled with call volumes and other department activities seriously impacted our fire inspection capabilities.

In the 2006 annual report, the department reported that it was able to conduct only 92 percent of its required 820 inspections. In 2007, with one active inspector, and the other on injury leave, the department conducted only 24 percent of 865 initial inspections. It should be noted that on average, two fire safety infractions are found per inspection.

In 2006, 94 percent of all inspections required re-inspections. In 2007, with only one inspector, the department completed 383 re-inspections. Due to the low number of initial inspections in 2007, we estimate that a very considerable 1,200 fire safety

infractions were not identified or corrected by the fire inspection process and therefore compromise the safety of this community. Our history has shown that the frequency of inspections has a direct bearing on the number of fires that occur, happening mostly in buildings or area within buildings that are not inspected (examples: family homes and suites within apartment complexes). Where we inspect, we have very few fires.

We attempted to assist Fire Prevention Officer Bob Fulton by having fire companies conduct some inspections, with limited results because of other operational requirements. We shored up other operational requirements and our fire response with a temporary hiring, but were unable to add support for Fire Prevention. The additional workload created by the loss of a senior officer to personal injury was borne by FPO Robert Fulton, who should be commended for his pure determination in maintaining an effective inspection program in our highest risk facilities.

## Milestones



*Long Service Honorees (left to right) Dave Richardson, Terry Hurlbert, Nicholas Peek and Deputy Chief Steve Virgint*



*Career Firefighter Steve Barone receiving his 20 year medal from Fire Chief Ray Saurette*

SFR said good-bye to three dedicated firefighters in 2007, Mike Hughesman, Jason Lorenz and Jim Allan. As part of the Annual Volunteer Appreciation banquet, the Mayor had the honour of recognizing five firefighters for achieving distinction in the fire service:

### Federal Exemplary Service Medal

- Deputy Chief Steve Virgint (30 years)
- Career Firefighter Steve Barone (20 years)
- Volunteer firefighter Terry Hurlbert (20 years)

### Provincial Long Service Medal

- Officer Dave Richardson (25 years)
- Officer Nicholas Peek (25 years)



## Training

The primary goal of training in the fire service is twofold. Firstly, we maintain skills already acquired through repetitive practice and secondly, we introduce new skills, equipment, information, and tactics deemed to be of value to the department and the community. Squamish Fire Rescue conducted over 200 training sessions in 2007 designed to do just that.

A significant number of sessions were dedicated to training a recruit class of 16 new members. They were part of an accelerated training program that was required to alleviate a manpower shortage brought about by retirements and resignations among our volunteers due to work commitments. The recruit training consisted of 21 sessions totaling more than 100 hours of instructional time. Add to that the 80 hours of First Responder training and the weekly training sessions, and one can quickly appreciate the level of commitment required by not only the recruits but by the instructors as well.

Real estate developments such as Quest University present a number of training challenges as different fire fighting tactics need to be considered. Future commercial and residential developments will continue to present unique firefighting challenges that can only be addressed through the anticipation of the special requirements associated with these developments and structures, and the implementation of training specific to each development. Often, it is the training scenarios that highlight equipment needs and conditions to consider during tactical deployments at these new developments.

Overall, 2007 was a successful year from a training perspective. The upcoming year will see changes to the delivery of some programs such as basic firefighter training. A self-study initiative will be rolled out for those who have yet to complete all of the training modules. A review of the recruit program is also under way to ensure that it meets the needs of the department and that the curriculum is relevant.

There are two major initiatives being considered for implementation in 2008. The first is to increase the number of instructors and evaluators to

enhance the quality and efficiency of our training program. The second initiative deals with the introduction of an additional tactical tool called Positive Pressure Attack, which will enable our fire crews to suppress fires in a safer, quicker manner. Both initiatives are considered high priorities by the training department.

## Fire Prevention

One of the Fire Prevention challenges in 2008 will be to get an accurate inventory of businesses and activities currently housed in the old BC Rail shops and surrounding area. In the past, fire safety and prevention in this area was the responsibility of the province. This is no longer the case as many private businesses are operating in these premises since the sale of BC Rail. Our challenge is to find the resources and time to properly survey and inspect the area.



*Left to right, career firefighters Bob Fulton, Trevor Kranenburg and Steve Barone as Sparky.*

## Public Education

The show must go on. In 2007, Eye Nose was missing from our cast for the annual Fire Prevention Week shows at the elementary schools throughout Squamish. Temporary full-time firefighter Trevor Kranenburg stepped up and became Pirate Trev. This year's theme was pirates and hidden treasure, the treasure being fire safety and prevention lessons. Trevor also helped out with our fire safety house program for all Grade 3 students in our community and with all the kindergarten presentations and hall tours. The additional help in public education was welcome and, hopefully we can continue to benefit from the extra help with the addition of staff members.



## Technical Planning and Plan Checking

The District continues to experience strong development pressure and the workload in these areas is growing. There is a heavy reliance on registered professionals to approve complicated buildings for occupancy, as our building officials are not involved. A gap in what those professionals look at to approve occupancy and what is acceptable to us continues to be evident. A registered professional doesn't look at a building or facility to determine safe or adequate access for emergency responders and will sign off on a building when they deem it substantially complies with the intent of the BC Building Code. This sometimes creates a grey area as no one is looking out for these concerns. The Fire Department is being requested to do inspections prior to the issuing of occupancy however we are not the authority having jurisdiction and don't have any legal status until after the building is occupied. This area in the development process needs to be reviewed and formal policies established.



## Building Maintenance

We undertook, as in previous years, several repairs and improvements at both fire halls in 2007. Work was tendered to make extensive repairs to the roof above the apparatus bay at the Tantalus hall. As a result of this

problem, the building's roof was completely recovered. In recent years, we found it necessary to heighten security on the property due to an increase in vandalism. Two security cameras were installed and fencing was added around the perimeter of the property to discourage loitering around the hall after business hours.

At the Alex Munro Hall in Valleycliffe, new carpet was installed in the classroom. In addition, the hall was equipped with a washing machine, allowing volunteer members to keep their turnout gear clean.

In an effort to freshen up areas visible to the public at the Tantalus hall, we applied a fresh coat of paint to the reception area and hallways. We improved the functionality of the reception workstation by building a desk-return and shelf, creating storage for frequently used records such as permits, and raising the computer keyboard to the appropriate height. We also reconditioned an existing filing cabinet and relocated furniture to create user-friendly workspaces in both the reception area and photocopy room.



## Fleet Maintenance

In 2007, fleet maintenance services conducted pump tests in conformance with the ULC standard for certifying fire trucks. To pass this standard, each fire truck must pass four specific tests, the first being to hold a vacuum for five minutes without losing more than five P.S.I. over that period of time. This test revealed that numerous valves required replacement. Two individuals spent approximately one week per vehicle to replace the valves. During this time we used the reserve fire truck as a front line response vehicle.



Following valve replacement, the next step was to hook the vehicle up to a drafting tank and put the pump under three different pump/pressure tests. The first test requires the fire truck to pump its rated capacity at a pressure of 150 P.S.I. for 20 minutes, then pump at 70 percent of the pumps rate capacity at 200 P.S.I. for 10 minutes and finish with 50 percent of its rate capacity at 250 P.S.I. for three minutes. Throughout the testing process, we monitored the vehicles temperature and looked for other mechanical issues that might affect vehicle performance. In the end, all inspected vehicles passed.

In 2007, the department replaced the Fire Chief's vehicle, using the District's Equipment Reserve fund and the trade in value. We transferred emergency lights, siren & radios from the old vehicle to the new one, and installed reflective striping and vehicle identification lettering.

Other projects we completed were the removal and rebuild of the motor on the 1959 Chev truck that tows our Fire Safety House trailer. We also changes the vehicle identification lettering on all vehicles to correspond with the naming convention used by E-Comm fire dispatch, completing the transition.

At the end of the year we made preparations for the arrival of our new fire engine by getting the old reserve engine ready for sale. This task will be completed early in 2008. Later in 2008 we are planning to replace the Deputy Chief's vehicle.





## Emergency Dispatch Transition to E-Comm

2007 brought change that meant saying goodbye to our valued and appreciated local emergency dispatch team. This move came as a result of the Squamish RCMP migrating their dispatch services to E-Comm. E-Comm is an advanced 911 call taking service that dispatches fire departments, police departments and downloads 911 calls to appropriate agencies. They have seven dedicated fire dispatchers per shift currently serving twelve fire departments including Vancouver, Richmond, Port Moody, Delta, New Westminister, Whistler, the Sunshine Coast, and now Squamish. A 911 call coming from Squamish will now go directly to E-Comm 911 dispatchers. If the incident is of a nature requiring Squamish Fire Rescue response, it is sent directly by computer to the fire dispatcher pods. This also populates computer dispatchers' stations from other agencies that might be needed at the incident such as BC Ambulance, police and Search and Rescue, along with a phone call to services such as BC Hydro, BC Gas and Public Works as required. E-Comm fire dispatchers can also provide valuable information such as hazardous materials data, airbag and battery locations in specific makes and models of vehicles, data that is needed by our extrication rescue teams.

This project presented challenges due to the short transition time, which was six weeks instead of the usual six months. With invaluable cooperation from all involved, we have completed the short-term work required to get the system up and running quickly, with some longer-term work still left to be done. We've installed two new radios in the Tantalus Fire Hall that connect to E-Comm through a dedicated open telephone line. The radios transmit our to our repeater on Thunderbird Ridge and out to mobiles, portable radios and pagers. Though this is a great system, it is vulnerable to things as simple as a contractor accidentally digging up a telephone line. To secure seamless communications in case of such a failure, we are 90% complete installing our back-up system. This system will connect E-Comm

to Bowen Island by micro-tower and then, by radio link from Bowen Island to our repeater on Thunderbird Ridge. These radio systems require extra equipment, aerials, back-up power supplies and endless testing.

Although our 'go-live' date was October 16, 2007, we are still in the process of implementing the E-Comm requirements. Squamish Fire Rescue did not opt for Altares (the old computer aided dispatch system) because by May 2008, E-Comm is due to adopt a new CAD called Intergraph. SFR is therefore working to bring this new system on line. Intergraph CAD is a powerful program used by BC Ambulance and other larger fire departments.

As an E-Comm client, we will enjoy the benefits of this program at a fraction of the cost. Intergraph will provide many features for our Fire Officers and Incident Commanders during emergencies:

- Instant Hazardous Materials information;
- Touch-screen computers with a map showing property and hydrant locations, and best routes to incidents;
- Immediate access to the emergency response guide;
- A rip and tear sheet;
- Information about the locations such as property owner, property manager and products stored on the premise;
- Access to our records management system to obtain special information such as the last property inspection date, what was found and any special instruction for a particular location.

Squamish Fire Rescue embarked on this program as a result of the RCMP's decision to use E-Comm, and due to budgetary constraints with respect to trying to maintain a local dispatch service.

Challenges that needed quick and well thought out action are as follows:

- A plan that involved moving the 911 telephone and data lines to Vancouver's E-Comm answering pods;
- Implementing an advanced radio system that connects Squamish Fire Rescue to E-Comm and provides reliable and clear emergency paging and radio communications;
- Training of forty fire dispatchers at the fire dispatch pods on operational and response guidelines under which Squamish Fire Rescue operates;
- Training our Fire Officers on the new E-Comm dispatch protocol, vehicle numbering system and call signs;
- Collaborating with E-Comm managers and training staff in order to meld together dispatch operational procedures that will work for both parties yet bring us in line with the clients currently being served by E-Comm. Dispatchers could service us by using very similar language and

procedures for all the fire departments they service. While this means changes for Squamish Fire Rescue, it avoids mistakes and unclear messages, making this a better system in the long run. This meant changing the numbering system on our apparatus from a number that reflects the vehicle page code to an apparatus number that reflects the vehicle station and response zone;

- Providing maps, street address information, common name places, and boundaries for specific addresses that correspond with our response zones and apparatus assignments;
- Providing data that can be transmitted to our rip and tear sheets;
- Completing the majority of the work prior to the 'go-live' date of October 16, 2007;
- Setting up tours and familiarizing E-Comm dispatchers with Squamish, its Officers, and common name places.

This was a rewarding exercise and the system will continue to improve as we finalize implementation in 2008. This year's projects include completion of the record management link, installing the touch-screen computers in command vehicles and finishing the Intergraph CAD work.

## Office Administration

SFR has implemented ideas to enhance productivity. We have simplified the way we track budgets and fuel consumption, and staffing calendars and duty rosters are accessible to our members through Outlook public folders. We've compiled electronic lists of active and archived records making information easier to find. Our filing system has been converted to the Municipal Record Management standard adopted by the District. We have designed new FDM database reports that enable us to generate monthly volunteer firefighter incident attendance statistics quickly. In our file, fax and copy room we've reorganized property files, permit records and frequently used forms for easy access.

In the spirit of the One Year, One Change challenge, we reuse paper printed on one side only for scratch pads or printing drafts. This reduces the amount of paper discarded in recycling bins, and the frequency of copy and writing paper orders. We order supplies made from recycled materials whenever possible and are switching to non-disposable pens and refills.

By reconditioning existing furniture and file cabinets, our career firefighters helped to renovate our reception area and improve the workstation's functionality at very little cost.

Before



After

